THE UNIVERSITY OF HULL

The Influence of Website Design Features and Consumer Characteristics on Internet Banking Adoption in Saudi Arabia

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by

Abdullatif I R Alhudaithy

Bachelor in Business Administration (Imam University)
Master in Business Administration (King Abdul-Aziz University)

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ABSTRACT

Recent years have seen rapid growth of Internet technology and its incorporation into many areas, including banking. Despite the potential advantages offered, however, adoption of Internet Banking (IB) has been relatively low. This thesis aims to enhance understanding of customers' adoption of IB, with particular reference to commercial banks in the Kingdom of Saudi Arabia (KSA). It investigates the rationale for and current status of IB in the KSA. Then, taking as a framework the Decomposed Theory of Planned Behaviour (DTPB), with the additional construct of website features, it investigates what factors may influence Saudi customers' adoption of IB, including the potential impact of website features at different stages of the customer's decision-making process (DMP).

The research targeted policy makers, IB managers and clients in all 11 commercial banks operating in KSA. Data were collected in two phases, each containing qualitative and quantitative elements. In phase one, focused on the bank perspective, interviews were held with 11 bank officials, to explore the thinking behind their IB provision and website design. Then, content analysis was used to investigate the features of 22 websites – 1 corporate and 1 individual site for each bank. In phase two, semi-structured interviews (N = 40) were used to explore bank clients' perceptions of IB, and their responses used to inform a survey, delivered online and through bank branches, of IB users' (N = 651) and non-users' (N = 409) attitudes and behaviours in relation to IB.

Results showed that bank managers attempted to attract and support clients throughout the DMP, and this was reflected in website content. However, support was constrained by some erroneous assumptions about clients, and the regulatory environment. Obstacles to IB use included psychological, marketing, educational, technical, cultural and linguistic barriers. IB non-users' intention to try IB was influenced by Trust and Subjective Norms, while users' intention to continue was influenced by perceived Relative Advantage and Compatibility, Ease of Use, Self-Efficacy, Resource Facilitating Conditions and Website Characteristics. Attitudes to IB also differed by clients' gender, age, income, education and Internet experience.

Implications are drawn for technology adoption and e-marketing theory, and recommendations are made to government, the central bank and commercial banks to enhance the functionality and attractiveness of IB.

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LIST OF PUBLICATIONS

The following papers have been published based on this PhD research:

1. Alhudaithy, A. and Kitchen, P. (2009). "Rethinking models of technology adoption for Internet banking: The role of website features", Journal of Financial Services Marketing, **14**(1):56.

2. Alhudaithy, A. and Kitchen, P. (2009). "Adoption of Internet Banking Transactions: The Role of Website Features" a working paper presented at the SIC, 2009 conference, Surrey University, Guildford, UK, 5-6 June, 2009. **This paper won a prize at the conference as an outstanding paper.**

The following papers under review with well-ranked academic journals based on the results of the fieldwork:

3. Alhudaithy, A. and Kitchen, P. (2009). "Obstacles to Internet Banking Adoption in the Context of Saudi Arabia: A Qualitative Approach".

4. Alhudaithy, A. and Kitchen, P. (2009). "Internet Banking Adoption in Saudi Arabia: The Differences between Internet Banking Users and Non-users".

5. Alhudaithy, A. and Kitchen, P. (2009). "Responding to Saudi Customers' Needs during the Purchase Decision Process: Evidence from Internet Banking".

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LIST OF ABBREVIATIONS

ATM	Automated Teller Machine
B2C	Business-To-Consumer
CDMP	Customer's Decision-Making Process
CPBP	Customer's Purchasing Behaviour Process
CPDP	Consumer Purchasing Decision Process
DMP	Decision-Making Process
DSL	Digital Subscriber Line
DSP	Data Service Provider
DTPB	The Decomposed Theory of Planned Behaviour
E-banking	Electronic banking
E-commerce	Electronic commerce
FA	Factor Analysis
GCC	Gulf Cooperation Council
IB	Internet Banking
IDT	The Innovation Diffusion Theory
IPO	Initial Public Offering
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
ISU	Internet Service Unit
IT	Information Technology
IVR	Interactive Voice Response
KACST	King Abdul Aziz City for Science and Technology
KMO	Kaiser-Myer-Oklin
KSA	The Kingdom of Saudi Arabia
PC	Personal Computer
PCFA	Principal Components Factor Analysis
PIN	Personal Identification Number
POS	Point-of-Sale
RSA	Saudi Riyal (1US$ = 3.75 Saudi Riyal, pegged since 1986)
SAMA	Saudi Arabian Monetary Agency
SPSS	Statistical Package for Social Science
STC	Saudi Telecommunication Company
TAM	The Technology Acceptance Model
TPB	The Theory of Planned Behaviour
TRA	The Theory of Reasoned Action
UK	United Kingdom
USD	United States Dollar
WTO	World Trade Organisation
WWW	World Wide Web

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CHAPTER ONE

INTRODUCTION AND BACKGROUND OF RESEARCH

1.1. Introduction

It is now broadly recognized that no communications medium or electronic technology has ever grown as quickly as the Internet. According to Wood and Smith (2005) the radio needed 38 years to reach 50 million users, the personal computer sixteen years, and television thirteen years, whereas the Internet needed only four years to reach that number of users.

The impact of the Internet on banking services cannot be denied. These technologies present banks with both opportunities and threats. The presence of these technologies has shaped, and will continue to shape, financial practices for years to come. Banking as a service industry, where most services or transactions can be provided via the Internet, has invested heavily in information technologies, and these technologies are extensively utilized in banks' daily operations.

Internet banking (IB) also gives customers the option to perform banking transactions and other related activities from home. They can save time and eliminate the inconveniences associated with driving to the bank. Internet banking also allows customers to reduce cheque writing to pay bills. Other important benefits are simplicity, speed, and effortlessness, with the possibility of performing most banking transactions twenty-four hours a day, 365 days a year. Unfortunately, despite all these advantages, many customers of financial institutions have not embraced this new form of banking as was expected. Like other innovations, Internet banking still needs more consideration to understand its nature and identify how it can influence consumer behaviour, since the success or failure of this technology will depend on the level of acceptance of this service by customers. This work attempts to investigate this and related questions, in the Kingdom of Saudi Arabia (hereafter KSA).

It is the intention in this thesis to add to the existing understanding of the potential for the development of Internet banking in KSA through an investigation of the factors that underlie consumers' adoption or rejection of Internet banking, including the possible role played by Saudi banking website design characteristics and their strengths and weaknesses.

This chapter sets out the context and rationale for the study by outlining the current status of Internet use in KSA, and the circumstances surrounding the current interest in developing Internet banking. The research objectives and questions are introduced, and the significance and contribution of the research highlighted. The chapter ends with an overview of the thesis.

1.2. The Situation in the KSA

Saudi citizens were officially isolated from the Internet until 1999 (Al-Hajry 2004). Access to the Internet in Saudi Arabia, where the Islamic religion and conservative culture are influential, had been delayed by worries about material considered offensive and undesirable, such as political criticism, anti-Islamic literature and pornography. Since 1999, the government has maintained a filter through which all international websites have to be channelled and censored. The policy of governing this new Internet service has provoked diverse reactions in Saudi society; some perceive it as too liberal, others as too conservative (Al-Trkistani 2004).

The restriction on access was primarily a policy, rather than a technological issue. By 1997, the ratio of PCs in Saudi Arabia was 4.4 per 100 inhabitants. However, by 2005 it had jumped to 12.3 (Ministry of Economy and Planning 2005:501). According to the Communications and Internet Technology Commission (CITC), the number of Internet users reached 6.4 million, representing approximately 26% of the population of KSA, by the end of 2008, compared with just 200,000 in 2000 (www.citc.gov.sa).

The size of the population, the high proportion of young people, a booming economy, and high levels of disposable income make KSA the largest and fastest growing market for consumer products in the Middle East (www.the-infoshop.com 2005). Knowledge of and skills in online business have expanded as a result of rising access to Internet services, growth in companies' websites, and increased trust in the Internet for transactions (Almezher 2004).

There is, thus, a track record of adoption and utilization of banking electronic technologies, including the concept of electronic transactions inherent in Automatic Teller Machines (ATMs), telephone banking, and the Saudi Payments Network (SPAN) which enables customers to make transactions in shops using their debit card (Al-Ashban 2001). This tremendous growth in the Saudi Information Technology (IT)

market has been attributed to the impetus by national government towards e-commerce and e-government, which are important catalysts for individual and organisational adoption of IT (Al-Gahtani 2004). According to the International E-Commerce Conference and Exhibition Website (2004) (www.recexpo.com) over $6 billion dollars had been invested in the expansion of the communications infrastructure in the KSA by 2007, enabling, inter alia, broadband subscriptions to increase tenfold from 64,000 in 2005 to over 620,000 connections by the end of 2007 (Alqadhy 2008:13; SICO Research 2007). Al-Gahtani (2004) forecasted that such factors would further enhance the growth of Internet use in KSA.

Despite these positive factors favouring the growth of the Internet, Al-Trkistani (2004) demonstrates that the penetration of Saudi society by electronic commerce is uneven. Saudi consumers appear to have their own, specific, set of reservations where online transactions are concerned (Shafi 2002).

Concerns about security, cultural and political issues are said to be the main factors that slow adoption of Internet transactions in the Arab world (Pons et al. 2003; Aladwani 2003). A recent study (Ahmed et al. 2006) suggested that another key challenge to use of e-commerce applications by Saudi customers is that customers continue to rely on face-to-face contact, and encounter a problem with information overload. Moreover, the cost is still high.

Questions have also been raised about levels of knowledge and skills for accessing Internet services (Al-Khaldi and Wallace 1999; Al-Tawil 2001; Almobarraz 2007); availability of hard/software and technical support (Al-Sudairy 2000; Aladwani 2003); security of the Internet for performing transactions (Almogbil 2005); cultural barriers to acceptance and use of this new technology (Al-Gahtani et al. 2007) and the quality of services offered (Sohail and Shaikh 2008).

Despite these cultural and policy barriers, provision of online services continues to grow. In banking, the focus of this thesis, all eleven Saudi commercial banks were offering a full interactive Internet service by 2005 (Al-Sayari 2005). Strong competition has driven banks to offer online banking services in order to increase sales, to reduce operating costs and to respond to customer demand. Saudi banks are reported to spend some $190 million annually (Asharq-Alawsat 2003), as part of an effort to improve their Internet capabilities. Alwabel and Zairi (2005_a) found that Saudi banks are providing a good range of services and products via Internet banking.

Yet, the question is being posed, do Saudi banks offer suitable online services that harmonise with Saudi customers' needs or just introduce an Internet banking presence for the sake of being "one of the crowd"?

Another factor creating interest in the extent of adoption of this new technology is that KSA officially entered the World Trade Organisation (WTO) in Summer 2005, and the financial services sector in the KSA is likely to be attractive to foreign companies and multinational banks (Alsihamy 2006). In the context of these developments, it is important for businesses to develop a greater understanding of the ways in which Saudi consumers are likely to adopt and interact with these new Internet environments and to comprehend online consumer behaviour, in order to design and support effective websites that match target market preferences (Doolin et al. 2005).

By investigating the design of existing Internet banking websites and examining the role of such websites in adoption of this technology in the context of the KSA, this research may therefore be significant in providing a greater understanding of the developing online business environment. Potentially, this would prove of value not only for Saudi Arabian banks but also for Arab, Islamic and international banks that are interested in entering the Saudi market.

1.3. The Nature of the Problem

Given a scenario in which little research has been conducted concerning the adoption of Internet banking services outside of developed countries, this work will address the key questions of what are the fundamental factors that influence Saudi customers' adoption of Internet banking and whether there are aspects of Saudi banking website design that may facilitate and/or impede such adoption.

Certainly, in recent years, serious concerns have been expressed by several researchers about the low level of e-commerce transactions in KSA (Abdulgader 2004; Al-Grefani 2004). Al-Jefri and Sami (2004) found that even though there is advanced, well-built, online banking technology in KSA, it is still not as popular as telephone banking and ATMs. Saudi banks are reported to find the level of adoption of Internet banking by Saudi customers disappointing compared to the advanced technology provided (Luthra 2007). As a recent example, Samba bank declared that during the

biggest Initial Public Offering (IPO) in 2008, IB transactions accounted for only 15% of the 8.85 million clients who participated in this IPO (Alwatan 2008).

General concerns about Saudi customers' acceptance of the Internet as a new technological medium for performing transactions have been expressed in three conferences that took place in the KSA: the E-Commerce Symposium 2004; the E-Government and Business Forum 2004; and the National E-Transactions Conference 2007. Reports and working papers presented during those conferences raised concerns about the challenges of electronic marketing in the KSA (Abdulgani 2004; Al-Jefri and Bashekh 2004), factors influencing the implementation of e-commerce technologies by Saudi companies (Tayil 2004), the role of information technology in banking services development (Al-Jefri and Sami 2004) and to what extent electronic marketing would achieve success within Saudi society (Al-Grefani 2004). Calls were made for academics and practitioners to give more attention to IB and its implications for the Saudi financial system (Ahmed et al. 2006).

One concern raised is that IB has been developed using Western processes, technologies, applications and methods, which may not be culturally appropriate for Saudi clients (Almogbil 2005). On the other hand, it may be that customers are potentially willing to accept the new technology, but find the present facilities unsatisfactory in some way. Banking websites must be consistent with the consumers' technological knowledge, experience and abilities. Indeed, since the boom of the Saudi shares market in 2004 and 2005, many financial experts have called on Saudi Arabian Monetary Agency (SAMA) to address various problems regarding IB websites (Asharq-Alawsat 2005), in order to accept an increasing number of Saudi customers and enable them to perform online transactions accurately and instantly (Al-Utagey 2007).

In view of the concerns that have been raised that potential users may not adopt IB services in spite of their availability, several questions arise: Why do Saudi clients who can use the Internet visit banks in person or use alternative channels, e.g. phone banking and ATMs, rather than IB? Does the problem lie in Saudi clients or in banks' Internet websites themselves? How do Saudi clients who use Internet banking perceive online banking services? To what extent are IB features consistent with clients' needs and preferences? Current concerns in all these areas highlight the need for research to identify the factors that influence acceptance or rejection of IB by bank clients.

It may be that customers are deterred from using banks' online services by particular features of the facilities that do not meet their needs. In this respect, concerns have been expressed about the appropriateness of website features to Saudi customers (Sohail and Shaikh 2008), and about the reliability of the underlying banking websites (Almogbil 2005). Alwabel and Zairi (2005_b) attributed this to insufficient attention to matching aspects of website content to customer needs. Concerns have been raised about the functional features of banking websites that could affect the adoption of Internet banking (Alwabel and Zairi 2005_b; Luthra 2007).

The potential importance of this issue is attested by previous research. It has been suggested that if website designers know how consumers are influenced by exposure to website features, then they can design more effective e-commerce applications (Taylor and England 2006). Marketers who are using the Internet need to understand how customers perceive different elements of website features in order to design and support effective websites that match the preferences of their target market (Doolin et al. 2005). Casaló et al. (2007) recommended in their study about Internet banking that "*To obtain a desired level of usability there will be a need, among other actions, to design the website according to the consumers' needs and requirements*." (Casaló et al. 2007:597). The lack of the physical presence of a bank branch and of physical interaction between the bank personnel and the customer renders a unique environment, in which website features are of vital importance.

Song and Zahedi (2005) identify the paucity of knowledge in this area:

> *"Understanding how online banking customers are affected by the exposure to web-design elements helps predict their reactions to websites. Such an understanding promotes the development of more appropriate websites. Despite the importance of such an insight, little knowledge exists regarding the relationship between website design and Web-customer behaviour" (Song and Zahedi 2005:1219)*

Research on Internet banking has overlooked the potency of the features of the Internet banking website itself. Recently, lack of user-friendly technology and some systems features have been identified as delay factors, if not deterrents, regarding the decision to adopt Internet banking (Song and Zahedi 2005; Shih and Fang 2006).

Wamalwa (2006) found in the USA that despite the impressive development of Internet technology, improving website interface and security are still big issues to convince some people about the success of Internet banking. He asserted that the key

to online service success is for bank websites to be customer centred, user friendly, and provide something of value to website visitors.

The current research, therefore, addresses in detail a further important question in the Saudi context, which is, to what extent do banking websites' design characteristics affect consumers' adoption of online services?

The foregoing discussion, moreover, implies that Internet banking adoption needs to be viewed from several perspectives. The first is Internet banking providers, in the present case Saudi banks, whose goals, capabilities and perceptions of customer needs influence what services are offered, and how they are presented. The second is Internet banking websites, as the interface between online customers and the bank. The third are the clients (whether they are IB users or non-users), whose responses to what is offered may be influenced by a variety of personal, social, technical and cultural factors.

For all these reasons, the present study was designed to seek further information on these issues and to find out what factors influence Saudi clients to adopt or reject IB services and the role of IB website design characteristics in this respect.

1.4. Research Objectives

The aim of this thesis is to contribute to a better understanding of customers' adoption of the Internet banking technology, and to examine the influence of several factors, including the Internet banking website characteristics. Several studies have investigated the adoption of Internet banking in different countries. There is, as yet, no published research regarding customers' adoption of Internet banking in the KSA. To address this gap, this section formulates the objectives this study aims to achieve. By adding to the existing understanding of consumer's adoption of Internet banking, this research has the potential to assist online bankers and web designers to develop online environments that can improve the functionality of existing systems and improve the attractiveness of online banking for current and future online consumers in KSA.

Consequently, the first objective of this study is to investigate the rationale for and nature of the presence of Internet banking in KSA, and evaluate its appropriateness in relation to customers' needs. This objective will be accomplished initially through semi-structured interviews with policy makers and Internet banking

managers in all Saudi banks, and complemented by content analysis of the Saudi Internet banking websites.

The second objective is to evaluate what factors may influence Saudi customers' adoption of Internet banking services. In this respect, the research considers both personal factors such as customers' attitudes, subjective norms, and perceived behavioural control, as will be discussed later, and features of the technology itself, specifically the influence of website characteristics on customers' Internet banking adoption, which represents the contribution of this thesis to knowledge. Inherent in this is a consideration of the extent to which perceptions of the banks' website features will affect customers' adoption in relation to different stages of the customer's transaction decision-making process (DMP), as follows:

1. Website features related to clients' need recognition.
2. Website features related to clients' search for information.
3. Website features related to clients' information evaluation.
4. Website features related to clients' decision-taking for performing transactions through Internet banking.
5. Website features related to clients' post-transaction doubt.

Other important issues, such as trust, perceived risks, security and privacy are also considered. This objective will be accomplished by, first, exploratory interviews with on-line and off-line clients and second, based on the issues raised, questionnaire surveys with users and non-users of Internet banking services in KSA.

1.5. Research Questions

The framework for this study will be based on the decomposed theory of planned behaviour (DTPB) (Taylor & Todd 1995_a), outlined in Chapter Two. This research extends the decomposed theory of planned behaviour by including an additional construct, i.e. website characteristics. Dividing banking website characteristics into five groups, to be consistent with the consumer's DMP, this research examines their influence on the adoption of Internet banking in KSA. This study is intended to answer the following research questions:

1. To what extent, and in what ways, are the five stages of the client's decision-making process considered, and applied, in the design of Internet banking facilities in the KSA?

2. What are the specific factors affecting banking clients' attitude toward Internet banking? To what extent do perceived relative advantage, compatibility, ease of use, social image, trialability, and trust affect the intention to adopt IB?
3. To what extent do family and friends affect clients' intention to adopt IB?
4. To what extent do resource facilitating conditions and self-efficacy affect clients' intention to adopt IB?
5. To what extent do website characteristics influence the client's intention to adopt Internet banking service, over the five stages of the decision process?
6. What are the main obstacles that deter IB non-users from starting to use Internet banking services in KSA?
7. To what extent are there differences between current IB users (on-line clients) and IB non-users (off-line clients), not only in their characteristics but also in the factors that influence their intention to adopt IB as a banking service channel?

In the light of the findings from these main questions, it will be necessary to consider and answer two subsidiary, but significant, questions:

8. How can online banking facilities be improved in the context of Saudi clients' needs and their interface with online banking facilities?
9. What, if any, changes need to be made to Saudi banks' marketing policies to promote and develop their online banking presence?

1.6 Significance of the Research

This research derives its significance, both from its practical value in addressing issues of current concern to banks as they seek to enhance their services and attract customers, and from its theoretical contributions in the area of technology adoption generally, and in the Saudi context specifically.

Practical significance: Internet banking will be critical to the success of many banks in the twenty-first century (Waite and Harrison 2004; Walker and Johnson 2005; Waite 2006) as they search for ways to gain, sustain or combat competitive advantage. Internet banking research is shifting from technological developments to how the technology's features can affect customer behaviour, as technological developments are nothing unless the customers both like and adopt them (Yousafzai 2005). In order for banks to be able to benefit from this technological development, they need to

understand the perceptions, attitudes and needs of existing and potential customers. This knowledge is crucial to the development of suitable marketing strategies (Peter and Olson 2008). Surprisingly, there is no published study regarding the KSA customers' adoption of Internet banking services. The present study aims to fill this gap in the existing literature.

It has become crucial for banks to understand who specifically is adopting and utilizing this new commercial technology and why (Lichtenstein and Williamson 2006). In regard to this new technology, an understanding of important user characteristics and the interactions of these characteristics with Internet banking website features will help the banks to deal with on-line users appropriately, as well as to predict potential users correctly, and formulate strategies to overcome potential resistance. This knowledge, or at least additional insight, may enable information systems developers in KSA to develop ways of making the system appear easy or easier to use, and help marketing experts develop new ways to support the needs and expectations of Internet banking clients. Online banks in KSA may then be better able to develop better marketing strategies to meet clients' needs.

The study's findings on potential factors influencing Internet banking adoption in KSA may provide useful insights for other developing countries in this part of the world, which share a similar culture. In the Arab region, this research can assist banks and their managers as they strive to understand which customers are most likely to accept and use the new technology, and why. It will also help companies that are interested in setting up websites and starting to provide their products online, to understand Saudi customers' propensity to adopt such technology.

Theoretical significance: Some research has pointed out that customer adoption is the key factor in the future development of Internet banking and called for further research that facilitates a comprehensive understanding of this technology (e.g. Chan and Lu 2004; Ndubisi and Sinti 2006; Kuisma et al. 2007) especially in the Arab world (e.g Abu Shanap 2005; Alwabel 2005). The anticipated contribution of this research, therefore, will be an addition to two dimensions of the literature. First, it will contribute to the general literature in relation to Internet website features and to consumers' adoption of Internet banking service. The second contribution is specific additional knowledge in the context of KSA in relation to these two issues. The results of this thesis may therefore provide a valuable reference for website designers,

bankers, and online-services managers, as well as for researchers interested in Internet marketing in general.

A notable contribution of this thesis is its linkage of website features with the Decomposed Theory of Planned Behaviour (DTPB), and division of these features according to the stages of consumer's purchasing decision-making process (PDMP) within the context of Saudi Internet bank websites.

Because the Internet is a relatively new tool for bankers, and has evolved continuously, there is an incomplete understanding of the role of website characteristics in this context. The significance of this thesis emerges firstly from developing a general profile of website characteristics based on the consumer's needs through the different stages of the consumer's DMP, and secondly exploring their influence on customers' adoption. More specifically, this thesis will examine the website design's potential to influence customers' adoption in relation to each stage of their decision-making process, in order to expand knowledge and improve understanding of online customers' adoption in dissimilar situations.

The perception of website features, which has been classified according to the consumer's PDMP, is a central issue in Saudi Arabia and elsewhere in the world, where there may be substantial unrealized business potential in the development of the Internet.

1.7. Contribution of the Present Research

This research makes a contribution to both academics and practitioners. The present study:

1. Develops a parsimonious model and, thus, makes an important contribution to the emerging literature on online customer behaviour by incorporating new variables into a well-accepted general model (DTPB) and applying them to a new context of Internet banking technology.
2. Places the topic of Internet banking customer behaviour firmly in the continuum of academic research and offers a new context. This research will increase the understanding of the relationship between website characteristics and Internet banking adoption. Since it is one of the first attempts in this area, it helps lay the groundwork for further investigation.

3. Contributes to the e-marketing and website design literature by showing that website features are a multidimensional construct that can be defined according to the five stages of the customer's transaction decision process and the meaning and consequences of these characteristics are better understood when each dimension is viewed separately.
4. Implements a unique triangulation method, which has not previously been used in the IB domain, consisting of examination of three elements, namely, bank managers, Internet websites and bank clients, using complementary methods. This will be discussed comprehensively in Chapter Five of this thesis.
5. Examines the adoption of Internet banking among adopters and non-adopters in the same study, which has rarely been done in previous studies.

Finally, many banking clients in other Muslim and Arab countries might share the same exposure, experience or go through the same phase of progress in their information technology endeavours as banking clients in the KSA. As a result, clients in these other countries might share the same issues faced by the Saudi clients, and it is expected that the findings from this research will help financial executives in such countries understand the Internet banking adoption issues as well.

1.8. Structure of the Thesis

To accomplish the research objectives outlined in section 1.4, the thesis is divided into ten chapters. Figure 1.1 presents a road map of the thesis.

Chapter One introduces the research background, the nature of research problem, the objectives and significance of the research. The remaining chapters of the thesis are organised as follows:

Chapter Two lays the foundation for development of theoretical framework for this study, by review and comparison of well-known models of innovation adoption, which have been used in previous technology adoption research. These theories and models include the theory of reasoned action (TRA), the theory of planned behaviour (TPB), innovation diffusion theory (IDT), the technology acceptance model (TAM), and the decomposed theory of planned behaviour (DTPB). A case is made for adoption of the DTPB as the theoretical foundation of this research. However, attention is drawn to a limitation of the DTPB, which as a general model of factors influencing behavioural intention does not consider technological features, which may be salient when the

behaviour investigated is adoption of a new technology, such as Internet banking. The chapter concludes, therefore, by identifying a need to consider the technological dimension, with a view to expanding the DTPB for the purposes of this research.

Chapter Three continues with a review of the literature, this time focusing on the role of website characteristics in affecting customer adoption of Internet banking. After a review of the concept and potential importance of website features, an attempt is made to relate these to the various stages of the consumer's decision-making process. The chapter concludes by presenting the theoretical model derived by incorporating website characteristics into the DTPB. The variables of the model are defined, the rationale for their inclusion discussed, and hypotheses proposed for the relationships between those variables, in explaining Saudi customers' adoption of Internet banking.

Chapter Four is intended to provide information on the Kingdom of Saudi Arabia, in which this research was conducted. It begins by introducing Saudi Arabia as a developing country, giving its salient characteristics in terms of location, population, and its economic aspects. The financial system is explained and the development of the Internet and IB discussed. The chapter concludes with profiles of the eleven commercial banks covered by the study, including their IB status.

Chapter Five explains the position of this study in relation to the major scientific research paradigms and discusses the methodology used to collect and analyse the data for exploring the research questions set for the study. Since the research design and methodology employed in this research adopt both qualitative and quantitative approaches, the rationale for the chosen triangulation design is also highlighted. Data collection and pilot study procedures are explained. Data were collected over a period of sixteen months, in two main phases, each phase involving two parts. Explanation and justifications for these are provided. Pilot studies are described. The target population and sampling techniques for each research phase are clarified and justified. The validity and reliability of the data collection approaches are discussed, and data analysis techniques are explained.

Chapter Six discusses and analyses outcomes from the first phase of the research, concerned with the service providers. Analysis and discussion are divided into two main parts. Part one contains the qualitative findings from semi-structured interviews with Internet banking managers, about their perceptions, policies and practices in provision of Internet banking. Part two presents quantitative findings from content

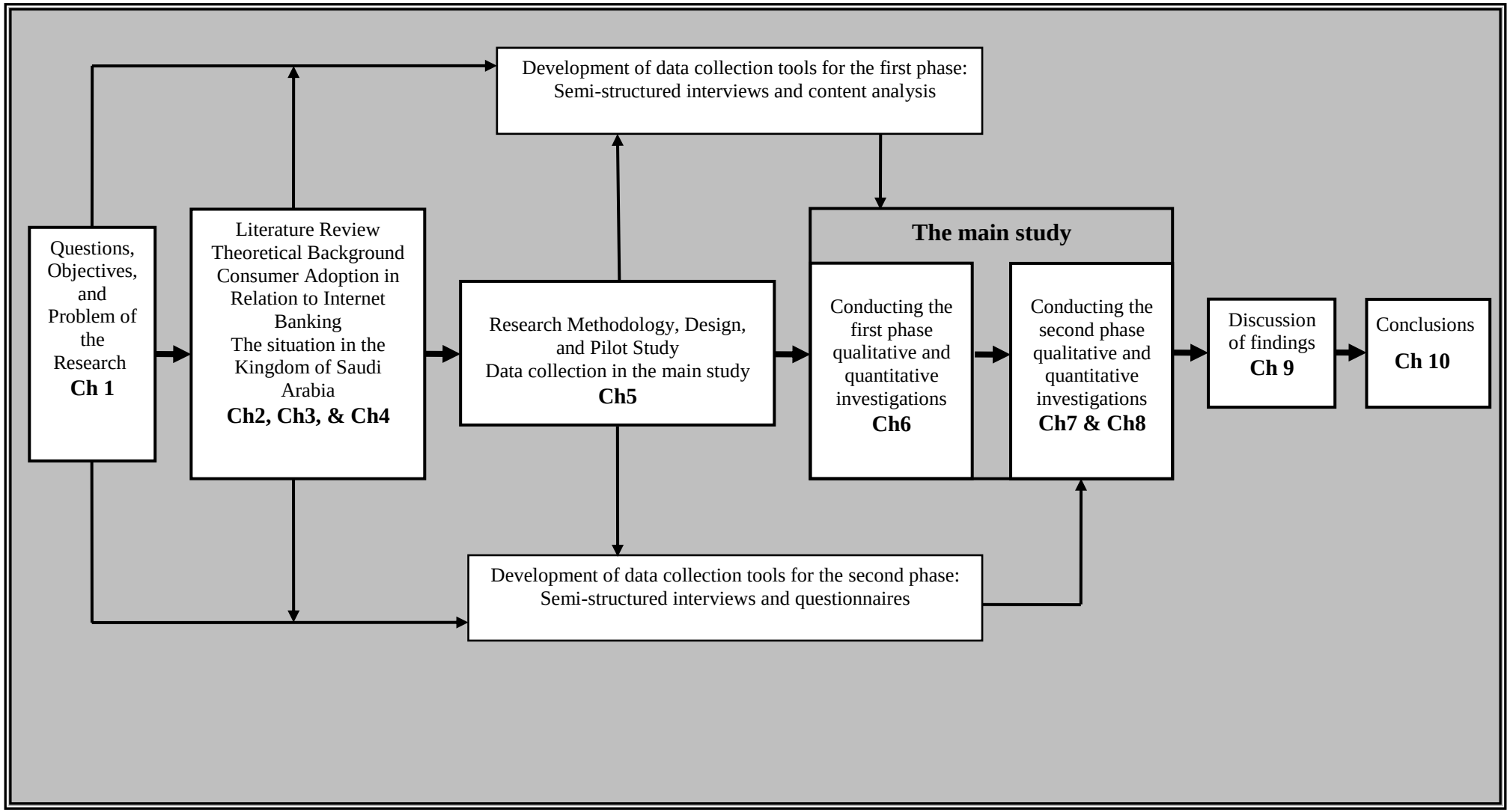
analysis of Saudi banks' websites. The chapter ends by highlighting issues emerging from phase one, which were taken forward for further investigation from the customer perspective in phase two.

Chapters Seven and Eight discuss and analyse the outcomes of the second phase of the research, which explored customer responses to Internet banking services. As with the previous phase, the data collected are analysed and discussed in two main parts. Part one, Chapter Seven, contains the qualitative findings from semi-structured interviews with forty clients of Saudi banks, divided into twenty users of Internet banking and twenty non-users. Part two, Chapter Eight, presents findings from quantitative fieldwork, which consisted of two types of questionnaire survey, an online questionnaire for online users and a conventional paper questionnaire for non-users.

Chapter Nine discusses the main findings from both phase one and phase two. In this chapter, a critical discussion of the conclusions drawn from the findings of both quantitative and qualitative studies is presented in relation to the research questions. This chapter also sets the findings in the context of relevant literature.

Chapter Ten contains the key findings of the research, a discussion of the theoretical, empirical and managerial contributions of the thesis, reflections on the research limitations, and recommendations, both for action and for further research.

Figure 1.1 A Representational Map of Investigation Procedure**s**



CHAPTER TWO

THEORIES APPLIED TO NEW TECHNOLOGY ADOPTION AND INTERNET BANKING ACCEPTANCE

Figure 2.1 - Following the Research Stages

Chapter Two: Theories applied to new technology adoption and Internet banking acceptance
Chapter Three: Theoretical framework and presenting the research model
Chapter Four: The situation in the KSA, financial sector and Internet banking services
Chapter Five : Research methodology and data collection design
Chapter Six: Outcomes of IB managers interviews and content analysis of banks' website
Chapter Seven: Outcomes of the interviews with Saudi clients (IB users and non-users)
Chapter Eight: Findings of online and offline questionnaires of Saudi banks' clients
Chapter Nine: Interpretation and discussion of the findings
Chapter Ten: Summary and conclusion

2.1 Introduction

Lack of understanding of customer behaviour has been identified as the key to the failure to adopt Internet banking (Saleh 2003). The literature review presented in this chapter, therefore, lays the foundations for proposing and developing a theoretical framework for Internet banking acceptance, incorporating some of the most significant factors affecting the decision to adopt Internet banking, as a conceptual basis for the empirical investigation reported in later chapters.

For this purpose, first, a general model of consumer behaviour is presented, which proposes a variety of environmental and personal factors which, researchers claim, influence the consumer decision-making process. This, in turn, generates a response purchase or non-purchase and positive or negative feedback based on the experience. A review and comparison is then presented of influential models applied in previous technology acceptance research, as a special category of consumer behaviour research, in order to evaluate their strengths and weaknesses, to provide a rationale for the choice of theory used to underpin the present research.

A large number of studies (e.g. Tan and Teo 2000; Yousafzai 2005; Ravi et al. 2007) have turned to technology adoption models in an attempt to understand what influences or deters customer adoption of this service. As a result of a lack of established theory in the information technology (IT) domain, including Internet banking, researchers have based their investigations on models developed in other

areas, for example, intention models drawn from social psychology (Harrison et al. 1997). A review of the literature reveals several well-established models and robust theories, which have been widely used by information systems researchers to predict the intention to adopt IT, notably, the theory of reasoned action TRA (Fishbein & Ajzen 1975), the theory of planned behaviour TPB (Ajzen 1991), innovation diffusion theory IDT (Rogers 1983), the technology acceptance model TAM (Davis 1989), and the decomposed theory of planned behaviour DTPB (Taylor & Todd 1995_a). These theories and models are discussed in detail in sections 2.3 to 2.7 respectively. Following discussion of these models, a comparative evaluation is provided in section 2.8, in the light of which DTPB is identified as the theory selected to underpin development of a model in this research.

2.2 Consumer Behaviour

The term consumer behaviour refers to the process that inspires or causes an individual's decisions on what, when, where, and how to purchase goods and services (Lamb et al. 2005). Although there are many definitions of consumer behaviour, they tend to be very similar in meaning. These definitions generally describe responses to products in terms of mental, emotional or physical processes, actions and thoughts, feelings and experiences involved in the buying and consuming process and explain these psycho-emotional processes (Andersone and Gaile-Sarkane 2008). For example, consumer behaviour has been defined as *"the behaviour that consumers display in searching for, purchasing, using, evaluating and disposing of products and services that they expect will satisfy their needs"* (Schiffman et al. 2008:3). Solomon et al. (2006) gave a similar definition as *"the processes involved when individuals or groups select, purchase, use or dispose of products, services, ideas, or experiences to satisfy needs and desires"* (Solomon et al. 2006:27).

It can be seen from these previous definitions that consumer behaviour is dynamic; it involves interactions and exchanges. Consumer behaviour is dynamic because the thoughts, feelings and actions of individual consumers, targeted consumer groups and society at large are constantly changing.

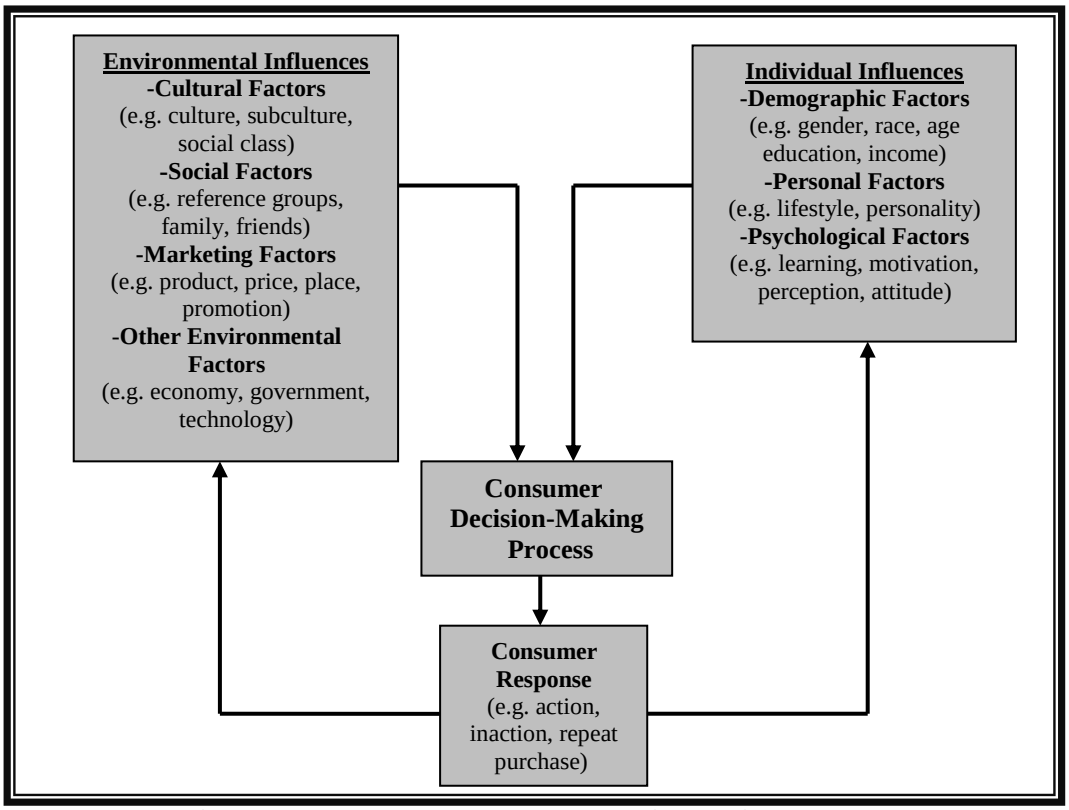
In order to expand use of the Internet as a marketing channel, it is important to understand consumer behaviour in a general sense. In this section, therefore, a general

model of consumer behaviour is presented and the main factors said to affect this behaviour are explained.

2.2.1 The General Model of Consumer Behaviour

Consumer behaviour involves the opinions, feelings, practices, and experiences of consumers in the consumption process. It also includes all the things in the environment that influence these thoughts, feelings and actions. Although many consumer behaviour models have been presented in the literature, one accepted interpretation of many models was suggested by Assael (2004). Assael's model proposed that consumer behaviour is influenced by two main sets of factors: the first one is Environmental influences (External Factors), and the second one is Individual influences (Internal Factors). This model, presented in Figure 2.2, gives a very simple structure for presenting the essential elements of consumer behaviour. In order to improve and develop this model further, it has been supplemented by considering the general elements identified in the primary theories of consumer behaviour discussed in the basic consumer behaviour literature, including works by Engel et al. (1995), Schiffman et al. (2005), Solomon et al. (2006), and Peter and Olson (2008).

Figure 2.2 - Factors Influencing Consumer Behaviour



Source: Adapted from Assael's (2004) work and supplemented with information from various consumer behaviour works such as Engel et al. (1995), Solomon et al. (2006), Schiffman et al. (2005), Peter and Olson (2008).

2.2.2 Environmental Influences

-Cultural Factors

Solomon (2004) defines culture as "*the accumulation of shared meanings, rituals, norms, and traditions among the members of a society"* (Solomon 2004:526). According to Kumar (2001: 113) culture is *"the most basic cause of a person's wants and behaviour."* Culture refers to the values, ideas, attitudes, and symbols that people adopt, communicate, interpret, and interact with as members of society (Kotler and Armstrong 2006). In fact, culture describes a society's way of life. Culture is learned and passed on from one generation to another (Andersone and Gaile-Sarkane 2008). The lifelong process of absorbing a culture affects individuals' preferences for products and services, patterns of consumer behaviour, and the way in which people communicate and interact with others (Bearden et al. 2007).

Many consumer behaviour scholars assert the importance, for understanding consumption pattern and preferences of customers, of considering the cultural context in which they occur (Peter et al. 2005; Blackwell et al. 2006; Sharma 2007). In Solomon's (2004:526) view, *"culture is the "lens" through which people view products"*. This implies a need for marketers to possess a good understanding of the underlying cultures of the people they are targeting in order to have a true understanding of consumers and their different perspectives.

Consumer subcultures also need to be considered. All societies contain subcultures. Schiffman et al. (2008:388) define subculture as *"a distinct cultural group that exists as an identifiable segment within a larger, more complex society"*. Subcultures can be based on a variety of characteristics, such as gender, age, religion race/ethnicity, nationality or occupation (Assael 2004; Schiffman and Kanuk 2004; Solomon 2004; Solomon et al. 2006). Members of a subculture usually differ from others in their perceptions, attitudes, wants and needs (Kumar 2001). The value of recognising subcultures for marketers is that it helps them to identify sizable market segments and to understand target markets.

Societies are also divided into social classes. Social class is defined as *"relatively permanent and ordered divisions whose members share similar values, interests, and behaviours"* (Kumar 2001:114). Social class is determined, unlike subculture, not by a single factor, but by combinations of variables, such as education,

income, wealth, and other aspects. It may be rigid, with considerable difficulty in moving out of the particular class into which a person is born. Marketers are interested in studying social classes because members of the same social class tend to display similar buying behaviours (Cant et al. 2002; Sheth et al. 2004; Kotler and Armstrong 2006). Thus, understanding of these categories helps marketers in their responsibilities of segmenting markets, targeting attractive segments, and positioning their products so as to attract the desired target market (Hawkins 2003; Peter and Olson 2008).

That culture should have an impact on consumer behaviour is understandable (Ueltschy et al. 2004). Culture gives people a sense of identity, of where they belong, of how they should behave, and of what they should be doing. It provides a common set of interrelated symbols, codes, and values that direct and justify human behaviour (Tsikriktsis 2002).

One area where the influence of national culture is felt is online consumer behaviour. Chau et al. (2002) found that national culture not only impacts on the usage of the Internet but also on users' acceptance of particular websites. Almogbil (2005), Kuhlmeier and Knight (2005) and Slyke et al. (2005) asserted that differences of culture among countries lead to different patterns of online consumer behaviour and could impede or encourage the success of online business because of differences in the way the innovation is perceived and interpreted.

In the Arab world, as Al-Janahi and Weir (2005) discussed, Islamic law, "Al-Sharia", is a major influencing factor on the relations between banks and clients. Banks must take account of Islamic values, since the Islamic religion implies certain theories about the conduct of financial business.

Such values can be expected to be influential in Saudi Arabia, which has a rigid culture that has not witnessed many changes in the last 50 years (Sharma 2007). In general, cultural considerations may be significant in the context of a conservative country like the KSA whose unique interpretation of the religion of Islam and its strict application make it very different from other Islamic countries, as Islamic teachings and Arabian values are dominant (Tuncalp and Erdem 1998). Saudi society is based on a strong religion and traditions which shape all interactions, including political, social and commercial transactions, and which give the KSA a special cultural and social pattern (Long 2005; Alhujelan 2008). Consequently, it

may be expected that Saudi consumers may have negative attitudes toward online transactions arising from cultural factors.

-Social Factors

Social influences can be considered as a second major category of influences on consumer behaviour. Social factors are defined as "*the processes through which people develop specific patterns of behaviour"* (Wang 2006:23).

Social influences refer to the influence of groups of people to which individuals belong. An individual, whether of their own volition or not, has membership in many social groups, such as family and other reference groups. According to Peter and Olson (2005:349) a reference group is *"a group that involves one or more people whom someone uses as a basis for comparison or point of reference in forming affective and cognitive responses and performing behaviours".*

The family is the first and typically the most powerful socialization influence, then others such as peers, classmates, roommates, college and spouse. The family has been identified as the most influential group on consumer behaviour (Kotler and Armstrong 2006). Ratneshwar and Mick (2005) discussed that parents and other family members serve as channels of information, sources of social pressure, and support for one another; this influence creates a distinct lifestyle, pattern of decision-making, and style of interacting. Marketers are very interested in ascertaining the roles played by different family members such as husbands, wives, and children regarding purchasing and consuming behaviour (Peter and Olson 2008).

Indeed, awareness of these social groups is essential for marketers in order to understand consumer behaviour. What matters is not so much the particular categorisation of these groups, as that many such groups exist and the more highly regarded the group from the perspective of the group member, the greater the influence of that group on the individual concerned (Solomon 2004).

The social environment directly affects sources of information that consumers use in decision making and product evaluations. Often, personal sources, such as family and friends, may be more credible and influential to consumers than any other sources of information (Andersone and Gaile-Sarkane 2008).

This may well be the case in Saudi Arabia. According to Al-Hammad (1996) the majority of Saudi consumers view family members, relatives, friends and colleagues as the most important sources affecting their purchasing behaviour. A particularly strong influence is played by men, who dominate most purchase decisions in the family and administer all financial spending in the KSA (Yavas et al. 1994). Al-Jefri and Bashekh (2004) suggested that Saudi's social dimensions are highly influential on the acceptance of online transactions by Saudi consumers. A similar view is taken by Al-Gahtani (2004). Consumer attitudes towards new technology, the lifestyle of local people, traditional habits and concepts of personal issues can all be considered as major obstacles to online transactions (Laforet and Li 2005).

- Marketing Factors

A significant role can be played in influencing consumer behaviour by marketing activities (Sheth et al. 1999). Marketing theorists suggest that product, price, place or distribution, and promotion are all important factors affecting individual consumers in the marketplace (Solomon 2004; Kotler and Armsrong 2006). Andersone and Gaile-Sarkane (2008) note that marketers plan and manipulate these four components of the marketing mix to promote positive action in order to influence consumer behaviour. Each of the four elements can affect consumers' behaviour in various ways.

Product refers to the combination of the goods and service that the company offers to the target market (Kotler 2003). The physical appearance of the product, packaging and labelling information can influence whether consumers notice a product and tangible services related to it, examine it, and purchase it. An important task of marketers is to differentiate their products and services from those of competitors and to arouse feelings in consumers that the product is worth purchasing. Marketers need to understand what they can/cannot sell online, and understand the needs of their targeted customers (Kimiloglu 2004).

The second element, price, in general, refers to *"the sum of all the values that consumers exchange for the benefits of having or using the product or service"* (Kotler 2000:415). The price of products and services may be a determining factor in whether consumers will purchase them at all and, if so, which of the available alternatives is selected. The lowest prices attract many consumers based on this fact alone. In other

cases, higher prices may not deter purchase because consumers perceive the products or services are higher quality or more prestigious (Hisrich 2000). However, if the customer perceives offered products and services as having similar features, he or she is likely to make his/her decision on the basis of price (Jobber 2001). Many consumers today are very value conscious and may choose products more on the basis of price than other attributes (Peter and Donnelly 2008).

The third element, place, can affect consumer behaviour in several ways. It refers to the marketer's strategies for distributing products and services. Distribution has been defined as *"the process of making a product or service available for use or consumption by the consumer"* (Kotler 2000:460). If products are convenient to buy in a variety of stores, it is more likely that consumers will find and buy them. Products can also be offered by non-store methods, such as on the Internet, and this may lead consumers to perceive the products as innovative, exclusive, or tailored for specific target markets (Zeithaml and Bitner 2003; Kim 2005; Kotler and Armstrong 2006). However, perceptions of such factors differ as a result of social factors. For example, Aladwani (2003) argues that although the Internet has advantages as a tool for obtaining information and obtaining goods, use of the Web as a channel of distribution is still not widespread in the Arab world, due to Arab users' reluctance to accept the Internet as a delivery channel.

The fourth element, promotion, can be defined as "*the activities and media that communicate the merits of a product and persuade target customers to buy it."* (Kotler 2003:41). The modern communication mix consists of advertising, personal selling, sales promotion, public relations and direct marketing (Lamb et al. 2005; Bearden et al. 2007). Advertising, sales promotions, salespeople, and publicity can influence consumers' perceptions of products, the feelings they experience in purchasing and using them, and how they behave (Peter and Olson 2008). Marketing communications are important in providing potential customers with information about products and services, including where they can be purchased, and in creating favourable images and perceptions.

Various promotional tools can be use to promote online services, such as corporate logos, banners, pop-up messages, e-mail messages, and text based

hyperlinks to websites. These types of promotion have been found to affect Internet buying favourably (Chaffey et al. 2003; Constantinides 2004; Kimiloglu 2004).

- Other Environmental Factors

In addition to the external factors discussed above, consumers are said to be affected by other factors related to the environment. These are not always easy to identify specifically, but in general they include economic, governmental, and technological factors (Sheth et al. 1999). Economic factors refer to aspects of the state of the national economy, such as the level of employment, wages, inflation, interest rate, currency exchange rate and disposal income (Sheth et al. 1999). An unfavourable economic climate may lead customers to purchase less, or prefer different products. Governmental factors take the form of fiscal and monetary policies such as interest rates, tax laws, spending programmes, and so on and public policies which encompass all actions of government as an economic regulator. Technological influences refer to the state of technology and its impact on individuals, institutions, and society (Sheth et al. 1999; Arnould et al. 2004; Kotler and Armstrong 2006). For example, technology such as the Internet has had tangible impact on the lives of many consumers, changing the way they acquire information, their communications with others and their purchasing behaviour (Harrison et al. 2006_a)

Such factors, and their associated effects are constantly changing, necessitating vigilant environmental monitoring by marketers who wish to understand consumer reactions to such influences. Ongoing market research should be conducted to ensure that opportunities and threats are recognized and addressed (Kotler and Armstrong 2006).

2.2.3 Individual Influences

- Demographic Factors

People's demographic characteristics are important factors influencing their consumer behaviours. Gender, age, income, occupation, and education, for example, can influence decision making at every step in the process.

Gender is considered a fundamental demographic feature, as males and females have many different needs associated with their biological structure, ranging from simple products to highly complex services. An association has long been recognized

between the process of consumption and sex or gender, so it is understandable that consumer researchers often examine the effects of these variables on consumer behaviours (Palan 2001). Peter and Olson (2008) reported extensive evidence that male and female differ in more than mere physical respects. For instance, they may process information differently. Women seem to be more generous, more nurturing, and less dominating than men. For some marketing purposes, gender differences may be significant enough to consider the two sexes as separate subcultures (Schiffman et al. 2008). This may be why many products are either exclusively or strongly associated with the members of one gender.

Age is another important demographic factor that influences consumer behaviour (Engel et al. 1995; Assael 2004; Solomon 2004; Schiffman et al. 2008). As people age, their needs, preferences and thinking change, often similarly to those of peers in the same age group (Solomon 2004). Age, in many different situations, dictates what particular goods and services a customer wants, needs, and eventually buys. Therefore, age grouping is a useful basis for both understanding associated members and tailoring marketing approaches to particular segments (Blackwell et al 2006). Flavián et al. (2006) found that sex and age are factors that influence consumers' decision as to which bank to deal with via the Internet.

Education background can also have prominent effects on consumer behaviour. A person's education impacts the way in which they make decisions (Solomon et al. 2006). There is evidence that less educated people have less information on brands, prices, and alternative products and services than more educated people (Kotler and Armstrong 2006). One reason for this is that less educated people often lack the means to engage in comparison shopping. Such people also may lack information channels such as Internet access, and so have fewer information opportunities (Schiffman et al. 2008). The education level of the targeted market needs to be considered by marketers, as it has the potential to influence associated perspectives of marketing efforts (Solomon 2004).

Income is another important factor that can affect consumer behaviour. According to Peter and Olson (2005:336), *"people at different income levels tend to have quite different values, behaviours, and lifestyles"*. Obviously, people with a higher income level have greater purchasing power (Assael 2004). Consumers with

more disposable income tend to purchase more expensive products than people who have more limited means. They will also be likely to adopt innovations more quickly than those who are less well off, as the latter have less room for error in their purchases (Roger 1995).

Finally, occupation is often closely associated with one's education and income. Moreover, individuals holding certain occupations may have particular self-images and expectations that affect their preferences in goods and services.

According to Kolodinsky et al. (2004) demographic factors such as gender, age, income, and education have been found significantly to affect adoption of electronic banking technologies by US consumers**.** Baumann et al. (2007) found banking consumer behaviour was best predicted by demographic variables, particularly age and income. Lin and Lee (2004) found age, education and income influence both the extent of information search and the use of specific information sources when clients make banking investment decisions.

Previous research in the Saudi Arabian banking sector suggests that, in general, Saudi consumers' income levels and education are influential in their adoption and usage of tele-banking services. Demographic issues and previous experience are also influencing factors (Al-Ashban 2001).

- Personal Factors

A wide range of individual differences can influence consumer behaviour. Some of the most important include lifestyle and personality (Foxall et al. 1998). Lifestyle refers to a person's pattern of living, reflected in their activities, interests, and opinions (Blackwell 2006). It is more concrete than personality and more clearly linked to why people acquire and use goods and services (Andersone and Gaile-Sarkane 2008).

Lifestyle encompasses several aspects of consumers' lives (e.g. income, education, beliefs….etc), and segmentation gives marketers insights into consumer behaviour of individuals with particular combinations of traits. Such combinations yield more information than that offered when characteristics are observed independently. Ultimately, understanding lifestyle factors can help marketers to understand consumer values and how they impact on consumer behaviour (Engel et al. 1995; Assael 2004; Solomon 2004).

Consumer perceptions and associated behaviour are also influenced by individual personality (Peter and Olson 2008). Solomon (2004) defined personality as *"a person's unique psychological makeup, which consistently influences the way the person responds to his or her environment"* (Solomon 2004:599). Personality reflects a person's consistent response to his or her environment (Blackwell 2006; Kotler and Armstrong 2006). It is associated with differences in the way individuals respond to persuasion and social influence and, hence, their purchase behaviour. General personality traits likely to have a bearing on consumer behaviour include extroversion, self-esteem, dogmatism and aggressiveness (Bearden et al. 2007). People prefer products and services that are reflective of their personalities, so marketers need to understand personality in order to better understand their target markets and the product and service features required by these customers. This necessitates extensive analysis of customer data, both demographic and personal.

-Psychological Factors

Learning: consumers acquire information from their experiences and develop a sort of knowledge to which they refer for assistance in their day-to-day activities (Zaltman 2003; Schiffman et al. 2008). Such experiences influence the beliefs formed regarding product offerings. All of this arises as a result of learning, which Schiffman et al. (2008: 208) define as *"the process by which individuals acquire the purchase and consumption knowledge and experience that they can apply to future related behaviour."*

Learning has attracted extensive attention by marketing researchers, including those interested in consumer behaviour. Two major schools of thought have emerged that are of importance to marketers, behavioural theory and cognitive theory. Behavioural theory is concerned with understanding how individuals learn from their experience of stimuli in the environment. As Solomon et al. (2006:62) mentioned, *"behavioural learning theories assume that learning takes place as the result of responses to external events"*. Cognitive theories adopt an alternative focus pertaining to the learning process. They are more concerned with the mental processes in which consumers engage in their various transactions. Solomon et al. (2006:66) define cognitive learning theories as those that *"stress the importance of internal mental processes. This perspective views people as problem solvers who actively use*

information from the world around them to master their environment." Both behavioural and cognitive theories provide valuable insights for marketers aiming to acquire better understanding of actual and potential customers.

Motivation: consumer behaviour cannot be adequately understood without an understanding of human motivation, which underpins elements of consumer behaviour (Ratneshwar and Mick 2005). Schiffman et al. (2008:105) define motivation as *"the driving force within individuals that impels them to action".* According to Solomon et al. (2006:90), motivation *"occurs when a need is aroused that the consumer wishes to satisfy. Once a need has been activated, a state of tension exists that drives the consumer to attempt to reduce or eliminate the need."*

It is clearly important in marketing to understand what drives a customer to action and considerable attention is focused on investigating what leads to successful exchange. A common approach in market segmentation activities is to tailor products and associated promotional campaigns to appeal to one or more hierarchical levels of needs (Schiffman and Kanuk 2004).

Perception: Pezzullo (1998:100) defines perception as *"the processes by which people receive information (or stimuli) through the five senses, recognize it, and assign a meaning to it."* Wells et al. (2003:107) explain that perceptions are shaped by three influences: firstly, the physical characteristics of the stimuli, secondly, the relationships of the stimuli to their surroundings, and thirdly the person's state of mind. This third influence means that perception is essentially subjective. Everyone views stimuli from their own perspective, resulting in great variation from one person to another. Understanding perception is crucial to consumer behaviour, since customers may select and respond to some information and stimuli and ignore others, depending on how they perceive their surrounding environment (Solomon et al. 2007; Schiffman et al. 2008).

Attitudes: attitude is defined by Kotler and Armstrong (2006:153) as "*a person's relatively consistent evaluations, feelings, and tendencies toward an object or idea".* Solomon et al. (2006:138) similarly define the term as *"a lasting, general evaluation of people (including oneself), objects, or issues."*

Attitudes tend to be long-lasting and difficult, although not impossible, to change (Peter and Olson 2008). They are of interest in relation to consumer behaviour,

as they influence how consumers evaluate products and services (Kotler and Armstrong 2006). A variety of models have been used by marketers to depict consumer attitudes, as will be shown later in this chapter.

2.2.4 Consumer Decision-Making Process

According to Sheth et al. (1999) customer decisions are *"the decisions that customers make in the marketplace as buyers, payers, and users"* (Sheth et al. 1999:518). In general, these decisions consist of whether to purchase, what to purchase, when to purchase, from whom to purchase, and how to pay for it (Cant et al. 2002).

The decision process begins with a customer recognising a problem to be solved or a need to be satisfied. Once the need has been recognised, customers search for information about various alternative ways of solving the problem. After the customer has all the information he/she needs, he/she will think how to use this information to arrive at the choice. Then, once the customer has evaluated the alternatives, he/she makes the purchase decision. Finally, the customer's decision process does not end with the purchase, as the experience of buying and using the product provides information that the customer will use in future decision making (Engel et al.1995; Sheth et al. 1999).

These stages of consumer behaviour and related issues are discussed in detail in Chapter Three, section 3.3.

2.2.5 Consumer Response

Eventually the consumer, within the context of his/her personal features, the influences of the environment, and his/her decision-making framework, makes a decision either to take action and purchase or to take no action at all, bypassing the purchase decision, at least for the time being. Customers who purchase goods and services eventually determine whether such purchases are worth repeating, based on the experiences they have had (Assael 2004; Schiffman and Kanuk 2004; Solomon et al. 2006).

Customers' actions or inactions provide feedback both for consumers themselves and the environment. This can take a variety of forms, such as suggestions for product improvements, return or exchange of items, additional purchases, requests for

information, and positive/negative word-of-mouth communications (Arnould et al. 2004). Disapproval derived from negative feedback or dissatisfaction can prompt organisations to improve their various product and service offerings. These institutions ideally seek to meet or exceed customer expectations in an effort to yield positive feedback. Efforts to do so are worthwhile, given the strong impact of word-of-mouth communications, as customers tend to exchange experiences with various associated social networks, which can greatly increase the size of the customer base (Solomon et al. 2006).

This section has examined consumer behaviour in general, and identified a number of factors that may influence it. As noted previously, researchers in the marketing field have resorted to a variety of models that purport to explain individual behaviour, in an attempt to understand how and why certain products and services are accepted, and by whom. The following sections examine some commonly used theories in detail and evaluate their potential usefulness in relation to understanding acceptance of Internet banking, the focus of this study.

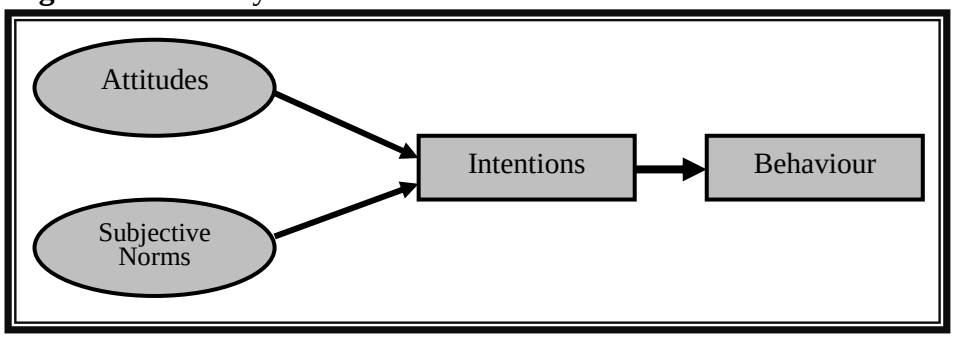
2.3 Theory of Reasoned Action (TRA)

The earliest theory of behaviour which has been applied to technology acceptance was proposed by Fishbein and Ajzen (1975) in *Belief, Attitude, Intention and Behaviour: An Introduction in Theory and Research*. The Theory of Reasoned Action (TRA) is a widely studied model concerned with the determinants of consciously intended behaviours (Fishbein and Ajzen 1975). The TRA assumes that individuals are usually rational and will consider the implications of their actions *"before they decide to engage or not engage in a given behaviour"* (Ajzen and Fishbein 1980: 5). The TRA assumes that *"most behaviours of social relevance are under volitional control and are thus predictable from intention"* (Ajzen and Fishbein 1980: 41).

Behavioural intention, in turn, is a function of two determinants: a personal factor, namely, attitude towards behaviour and a person's perception of social pressures, termed subjective norms (Fishbein and Ajzen 1975), as shown in Figure 2.3.

Attitude refers to *"individuals' positive or negative evaluation of performing the behaviour"* (Fishbein and Ajzen 1975:216). Importantly, attitude refers to the person's own general perception of the behaviour. Subjective norms, on the other hand, are a function of a set of beliefs termed normative beliefs, which *"are concerned with the likelihood that important referent individuals or groups would approve or disapprove of performing the behaviour"* (Ajzen and Madden 1986: 455). In other words, an individual's intent and, hence, behaviour is influenced partly by the influence of people who are important to him/her.

Figure 2.3 - Theory of Reasoned Action



(Source: Fishbein and Ajzen 1975)

From a theoretical point of view the TRA is intuitive, parsimonious, and insightful and it has been successfully applied in studying online consumer behaviour (Hansen et al. 2004; Njite and Parsa 2005; Shih and Fang 2006). Nevertheless, it has met with some criticism. In a broad review of the TRA, Foxall (1997) makes three substantive points. Firstly, the TRA ignores other, non-attitudinal personal and situational factors that may influence the strength of the attitude-intention-behaviour relationship or enhance understanding of behaviour. A related concern expressed by Davis et al. (1989) is that the generality of TRA does not allow identification of the factors that are salient for a particular behaviour. Secondly, the TRA views behaviour as determined by behavioural intentions, which means the predictive ability of the model is confined to situations where intention and behaviour are highly correlated. Thirdly, the clarity and precision with which intentions are formed has a bearing on the way in which attitudes influence behaviour (Park 2003). Foxall (1997) agreed that well-formed intentions, as proposed by the TRA, completely mediate the effect of attitude on behaviour. However, when intentions are more inchoate, they have less mediating impact and attitudes have a direct effect on behaviour.

A summary of some of the most relevant studies that used this theory and model, together with the findings of most concern for this thesis, are presented in Table 2.1.

Table 2.1- Review of Research on the Theory of Reasoned Action (TRA)

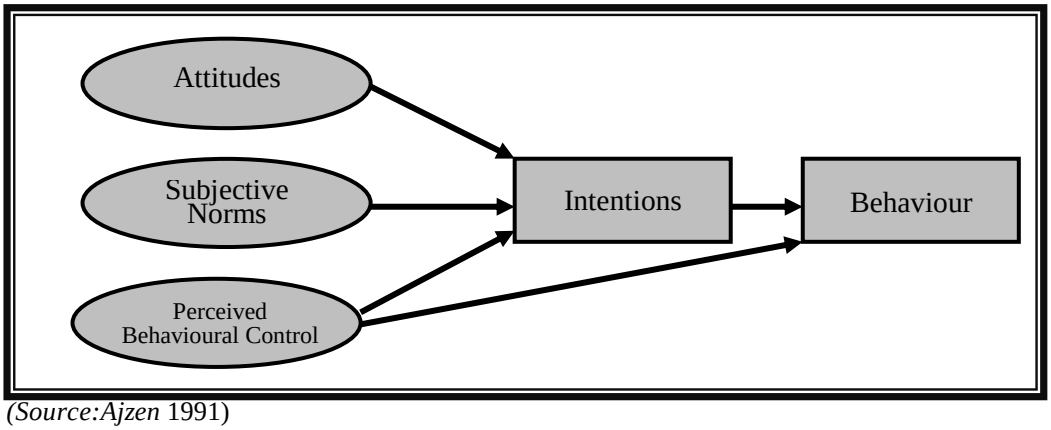
Author(s)	Technology Sample	Comment and Results
Shih (2004)	e-shopping 212 respondents	Individual attitudes toward e-shopping were strongly and positively correlated with user acceptance. Perceived ease of use of trading on-line and perceived usefulness significantly determined individual attitudes toward e-shopping, as well as confirming the significant effect of perceived ease of use of the Web on perceived ease of use, which in turn affects perceived usefulness. Yet, perceived usefulness was not found to affect user acceptance significantly. User satisfaction with the Internet and perceptions of information, system and service were shown to affect user acceptance significantly.
Xu and Paulins (2005)	shopping online 129 college students in USA	The students, in general, had positive attitudes toward shopping online for apparel products. Results showed that the students who intended to shop online for apparel products had more positive attitudes than those who did not have the intention. Internet usage, employment status, and car access had significant influence on students' attitudes toward online shopping for apparel products.
Shih and Fang (2006)	Internet banking 425 potential users of Internet banking in Taiwan	The results supported TRA and extended TRA. Generally, attitude is significantly related to the intention to adopt Internet banking, while subjective norms is not; network quality attributes including information quality, transaction speed, and security play significant roles in influencing attitude.
Ravi et al. (2007)	Internet banking 165 users and non-users of Internet banking in India	The TRA was used in combination with other theories. The study was conducted using a questionnaire survey. The variables influential on Internet banking adoption were ranked as subjective norms, trust in the bank, favourable attitude, perceived usefulness, security and perceived ease of use in that order.

2.4. Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour TPB is an extension of the TRA which adds a construct that integrates the difficulty or ease of performing behaviour. The same constructs of attitude toward the behaviour and subjective norms are applied as in the TRA, and will not be discussed again here. The added construct, perceived behavioural control, reflects an individual's perception of the ease or difficulty of performing a particular behaviour. It is made up of control beliefs about certain behaviour and the individual's perceived facilitation of each control belief. Control beliefs are the beliefs a person holds about his or her ability to perform the behaviour; these are affected by external resources (e.g., time and money) and internal factors (e.g., ability and self-efficacy). Perceived facilitation refers to the extent to which the individual views each control belief as an important factor in facilitating or inhibiting performance of the behaviour (Ajzen 1991).

Ajzen reasoned his extension to the TRA based on the TRA's limitations in dealing with behaviours over which people have incomplete volitional control (Ajzen 1991: 181). Based on the idea that behaviours are influenced by individuals' confidence in their ability to perform the behaviour, Ajzen (1991) proposed two concepts: first, that perceived behavioural control and intention will influence behaviour, and second, that perceived behavioural control, subjective norms, and attitudes will directly affect intention (Figure 2.4). Based on a review of a set of studies related to the TPB, Ajzen concluded that the new construct provided a significant improvement when compared with the TRA. Perceived behavioural control emerged as a strong predictor of intention, which outperformed attitudes and subjective norms.

Figure 2.4 - Theory of Planned Behaviour



(Source:Ajzen 1991)

Like its predecessor the TRA, however, the TPB is problematic on several grounds. Firstly, like the TRA, the TPB assumes closeness between intention and behaviour; however, the precise situational correspondence is still unclear (Foxall 1997). Secondly, there is the practical difficultly of measuring perceived behavioural control directly, rather than recording control beliefs (Park 2003). Thirdly, the theory introduces only one new variable, which may oversimplify the process of intention formation. The model assumes a causal link between perceived behavioural control and intention, which implies that people decide to engage in behaviour because they feel they can achieve it. However, as Yousafzai (2005) argues, there is good reason to believe that other factors add predictive power, in addition to those measures formally incorporated in the TPB. For example, Abu Shanab (2005) argues that personal norms and affective evaluation of behaviour may account for variance in behavioural intentions beyond that accounted for by the TPB.

A summary of some of the most relevant studies that used this theory and model, together with the findings of most concern for this study, is presented in Table 2.2.

Table 2.2- Review of Research on the Theory of Planned Behaviour (TPB)

Author(s)	Technology Sample	Comment and Results
Venkatesh et al. (2000)	A new software system 355 individuals from four organisations	The research investigated gender differences in the context of individual adoption and technology using TPB. When compared to women's decisions, the decisions of men were more strongly influenced by their attitude toward adopting the new technology. In contrast, women were more strongly influenced by subjective norms and perceived behavioural control. These findings were robust across income, organisation position, education, and computer self-efficacy levels.
George (2002)	Internet purchase 1194 respondents in USA	The study did a partial test of TPB as only attitudinal beliefs i.e., privacy and Internet trustworthiness were examined. The study found that privacy and Internet trustworthiness beliefs significantly affected attitudes, which in turn affected the intention to purchase.
Riemenschneider et al. (2002)	Software Development Methodology 128 system developers, developing methods	Different theoretical models of individual intentions to accept information technology tools were examined. Each model explained significant variance in developers' intentions to use the methodology. It was found that attitudes and subjective norms were significant, but perceived behavioural control was not, in predicting behavioural intention.
Fusilier and Durlabhij (2005)	Internet use 269 college students In India	The study explored behavioural processes involved in Internet technology acceptance and use with a sample in India. User experience was incorporated into the technology acceptance model and the theory of planned behaviour TPB to predict intentions to use the Internet as well as self-reported usage. TPB was supported in its predictions of Internet use intentions and usage. Although a main effect for user experience did not emerge, it did significantly interact with components of both theoretical models, suggesting that it has a complex influence on Internet user intentions. Both models appeared to effectively predict Internet use intentions among the sample of college students in India.
Gopi and ramayah (2007)	Internet stock trading 144 investors in Malaysia	Attitude, subjective norms and perceived behavioural control have a direct positive relationship towards behavioural intention to use Internet stock trading. The TPB explains variation in behavioural intention and actual usage.

2.5. Innovation Diffusion Theory (IDT)

Innovation Diffusion Theory IDT is a well-established theory based on Rogers (1995). According to this theory, innovation adoption is the outcome of a process of uncertainty reduction, whereby individuals will gather and synthesize information on innovation, in this case, technology. Only then will they decide to use it.

Based on three decades of innovation study, Rogers (1995) suggested five key attributes affecting the adoption of any innovation, namely:

1. **Relative advantage:** *"the degree to which an innovation is perceived as being better than the idea it supersedes"* (Rogers 1995:212). Relative advantage

requires the adopter to weigh up the benefits of using an innovation, whether financial, social, or of other kinds.

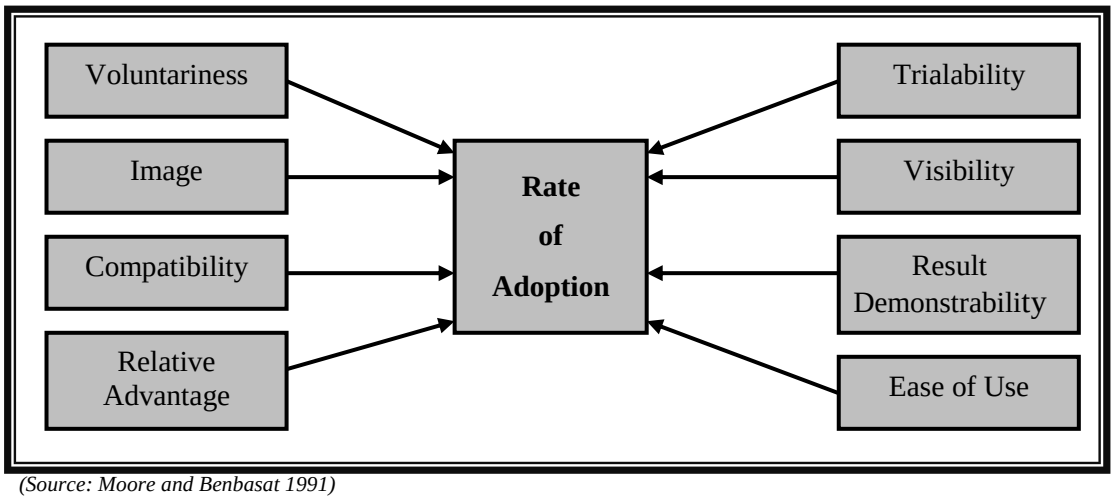
2. **Compatibility:** *"the degree to which an innovation is perceived as consistent with the existing values, past experiences, and potential needs of adopters"* (Rogers 1995: 224). Compatibility is evaluated relative to the adopter's socio-cultural values and beliefs, ideas encountered previously and need for the new product, service or situation.
3. **Complexity**: *"the degree to which an innovation is perceived as relatively difficult to understand to use"* (Rogers 1995:242). Complexity reflects how much physical or mental effort must be expended in order to use an innovation.
4. **Trialability:** *"the degree to which an innovation may be experimented with on a limited basis"* (Rogers 1995:243). Trialability is the opportunity for the adopter to try out an innovation in order to gain an understanding of it and perceive how it may benefit him or her.
5. **Observability:** *"the degree to which the results of an innovation are visible to others"* (Rogers 1995:244). The more the innovation can be seen and is talked about by others, the higher the observability.

Moore and Benbasat (1991) adapted Rogers' work to develop and evolve an instrument with seven dimensions to measure the perceived characteristics of an innovation. In this instrument, Moore and Benbasat kept four of Rogers' innovation characteristics, namely, relative advantage, compatibility, complexity, and trialability, and added two additional constructs, voluntariness and image. Voluntariness means the degree to which use of the innovation is perceived as being voluntary or a matter of free will and image refers to the degree to which the individual thinks use of an innovation will enhance his or her image or status in his/her social system. They also split Rogers' observability construct into two separate constructs, which they labelled result demonstrability and visibility. The result was a valid and reliable 38-item instrument made up of eight unique scales (Figure 2.5).

This modification of Rogers' model was an attempt to examine the innovation adoption process on the basis of "interaction" or "usage." Moore and Benbasat (1991: 196) stated that "*Innovations diffuse because of the cumulative decisions of individuals to adopt them. Thus it is not the potential adopter's perception of the*

innovation itself, but rather their perceptions of using the innovation that are key to whether the innovation diffuses."

Figure 2.5 - Innovation Diffusion Theory



(Source: Moore and Benbasat 1991)

The theory has been widely used in IT acceptance research (Lee 2003). It has been applied to a variety of IT technologies, including automation technology (Speier and Venkatsh 2002), computer technology (Al-Gahtani 2004) and Internet banking (Gerrard & Cunningham 2003; Saleh 2003) and Multimedia Message Service MMS (Hsu et al. 2007). It has also been utilized in the development of a comprehensive instrument designed to examine the decision to adopt an IT innovation by Moore and Benbasat (1991). Probably due to the theory's straightforward and logical approach, some of these innovation attributes have been used by researchers such as Taylor and Todd (1995_a) and Tan and Teo (2000) as the antecedents of attitude toward using a technology.

A summary of some of the most relevant studies that used this theory and model, together with the findings of most concern for this study, is presented in Table 2.3.

Table 2.3 - Review of Research on the Innovation Diffusion Theory (IDT)

Author(s)	Technology Sample	Comment and Results
Karahanna et al. (1999)	Microsoft Windows technology 268 employees at a large financial institution	The study examined adoption of Windows technology, investigating users' and potential adopters' determinants of behavioural intention, attitude and subjective norms. Potential adopter intention to adopt is solely determined by normative pressures, whereas user intention is solely determined by attitude. In addition, potential adopters base their attitude on a richer set of innovation characteristics than users. Ease of use, perceived usefulness, visibility, result demonstrability, and trialability significantly affected attitude toward adopting the software among the potential adopters, while only image and perceived usefulness were significant among the users.

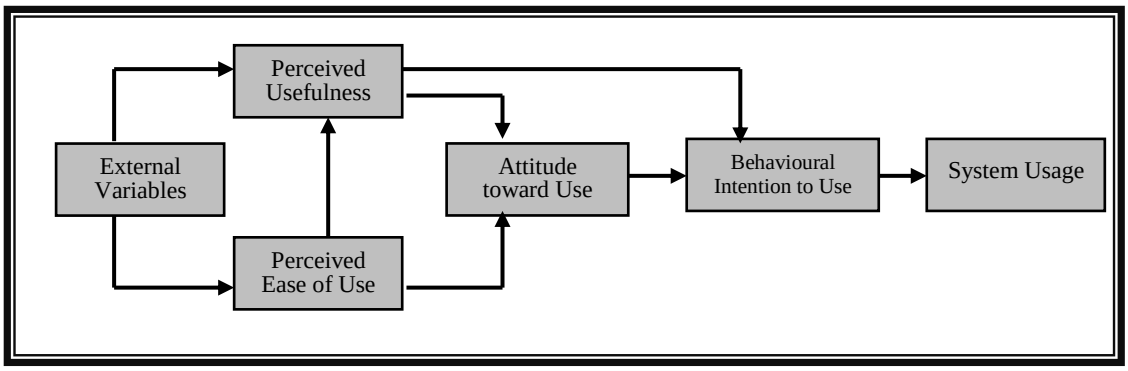
Plouffe et al. (2001)	A smart card-based payment system 176 merchants	The IDT constructs significantly outperformed the technology acceptance model. Significant antecedents of the intention to adopt were relative advantage, compatibility, image, visibility, trialability, and voluntariness.
Speier and Venkatesh (2002)	454 salespeople, sales force automation technology	The study used all IDT constructs as a lens to better understand salesperson perceptions associated with technology rejection. The results indicate that salespeople had positive perceptions of the technology. However, 6 months after implementation, the technology had been widely rejected. Relative advantage and voluntariness yielded significant results. Sales person rejection was related to job-related perceptions.
Gerrard and Cunningham (2003)	Internet banking 240 adopters and non-adopters in Singapore	The study identifies eight characteristics which influence the rate of adoption. Two of these characteristics, namely accessibility and confidentiality, are new to the literature. The results show that adopters of Internet banking perceive the service to be more convenient, less complex, more compatible to them and more suited to those who are PC proficient. Adopters were also found to be more financially innovative. The perceptions that adopters had about social desirability, confidentiality, accessibility, and economic benefits were viewed no differently when adopters were compared with non-adopters.
Hardgrave et al. (2003)	Software development methodology 128 applications developers	The study draws upon IDT to advance knowledge about why developers accept or resist Software development methodology. Results indicated that developers' intentions are directly influenced by their perceptions of usefulness, social pressure, compatibility, and organisational mandate. Significant determinants of intentions were usefulness and compatibility. Complexity was not significant.
Al-Gahtani (2004)	Computer technology 1190 org. workers in KSA	Used a subset of IDT constructs to explore the adoption rate of computer technology. Five significant constructs were confirmed and their Arabic instruments were validated. Four characteristics of computers (relative advantage, compatibility, observability, and trialability) had positive and significant correlations with computer usage and satisfaction. Complexity was negatively correlated to both computer usage and satisfaction.
Hsu et al. (2007)	Multimedia message service MMS 207 users	Relative advantage and compatibility have a positive relationship with MMS adoption. Results on ease of use, trialability, result demonstrability, visibility, image, and voluntariness were mixed for different categories of adopters as well as potential adopters and users.
Ravi et al. (2007)	Internet banking 103 users 62 non-users in India	Significant determining variables that influence adoption of Internet banking were identified from the theory of reasoned action, theory of planned behaviour, technology acceptance model and diffusion of innovations theory. The results ranked variables according to the level of their influence on the usage of Internet banking. The variables are ranked as Intention, Beliefs, Subjective Norms, Trust in the Bank, Attitude, Perceived Usefulness, Security and Perceived ease of use, in that order.

2.6 Technology Acceptance Model (TAM)

The Technology Acceptance Model TAM (Davis et al. 1989) is widely used in IT research to predict human behaviour. TAM was adapted from the theory of reasoned action TRA (Ajzen & Fishbein 1980; Fishbein & Ajzen 1975). Like the TRA, TAM suggests that attitudes predict intentions, and intentions predict usage, which in the view of Davis et al. is an indicator of technology acceptance. According to the TAM, adoption behaviour is determined by the intention to use a particular system and the intention is determined by the attitude towards use. However, TAM

adds two antecedents of attitude: the perceived usefulness and perceived ease of use of the system; (Figure 2.6) (Davis et al. 1989). The model also hypothesizes a link from perceived usefulness to behavioural intention. Perceived usefulness is defined as the extent to which a person believes that using a particular system will enhance his or her performance (Davis et al. 1989), while perceived ease of use is defined as the extent to which a person believes that using a particular system will be free of effort (Davis et al. 1989).

Figure 2.6 - Technology Acceptance Model



(Source: Davis et al. 1989)

Unlike the TRA, the TAM does not explicitly include subjective norms as a determinant of intentions, although these might be included among the external variables that the TAM suggests may affect perceived ease of use and usefulness. External variables, however, are a wider construct, encompassing factors such as training, documentation, and user supports (Davis et al. 1989).

TAM has received considerable attention and empirical support among IT researchers in many settings and technologies. The model has been tested on technologies such as cell phone adoption (Kwon and Chidambaram 2000) and smart card payment systems (Plouffe et al. 2001). The results indicated the stable explanatory power of the TAM within the different environments.

In the Internet context, the TAM was explored with respect to website acceptance (Heijden 2003), virtual learning (Teo et al. 2003; Fusilier and Durlabhji 2005), the World Wide Web (Venkatesh et al. 2003), and Internet banking adoption (Yousafzai 2005, Cheng et al. 2006, Guriting et al. 2007; Shu-Fong et al. 2007). The predictive power of the TAM and the small number of constructs required to predict intention have been cited as advantages (Yousafzai 2005; Guriting et al. 2007).

Evidence as to the value of the TAM can be found in numerous studies, although

limitations have also emerged. For example, Ma and Liu (2004) conducted a meta-analysis that included 26 studies and concluded that strong and significant relationships between perceived usefulness and acceptance, and perceived usefulness and perceived ease of use existed. However, perceived ease of use and acceptance had a weak relationship, and its significance did not pass the fail-safe test. Yousafzai (2005), based on a review of 145 articles published between 1989 and 2004, concluded that the TAM is a popular and robust model applicable to a wide range of systems and technologies within many cultural contexts. The results indicated the evolving shape and coverage of the TAM, and from this perspective, the author concluded that conflicting and contradicting results started to appear as the model was subjected to further testing.

A summary of some of the most relevant studies that used this theory and model, together with the findings of most concern for this study, is presented in Table 2.4.

Table 2.4 - Review of Research on the Technology Acceptance Model (TAM)

Author(s)	Technology Sample	Comment and Results
Lederer et al. (2000)	World Wide Web 163 users of Internet	The research investigated TAM for work-related tasks with the World Wide Web as the application. The effect of perceived usefulness and perceived ease of use on usage was significant. Significant antecedents of ease of use were ease of understanding and ease of finding. A significant antecedent of usefulness was information quality.
Venkatesh and Morris (2000)	a new software system 342 respondents	Compared to women, men's technology usage decisions were more strongly influenced by their perceptions of usefulness. In contrast women were more strongly influenced by perceptions of ease of use and subjective norms, although the effect of subjective norms diminished over time. Thus, in addition to identifying key boundary conditions in the role of the original TAM constructs (perceived usefulness and perceived ease of use), this research provides the basis for the integration of subjective norms into the model.
Chen et al. (2002)	Virtual store 253 registered users of a non-profit organisation and three news groups related to online shopping	Perceived ease of use had a positive effect on both perceived usefulness and attitude toward using the virtual stores. Perceived usefulness had a significant effect on attitude toward using the virtual stores. Attitude affected behavioural intention and behavioural intention significantly affected the actual usage.
Suh and Han (2002)	Internet banking 845 Internet users in Korea	Ease of use and usefulness were considered with trust as another belief that has an impact on the acceptance of Internet banking. The results indicate that trust is one of the most significant beliefs in explaining a customer's attitude towards using Internet banking. Customer perception of the usefulness and ease of use also affect attitude significantly. At the same time, behavioural intention to use Internet banking is highly related to attitude, perceived usefulness, and trust.

Heijden (2003)	Website usage 828 responses in Netherlands	The study used TAM to explain the individual acceptance and usage of websites by examining perceived ease-of-use, usefulness, enjoyment, and websites' impact on attitude towards using, intention to use and actual use. The author concluded that intention is most dominantly influenced by attitude and less so by usefulness and enjoyment.
Legris et al. (2003)	Literature review of the TAM	The study examines the role of perceived ease of use and perceived usefulness in relation between systems characteristics and the probability of system use. It also examines TAM2 which includes subjective norms. Analysis of using TAM shows that results are not totally consistent or clear. This suggests that significant factors are not included in the models. The authors conclude that TAM is a useful model, but has to be integrated into a broader one which would include variables related to both human and social change processes, and to the adoption of the innovation model.
Venkatesh et al. (2003)	Online meeting manager, database application, portfolio analyzer, and proprietary accounting system 215 employees in four firms	Significant antecedents of the intention to adopt in voluntary setting after: 1 week (perceived usefulness and perceived ease of use); 1 month (perceived usefulness); 3 months (perceived usefulness). Significant antecedents of the intention to adopt in mandatory setting after: 1 week (perceived usefulness and perceived ease of use); 1 month (perceived usefulness and perceived ease of use); 3 month (perceived usefulness).
Ma and Liu (2004)	26 studies, Meta-analysis	The results show strong correlations between usefulness and acceptance, and between usefulness and ease of use. However, the relationship between ease of use and acceptance is weak, and not significant.
Pikkarainen et al. (2004)	Internet banking 268 consumers in Finland	With the use of a factor analysis, five factors were identified suggesting that perceived usefulness, perceived ease of use, perceived enjoyment, information on online banking, and security and privacy have an impact on the acceptance of online banking.
Yousafzai (2005)	Internet banking 435 clients of Halifax Bank of Scotland (HBOS) through postal questionnaire survey in UK	Technology acceptance constructs (perceived usefulness and ease of use), and users' personal characteristics (technology readiness, age and gender) into a coherent and parsimonious model. The results show that intentions translate over time into actual behaviour; perceived usefulness has a significant effect on intentions; trust and perceived risk are direct antecedents of intention, suggesting uncertainty reduction as a key component in customers' acceptance of Internet banking; and different types of customers, defined by their demographic characteristics and technology readiness, develop different perceptions towards the same technology.
Cheng et al. (2006)	Internet banking 203 respondents in Hong Kong	Perceived web security was added and tested regarding prediction of customers' behavioural intention of adopting Internet banking. The results provide support of the extended TAM model and confirm its robustness in predicting customers' intention of adoption of Internet banking as intention was the major determinant of user behaviour, and it was powerful in predicting and explaining user behaviour based on only three theoretical constructs, i.e., Intention, Perceived Usefulness and Perceived Ease of Use. The positive influence of perceived web security on behavioural intention was supported, too.
Guriting and Ndubisi (2006)	Internet banking 133 Internet users in Malasyia	Perceived usefulness and perceived ease of use are strong determinants of behavioural intention to adopt online banking. There is also an indirect effect of computer self-efficacy and prior general computing experience on behavioural intention through perceived usefulness and perceived ease of use.

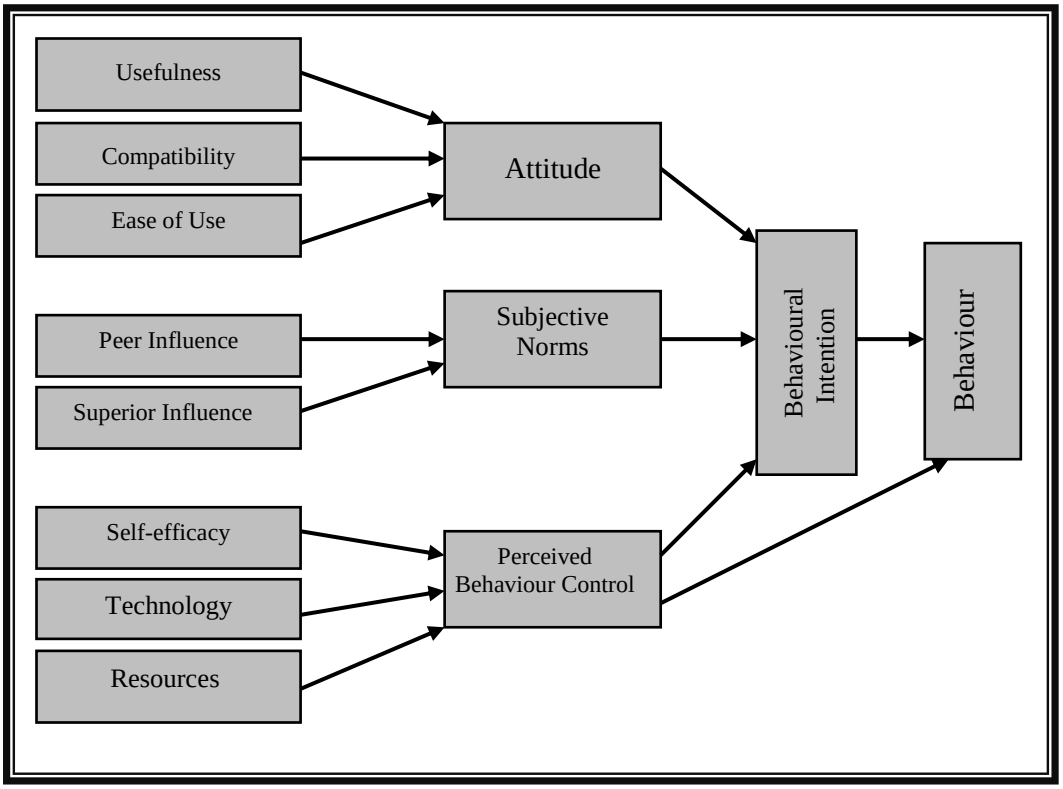
Guriting et al. (2007)	Internet banking 133 customers	This research examines the role of computer self-efficacy at three distinct levels of user perceptions (low, mid and high) and the adoption of online banking. Perceived usefulness and perceived ease of use were strong determinants of the behavioural intention to adopt Internet banking. Computer self-efficacy was more important at low and mid levels of user-perceived usefulness and ease of use than at high levels of perception.
Shu-Fong et al. (2007)	Internet banking 200 respondents in Malasiya	The study examined the impact of personalisation, task familiarity, accessibility, security and resistance to change on the attitude towards Internet Banking. The result confirmed indirect effects through perceived usefulness and perceived ease of use.
Yiu et al. (2007)	Internet banking 150 respondents in Hong Kong	The study constructs were developed based on the TAM and incorporated two additional elements of personal innovativeness and perceived risk. It was found that perceived usefulness has the strongest correlation with adoption of Internet banking, followed by perceived ease of use and perceived risk. Personal innovativeness in information technology showed the weakest correlation with Internet Banking adoption.
Ozdemir et al. (2008)	Internet banking 155 Internet users in Turkey	This study aimed to identify some characteristics of Internet banking adopters with non-adopters. Data was collected through interviews and questionnaires. The results indicated that there are significant differences between adopters and non-adopters of the service in terms of their perceptual, experience and consumer related characteristics. Internet banking adopters perceived Internet banking use as less risky, more user-friendly and more useful compared to Internet banking non-adopters.

2.7 Decomposed Theory of Planned Behaviour (DTPB)

The Decomposed Theory of Planned Behaviour DTPB, based on the work of Taylor and Todd ($1995_{a\&b}$), combines aspects of the theory of planned behaviour (Ajzen 1991) with aspects of innovation diffusion theory (Rogers 1995). The theory hypothesizes that attitude, subjective norms and perceived behavioural control will influence the intention to use a technology. However, DTPB extends both the TRA and TPB by decomposing the attitudinal, normative, and perceived behavioural control into multi-dimensional constructs. This provided higher explanatory power and a more precise understanding of the antecedents of behaviour. In Taylor & Todd's (1995_a) empirical test, the DTPB was found to provide a moderate increase in the explanation of behavioural intention when compared to the theory of planned behaviour (Taylor & Todd 1995_b).

Taylor and Todd ($1995_{a\&b}$) decomposed attitudes into perceived ease of use, perceived usefulness, and compatibility. Subjective norms were decomposed into peers' influence and superior's influence. Finally, perceived behavioural control was decomposed into self-efficacy (internal control), resource facilitating conditions, and technology facilitation conditions (external control) (Figure 2.7).

Figure 2.7 - Decomposed Theory of Planned Behaviour



(Source: Taylor & Todd 1995a)

In a study involving 786 business students and taking use of a computing resource centre as the targeted technology, Taylor and Todd (1995_a) found the predictive power of the DTPB to be superior to that of TAM and TPB. The DTPB also provided better understanding of behavioural intention as the result of the decomposition of attitudinal, control, and social factors. In terms of the hypothesized paths, perceived usefulness was a significant determinant of attitude, peer and superior influences were significantly related to subjective norms, and self-efficacy and resource-based facilitating conditions were significant determinants of perceived behavioural control. The decomposition provides more specific measures that can vary with contextual and environmental variables.

A number of studies comparing the DTPB with other models of technology acceptance have demonstrated the value of the former. For example, using the DTPB as the theoretical framework, Thompson et al. (2006) compared the TAM, TPB and DTPB. The results of the study confirmed existing findings within the technology adoption stream, as it generally revealed strong influences of both personal innovativeness and computer self-efficacy on adoption behaviour and provided broader understanding of information technology adoption.

Similarly, Jaruwachirathanakul and Fink (2005) argued that DTPB increased explanatory power and provided better, more precise, additional understanding of the antecedents of attitudinal factors since it has added value as a result of the decomposition, making it preferable to the other models.

By using a sample of 733 consumers, Park (2003) compared four models, TRA, TPB, TAM, and DTPB in terms of the extent to which each can be used to predict and understand consumers online-shopping intention. Through the decomposition approach, the study found that attitudinal components (i.e., usefulness, ease of use, playfulness, and trust) and control components (i.e., self-efficacy and technology facilitating conditions) had significant indirect effects on intention to shop online. Social influence did not build intention to shop online.

Shih and Fang (2004) used two versions of the model of the theory of planned behaviour TPB - pure and decomposed - in comparison with the theory of reasoned action TRA, to investigate predicting customers' intention to adopt Internet banking, in an attempt to understand how an individual's beliefs, embracing attitude, subjective norms and perceived behavioural control, can influence intention. The result showed that intention to adopt Internet banking can be explained by attitude in both models. The DTPB gave further explanations, as only relative advantage and complexity were related to attitude, while compatibility was not. In Shih and Fang's (2004) study, the people who understood the advantages of Internet banking had yet to try it. As a result, they were unable to perceive whether Internet banking was compatible with their individual lifestyles or values. With regard to subjective norms, the path from subjective norms to intention failed to achieve significance in either model. The authors concluded that the possible factors of influence could be other network characteristics, such as information quality and security.

In addition to these studies comparing models, the DTPB has been used as a single theoretical framework, to investigate acceptance of a variety of technologies. One such application of the DTPB to technology adoption was Lau's (2002) study of individual acceptance of technologies, specifically with respect to the business to customer (B2C) area. A survey of eighty-two electronic brokerage adopters yielded results consistent with previous research with respect to the utility of the theory of planned behaviour. Lau's work is one of the rare studies that replicated the DTPB

using all of its proposed constructs. This study showed actual behaviour of online trading was influenced by behavioural intention. Attitude, subjective norms, and perceived behavioural control were significant determinants of behavioural intention. Perceived usefulness, perceived ease of use, relative advantage, compatibility, and observability were significantly correlated with attitude; competitor influence, customer influence, decision maker influence, and employee influence were significantly correlated with subjective norms; self-efficacy and technology facilitation condition were significantly correlated with perceived behavioural control.

Similarly, Hsu et al. (2006) empirically examined DTPB to analyse consumer behavioural intention towards mobile text message coupons to understand the validity of each construct. The study found that behavioural attitude indirectly affects or influences behavioural intention. Compatibility, personal innovativeness, perceived ease of use and perceived usefulness influence behavioural intention. Subjective norms indirectly influence behavioural intention. Perceived behavioural control indirectly influences behavioural intention. Through perceived behavioural control, self-efficacy and facilitating conditions indirectly influence behavioural intention; self-efficacy was the most significant influential factor.

In the same vein, Thompson et al. (2006) tried to obtain a clearer picture of how intentions are formed using DTPB. The results showed strong influences of both personal innovativeness and computer self-efficacy. They also aid in building understanding of the antecedents of perceived usefulness and perceived ease of use, the critical constructs in the Technology Acceptance Model. Although this finding is not completely consistent with Taylor and Todd's (1995_b) work, it adds some understanding of how personal innovativeness, self-efficacy and social factors influence technology adoption choices.

Regarding Internet banking technology, Tan and Teo (2000) used the DTPB to explore the adoption of Internet banking service. Data from 454 clients, obtained via e-mail, indicated the significance of attitudinal and perceived behavioural control predictions versus the normative prediction (subjective norms). Significant attitudinal factors were relative advantage, compatibility, experience, needs, trialability and risk. Perceived behavioural control constructs that showed significant relationships with intention to adopt were self-efficacy and government support, while technology

support was not significant.

Likewise, Jaruwachirathanakul and Fink (2005) was another researcher who examined factors that encourage consumers to adopt Internet banking services by using DTPB. According to that study, the attitudinal factors that appear to encourage the adoption of Internet banking most are "features of the technology" and "perceived usefulness", while the most significant impediment to adoption is a perceived behavioural control, namely, "External environment". The significant moderating factors are gender, educational level, income, Internet experience and Internet banking experience.

A summary of some of the most relevant studies that used this theory and model, together with the findings of most concern for this study, is presented in Table 2.5.

Table 2.5 - Review of Research on the Decomposed Theory of Planned Behaviour (DTPB)

Author(s)	Technology Sample	Comment and Results
Taylor and Todd (1995_a)	Computing Resource Center 786 business school students	The DTPB provides somewhat better predictive power relative to the TAM and TPB. Perceived usefulness was a significant determinant of attitude. Ease of use and compatibility were found not significantly related to attitude. Both peer and superior influences were significantly related to subjective norms. Self-efficacy and resource-based facilitating conditions were significant determinants of perceived behavioural control. Attitude, subjective norms, and perceived behavioural control all had significant effects on behavioural intention.
Taylor and Todd (1995_b)	VCR-Plus 790 patrons at shopping mall	The DTPB model fitted the data well. Relative advantage/compatibility and complexity were significantly related to attitude. Normative influence was significantly related to subjective norms. Self-efficacy and facilitating conditions were significant determinants of perceived behavioural control. Attitude and subjective norms were significantly related to intention; however, perceived behavioural control was not.
Tan and Teo (2000)	Internet banking 454 Internet users in Singapore	A research framework based on the DTPB was used to identify the attitudinal, social and perceived behavioural control factors that would influence the adoption of Internet banking. The results revealed that attitudinal and perceived behavioural control factors, rather than social influence, play a significant role in influencing the intention to adopt Internet banking. In particular, perceptions of relative advantage, compatibility (value, Internet experience, and banking needs), trialability, and risk toward using the Internet were found to influence intentions to adopt Internet banking services. Confidence in using such services, as well as perception of government support for electronic commerce, was also found to influence intentions.

Lau (2002)	Online trading 82 brokerages in Hong Kong	The study examined DTPB to investigate whether the attributes, variables, and belief structure of the proposed model correlated with each other or not. The actual behaviour of online trading is influenced by behavioural intention and the three beliefs of attitude, subjective norms and perceived behavioural control which are also very significant in determining behavioural intention. Further, all the factors under the three beliefs are significantly correlated with each other. Perceived usefulness, perceived ease of use or complexity, relative advantage, compatibility, and observability were significantly correlated with attitude toward using the online trading system.
Park (2003)	Online-shopping 733 consumers in USA	The study compared four models, TRA, TPB, TAM, and DTPB in terms of the extent to which each can be used to predict and understand the consumer's online-shopping intention. Path analysis revealed that all models except the TRA can successfully provide theoretical bases for online studies. The three models TPB, TAM, and DTPB revealed adequate model fits and explained the same amount of variance in intention to shop online. Through the decomposition approach, the result found that attitudinal components (i.e., usefulness, ease of use, playfulness, and trust) and control components (i.e., self-efficacy and technology facilitating conditions) had significant indirect effects on intention to shop online. Social influence did not build intention to shop online.
Sohail and Shanmugham (2003)	Internet banking 300 University students and stuff in Malaysia	An exploratory study investigating factors that influence Internet banking acceptance among retail users of banking services. The study found that trust in one's bank influences use of Internet banking. Other factors that influence adoption were Internet accessibility, attitude towards change, computer and Internet access costs, security concerns, ease of use, and convenience.
Shih and Fang (2004)	Internet banking 425 potential users of Internet banking in Taiwan	In the DTPB model, only relative advantage and complexity are related to attitude, while compatibility is not. Only 34 percent of the respondents had already adopted Internet banking services. Therefore, many people were unable to perceive whether Internet banking was compatible with their individual lifestyles or values. The path from subjective norms to intention failed to achieve significance in either model. The possible factors of influence could be other network characteristics, such as information quality and security.
Fusilier and Durlabhij (2005)	Internet use 269 college students In India	The study explored behavioural processes involved in Internet technology acceptance and use with a sample in India. User experience was incorporated into the technology acceptance model TAM and the theory of planned behaviour TPB to predict intentions to use the Internet as well as self-reported usage. Both TAM and TPB were supported in their predictions of Internet use intentions and usage. Subjective norms and perceived behavioural control were significantly and positively related to behavioural intention to use the Internet. The attitude and experience variables did not prove significant. Perceived usefulness and behavioural intention were significantly related. Both models appeared to effectively predict Internet use intentions among the sample of college students in India.
Jaruwachirathanakul and Fink (2005)	Internet banking 600 respondents In Thailand	The factors that most encourage consumers to adopt Internet banking services in Thailand are “features of the technology” and “perceived usefulness”, while the most significant impediment to adoption is a perceived behavioural control, namely “External environment”. The significant moderating factors are gender, educational level, income, Internet experience and Internet banking experience, but not age.

Md Nor (2005)	Internet banking 812 student at four universities 326 users 486 non-users in Malaysia	The decomposition approach adopted by the model provides a more complete set of antecedents that can better explain the intention to adopt Internet banking. The study found that all main beliefs including the new construct, trust, had significant effect on intention to use Internet banking. The results indicate that the model provides a good understanding of factors that influence the intention to use Internet banking. Approximately one third of the total variance in behavioural intention was explained. As expected, decomposition of the main beliefs provides more specific factors that influence the behaviour.
Abu Shanab (2005)	Internet banking 523 counter bank customers who are nonusers of Internet banking in Jordan	The study examines a unified model by adding personality dimensions and validates two relationships that were suggested in previous literature. The results of the study indicated the predictors' effect on behavioural intentions, and gave partial support to the moderation effect. Also, effect was supported for both relationships (effort expectancy and social influence and their relationship to behavioural intention). The proposed model of this study supported the influence of performance expectancy, social influence, self-efficacy, perceived trust and locus of control on Jordanian's intentions to use Internet banking
Hsu et al. (2006)	Discount coupons through mobile phone text messages 256 mobile phone users	The decisive or crucial factors influencing the behaviour and intention of consumers in using message-coupons are attitude and perceived behavioural control, while subjective norms are not evident. Perceived usefulness, under 'behavioural attitude', has a big effect on behavioural attitude; the influence of the primary group under 'subjective norms' was also evident, while self-efficacy under 'perceived behavioural control' was the most significant influential factor.
Thompson et al. (2006)	Information technology 189 subjects	Results confirm existing findings within the technology adoption stream, but also show the possibility of a more holistic and integrative approach to the models. The results generally revealed strong influences of both personal innovativeness and computer self-efficacy, as well as aiding in building understanding of the antecedents of perceived usefulness and perceived ease of use, the critical constructs in the Technology Acceptance Model.
Ravi et al. (2007)	Internet banking 103 users 62 non-users in India	Significant determining variables that influence adoption of Internet banking were identified from the theory of reasoned action, theory of planned behaviour, technology acceptance model and diffusion of innovations theory. The results ranked variables according to the level of their influence on the usage of Internet banking. The variables are ranked as Intention, Beliefs, Subjective Norms, Trust in the Bank, Attitude, Perceived Usefulness, Security and Perceived ease of use, in that order.

In the light of the existing evidence on the use of the above-mentioned theories in studies of technology acceptance, the choice of model as a basis for this study is explained in the following section.

2.8 Rationale for Choosing DTPB

The decomposed theory of planned behaviour (Taylor & Todd 1995_a) was preferred as the guiding framework for this research for the following reasons. Firstly, regarding the innovation diffusion theory IDT, the five characteristics derived from Rogers (1995) are encompassed in the DTPB as decomposed attributes for attitude. Thus, DTPB offers the possibility of indirect application of IDT, along with other factors missing from IDT. Secondly, the DTPB appears to have several advantages

over the TAM and TPB. For example, although the TAM has been widely used in the IT field and has the advantage of being parsimonious, it is insufficiently detailed for this study, which seeks to examine a more complete set of factors that could better explain the intention to adopt Internet banking. By decomposing structure, this research expects to have a higher explanatory power and a more precise understanding of behaviour. In this respect, DTPB should provide value to designers and providers of Internet banking in their efforts to understand which factors influence customers' adoption of the online service.

Another advantage of the DTPB over the TAM is the presence of social variables, which are not considered in the TAM. Such variables may be important, as they may capture variance that is not already explained by other variables in the model (Chau and Hu 2001). The effect of social norms, for example, should be taken into account, since some people might use Internet banking because of the influence of others. This feature, which may be particularly salient in the closely-knit Saudi culture, where family and personal relations are influential in many aspects of life, is more likely to be captured by the DTPB than by other models.

It should also be considered that one major difference between the three models is their measurement of the skills, opportunities, and resources needed to engage in a particular behaviour, i.e. behavioural control (Mathieson 1991). Ajzen (1985) differentiated between internal control factors, which are characteristics of the individual (e.g., skill, will power), and external control factors inherent in the situation (e.g., time, opportunity, cooperation of others). The TAM uses perceived ease of use to represent the internal control factors but it does not explicitly consider situation-specific external factors, capable of being designated to operate across many situations. In contrast, the DTPB is more likely to capture the situation-specific factors as it first identifies the important control variables for each situation. Thus, it may clarify control issues important in a particular context, that may be missed in the TAM.

Like the TAM, the TPB also has limitations which precluded its use in this study. In the TPB, the belief structures are typically combined into unidimensional constructs, which can cause difficulty in interpretation (Taylor & Todd $1995_{a\&b}$). For instance, literature on innovation adoption suggests the three key determinants of the

adoption decision are perceptions of relative advantage, compatibility, and complexity (Abu Shanab 2005; Yousafzai 2005). For any given product, all three dimensions may be present and *"an individual may have different assessments of each of the three dimensions; treating all three as monolithic may obscure the true influence of each"* (Taylor & Todd 1995_a: 140).

Another limitation of unidimensional constructs is that findings may be distorted by "the averaging out" effect. For example, both friends and family are included within subjective norms, but there may be large differences in the level of influence each has on a particular individual, which will be masked by combining the scores (Park 2003).

However, the main reason why the decomposed theory of planned behaviour was chosen in this research is due to the advantages provided by decomposition, for a fuller understanding of the relationship between factors and the specific impacts these factors can have on behaviour. Focusing on specific factors makes the model more useful to practitioners, as it should help in identifying factors that can influence adoption and usage (Taylor & Todd 1995_a).

Finally, The TAM, the TRA, and the TPB were developed to explain and predict behaviour. Each of these models, therefore, identifies the determinants of intention and behaviour and details the pattern and direction of the causal influences among the variables. However, prediction and explanation mean different things. Prediction involves providing evidence to believe that certain claims or hypotheses (about theories) are true. Explanation, on the other hand, involves suggesting reasons why something is the case. Taylor and Todd (1995_a), in their comparison of the TAM, the TPB, and the DTPB, reported that the DTPB predicted and explained behaviour better than the TAM, TRA and TPB (Taylor and Todd 1995_a), a claim which has been supported by other studies, such as that of Park (2003), reviewed earlier. The comparison revealed that decomposition produced adequate model fits, and provided better explanation, prediction and understanding of intention than other models. In the light of these advantages of the DTPB, constructs from the model appear to be potentially useful for understanding personal, social and environmental factors that influence bank customers in their adoption of Internet banking.

Notwithstanding these advantages, however, the DTPB may not encompass all

the factors that could influence technology adoption. This is because the theory is general in its formulation, and was not developed specifically with technology adoption in mind. While this does not necessarily negate the value of the theory in highlighting a number of potentially relevant factors, there is an obvious omission, for application to a technology-adoption situation, in that it does not include the characteristics of the technology itself. Whilst Taylor and Todd ($1995_{c\&b}$) include technology within decomposed behavioural control, this is still a rather broad and vague construct. They do not specify which aspects of technology are influential, or in what way. It seems likely that specific features of a technology may influence the way it is perceived and, hence, the formation of intentions and behaviour toward it. Support for such a view can be found in the Task-Technology Fit theory (TTF) (Goodhue and Thomspon 1995), which looks at the correspondence between information systems' functionality and task requirements. TTF suggests that user evaluations of technology reflect instrumental value provided by objective characteristics of the system for specific purposes (D'Ambra and Wilson 2004). A good fit leads to positive evaluation, higher utilization and positive impact on performance (Chae 2005). It is suggested, therefore, that there would be value in specifying in more detail what are the characteristics of technology systems, and what impact perceptions of them may have on intention and behaviour in relation to different needs of customers.

In the context of the present research, an obvious example is the features of the website, which represents the public image of the bank, and the point and mode of access to its services. An issue meriting further consideration, therefore, is whether and how such features may be considered in this research, to enrich the DTPB.

2.9. Summary

In order to understand what determines the success or failure of a product or service, and to market it effectively to consumers. Marketers need an understanding of consumer behaviour. According to a widely accepted model proposed by Assael (2004), the consumer decision process is influenced by a combination of environmental (cultural, social, marketing and others) and individual (demographic, personal and psychological) factors which have impacts on consumers, needs, preferences, and perceptions of individual offerings. On this basis, the consumer decides to buy or not to buy - or use - the product or service in question.

In relation to technology adoption specifically, previous literature suggests that when potential users of a system perceive many advantages integrated with little risk, conflict, or dissonance over needs, the system will be easier to use and the intention to adopt it will increase.

In this chapter, an attempt has been made to examine how various models and theories of behaviour may contribute to understanding the adoption of technology, and thereby provide a basis for a model of Internet banking acceptance. Five well-known and important theoretical models were reviewed and compared, namely, TRA, TPB, IDT, TAM and DTPB. These particular models were selected because all have been applied, with varying degrees of success, in previous studies of technology acceptance in general and Internet banking in particular.

Evidence was presented, supporting usefulness of constructs from all five models. TRA shows behaviour to be governed by intentions, which in turn are a function of attitudes and subjective norms (the influence of others). TPB added the idea of behavioural control. IDT highlights the importance of the way the characteristics of the innovation are perceived, and the need to reduce uncertainty connected with a new behaviour. TAM, like TRA, sees behaviour as the outcome of attitudes and intentions, and like IDT, considers perception of the technology, specifically its usefulness and ease of use, as influential. Finally, the DTPB breaks down attitude (to incorporate perception of the innovation), subjective norms (identifying different influence groups) and behavioural control (to include internal and external facilitating factors).

Comparison of the five models led to the conclusion that the first four were overly simplistic and neglect potentially important factors. A case was therefore made for the adoption of the more comprehensive DTPB as the theoretical basis for this study.

Nevertheless, a significant limitation was noted, that the DTPB does not sufficiently account for specific features of a technology which may be likely to influence the way it is perceived and, hence, the formation of intentions and behaviour toward it. In the next chapter, therefore, the review of literature is continued, focusing specifically on website features as a potentially influential factor in the Internet banking context, with a view to developing a theoretical model that more fully

captures the elements of the Internet banking context and provides a better guideline for investigation of the factors influencing take-up of these new services.

CHAPTER THREE

THEORETICAL FRAMEWORK AND RESEARCH MODEL

Figure 3.1 - Following the Research Stages

Chapter Two: Theories applied to new technology adoption and Internet banking acceptance
Chapter Three: Theoretical framework and presenting the research model
Chapter Four: The situation in the KSA, financial sector and Internet banking services
Chapter Five : Research methodology and data collection design
Chapter Six: Outcomes of IB managers interviews and content analysis of banks' website
Chapter Seven: Outcomes of the interviews with Saudi clients (IB users and non-users)
Chapter Eight: Findings of online and offline questionnaires of Saudi banks' clients
Chapter Nine: Interpretation and discussion of the findings
Chapter Ten: Summary and conclusion

3.1 Introduction

The previous chapter presented the foundations for proposing and developing a theoretical framework for Internet banking adoption. It introduced, discussed, and criticised five major theories and models in the domain of behaviour prediction and technology acceptance, incorporating some of the most significant factors affecting the decision to accept Internet banking. The Decomposed Theory of Planned Behaviour (DTPB) was identified as the most comprehensive and suitable for this research.

Notwithstanding its advantages, however, the DTPB may not encompass all the factors that could influence technology adoption. In particular, it was noted that characteristics of the technology itself may also be influential, but are inadequately provided for in the DTPB.

With this in mind, this chapter investigates the value of incorporating an additional construct, website features, which represents a major contribution of this research. It then integrates and builds on the ideas presented, both in Chapter Two and in this chapter, to develop a model and hypotheses to guide this research.

Accordingly, this chapter is divided into four sections. The first section investigates the elements of system characteristics (website features), as an important factor that needs to be considered in addition to other factors, to examine its influence on the adoption of Internet banking as a new application of technology. The second

relates these features more specifically to aspects of the consumer's purchasing decision-making process (PDMP). The last two sections propose the model and hypotheses formulated for this research.

3.2. System characteristics (Website Features)

As noted above, this research proposes the addition of perceived system characteristics to the DTPB model, to examine their influence on the acceptance of Internet banking as a new application of technology. For the purposes of this research, system characteristics are represented by website interface features. This research explores whether website banking contents, presentation attributes, and system design features have an effect on customers' intention to adopt Internet banking.

Website features have been identified as a critical construct for the success of e-commerce (Hong 2002; Siekpe 2003; Ndubisi and Sinti 2006). Research in the e-commerce domain has shown that website features positively influence consumers' intention to engage in online activities. For example, Shih (2004) adopted system characteristics as a variable when investigating customer acceptance of electronic purchasing, by taking into account consumer perceptions of the general and common support functions of information searching provided by websites as an indicator of perceived system quality. It was found that system characteristics is a determinant of Information System (IS) success, and that when consumers initially access websites, perceptions of system characteristics encourage or discourage consumers' willingness to engage in performing transactions.

Similarly, Hong (2002) found that the design of an effective interface to present product information is a feature central to the success of electronic websites, and in particular that website interface characteristics such as information format, animation, and presentation mode are significant in attracting customers' attention.

Websites offer the opportunity for marketers to utilize a wide assortment of cues such as colours, images, and sounds to attract consumers' attention and generate favourable attitudes (Moore et al. 2005). Chen and Lee (2005) found that website images have a significant effect on purchasing intention of consumers, while Mandel and Johnson's (2002) account of online experiments indicates the impact of the background pictures and colours of a web page in affecting consumer product choice. These findings suggest that online atmospherics in electronic environments could have a

significant influence on consumer choice.

Other studies have attempted to examine the impact of specific website features. For example, the effects of Frequently Asked Questions (FAQ), feedback forms and search engines in improving usability of websites have been reported (Spiller and Lohse 1998; Yeung and Lu 2006). Other scholars (e.g. Tan and Teo 2000; Siekpe 2003; Ndubisi and Sinti 2006) have furnished evidence for the salient roles of features such as interface variables, interactivity, efficiency and speed of upload and download, etc. of the Internet website to be used.

Studies of website characteristics have identified two broad categories - those that contribute to attractiveness, pleasure or enjoyment (termed hedonic features) and those that contribute to usefulness or ease of use (termed utilitarian features). Several studies have shown that the latter are more important to use. For example, Gao (2002) examined system design features and how they affect visitors' perceptions of and attitude toward a commercial website. He extended the application of the technology acceptance model (TAM) to individual system design features, such as the sitemap or a search engine, and found the usefulness of these features to be significant predictors of attitude toward a website.

This finding is supported by several other studies related to Internet banking website features (e.g. Waite and Harrison 2002, and Ndubisi and Sinti 2006) which found that features incorporated in the design of website interfaces affected consumer online behavioural intentions, and also that utilitarian aspects of website design features were valued more highly by users than hedonic features. This is not to say that hedonic features have no value, and indeed, some website features may combine hedonic and utilitarian aspects. For example, online banking providers can make the process of using e-banking more enjoyable by enhancing website interactivity and creating unique online experiences (Loonam and O'Loughlin 2008_a).

Another important feature is accessibility. Taylor and England (2006), in an examination of existing website design approaches, found that the more available the website's content was in relation to the products and services offered, the greater likelihood that products and services offered would attract customers' attention.

There is evidence that website features can influence customers' feelings of trust in an organisation. Rattanawicha and Esichaikul (2005) examined Internet website features

to understand what design features can affect customers' trust and influence their purchasing decision. The results identified forty-six website design features that have significant effects on customer trust in an Internet environment.

Another area of impact of website features is on customer loyalty. Fong (2004) affirmed that building attractive websites will motivate and satisfy customer needs and will be reflected in their loyalty. The outcomes of this study indicated that the more rhetorical elements that online sellers can offer through the visual display of websites, the more interested the consumers will be to visit frequently, so website designers have to create a persuasive site environment for customers that operates on the basis of rationality, emotional appeal and credibility in order to have the best chances to win customers' loyalty.

Mithas et al. (2007) examined the effect of website design elements on customer loyalty to a website. By analysing data on more than 12,000 online customer surveys for 43 websites in several business domains, they investigated the relative importance of different website features (e.g., content, functionality) in affecting how customer loyalty to a website varies depending on the website's domain. Their findings showed that the relationship between website content and customer loyalty is stronger for information-oriented websites than for transaction-oriented websites. However, the relationship between functionality and customer loyalty is stronger for transaction-oriented websites than for information-oriented websites.

A number of studies have been conducted specifically in relation to Internet banking, the field with which this study is concerned. Jaruwachirathanakul and Fink (2005) found that features of the bank's website are important for intention to adopt Internet banking, since they define the service delivery. The results of this study showed that a bank's website features could facilitate the adoption of Internet banking. They also indicated that security evidence presented on the bank's website can help ease customer concerns and increase their confidence to make use of the service. The more comfortable the user is with the features of website, the more he/she is likely to adopt Internet banking services.

Shih and Fang (2006) examined network quality attributes including information quality, transaction speed, user-friendliness and security to enhance the understanding of consumer attitude towards Internet banking based on TRA. They found these

attributes play significant roles in relation to the intention to adopt Internet banking.

Further evidence of the importance of website features to the acceptance of Internet banking comes from Ndubisi and Sinti (2006), who found that both utilitarian and hedonic orientations of the Internet banking website contribute significantly to adoption intention. However, Internet banking adoption is more closely linked to utilitarian outcome rather than hedonic outcome. In other words, customers attach greater importance to the transaction-related features of the Internet banking website rather than the entertainment features. This suggests that banks should minimize the hedonic content of their Internet banking sites, as hedonism is not a salient usage factor.

The importance of utilitarian features is supported by the work of Kuisma et al. (2007), who observe that unclear proceeding information, perceived increased responsibility for possible mistakes, and lack of clear informative instructions to assist in understanding the information presented on banking websites tend to deter customers from adopting Internet banking. Moreover, even a well-designed Internet banking website is insufficient if it fails to match consumer needs (Eriksson et al. 2005; Song and Zahedi 2005).

The research reviewed in this section suggests that effective website design is essential for Internet banking websites, to capture customers' attention, to support their inclination to perform transactions, to assure them of the usefulness, ease, and effectiveness of conducting their financial affairs via the Internet, and to enhance their trust in this method of doing business. With this in mind, more detailed understanding of the impact of particular features is necessary, and for this reason, the researcher has added website features to the DTPB for use in this research. To facilitate the application of the additional construct of the impact of perceived website design characteristics on Internet banking adoption, it will be very useful to adopt also a clear model of customer behaviour, in relation to which the website features can be viewed. This will enable website features to be related more accurately to aspects of customers' behaviour. Such a model is provided by the five stages of the consumer's decision-making process, which will be discussed next.

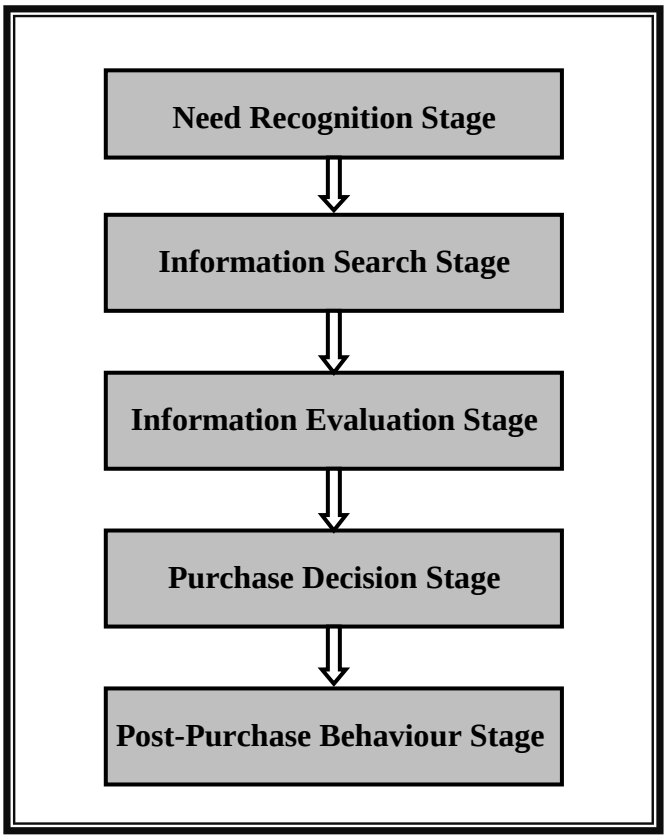
3.3 The Customer's Purchasing Decision-Making Process (PDMP).

There is considerable consensus on the consumer's purchasing decision-making process (PDMP) in traditional marketing (for example: Benidir 1991; Cutler 1995;

Stafford 1996; Ganesh 1997; Lawson 1997; Pham 1998; Tsiros and Mittal 2000; Harrison 2003; Gurley 2005). Inherent in this consensus is the recognition that there are five stages that consumers consider, consciously and unconsciously, when making their decisions, each of which is associated with a specific reaction. According to the literature (Engel et al. 1995; Boyd et al. 2002; Kotler 2003; Arnould et al. 2004; Solomon et al. 2006), these five stages are as shown in Figure 3.2.

These stages have been defined and applied not only in a general context, but also specifically in services (Zeithaml and Bitner 2003), financial services (Harrison 2003; Tank and Tyler 2005; Harrison et al. 2006_b), in relation to online shopping (Muthitacharoen 2002; Huarng and Christopher 2003; Zeng and Reinartz 2003; Constantinides 2004; Kohli 2004; Liu 2004; Cunningham et al. 2005; Senecal et al. 2005; Wyner 2005; Frambach et al. 2007), and in Internet banking (Jayawardhena et al. 2003; Gan et al. 2006).

Figure 3.2 - The Customer's Purchasing Decision Process



Source: (Engel et al. 1995; Cant et al. 2002; Arnould et al. 2004; Peter et al. 2005; Solomon et al. 2006)

Research evidence (Zeng and Reinartz 2003) based on numerous in-depth interviews with companies on the subject of business-to-consumer (B2C) development, suggests the importance of understanding and targeting all stages of the purchase

process, and that failure to do so may be a factor that undermines e-commerce projects.

Zeng and Reinartz (2003) reported:

> *"We identified an additional, major weakness in the previous thinking about how the Internet can provide real benefits for consumers. Our key hypothesis is that the Internet has a very differentiated impact along the different stages of the consumer decision-making process and the true value-added of the Internet to consumers materializes at very specific points in the purchase process. The empirical evidence shows that most of the e-commerce initiatives so far have been focusing mostly on increasing the effectiveness of online search, paying much less attention to facilitating online transactions, and almost completely ignoring the importance of helping consumers make better decisions*" (Zeng and Reinartz 2003:108).

This is a central issue in Saudi Arabian banks and elsewhere in the world where there is substantial, unrealized, business potential in the development of Internet banking. It seems likely that by identifying the various stages of the customer's purchasing process, marketing managers can more successfully design banking websites to promote their products and services throughout the customer's entire DMP. This position is also supported by Senecal et al. (2005) who maintain that:

> *"When decision-making processes applied to the Internet, it leads to important issues, which have significant managerial and theoretical implications. This would help marketers maximize the effectiveness and usability of their websites as the Internet represents a sufficiently different retail environment."* (Senecal et al. 2005:1599).

This suggests the potential value of an approach that explicitly considers website features in relation to the various stages of the consumer decision-making process. However, no previous systematic study has been found that examines the usability of Internet website features in a comprehensive and systematic manner, where features are organized along theoretical constructs to be consistent with consumer decision-making stages. Kwong et al. (2002) reviewed 114 articles on online customer behaviour to investigate which factors had been tested and could be associated with the customer's purchasing decision-making stages. Their results showed that most studies focused on the first stages and ignored the last two stages. Subsequently, Huarng and Christopher (2003) utilized the five stages of the customer's DMP to develop a set of website design features that could be used as a substitute for user requirements. The result of examining 120 website designs by analysing their contents supported the usefulness of applying

those five stages as evidence of website content's effectiveness. According to Constantinides (2004:111) also:

> *"Understanding the online customer's decision-making process is the first step in developing and delivering an attractive online presence likely to have the maximum impact on Internet users."*

The value of applying the consumer's DMP in financial services is also supported by Harrison (2003:9) who maintains that:

> *"There is a need for research that attempts to take account of the process of decision making. It hoped that these ideas for research may inspire further research into financial services consumer behaviour and decision-making process".*

Whilst there is a substantial literature on the consumer decision-making process per se, and also on consumer use of the Internet in the Western context, what is lacking is an understanding by marketers and researchers of the nature of the consumer's DMP in the context of the Internet.

Findings by Legris et al. (2003) indicate that many online managers find difficulty in understanding how 'their' consumers accept online technology in relation to the five stages of the consumer's DMP. Consequently, these managers lack the knowledge to adapt strategies which may potentially lead to continued consumer adoption of online technology (Legris et al. 2003). Casaló et al. (2008) argued that in order to develop customer loyalty and positive word of mouth, banks that operate in the Internet should identify the needs of online clients (e.g. in terms of services offered) in order to offer them what they really want.

Wyner (2005) argues that marketers must understand the customer's engagement in the Internet buying process, in order to develop effective marketing strategies. Doolin et al. (2005) agree with the above perspectives, and identify the need for marketers to understand the online consumer's purchasing decision-making process in order to design and support effective websites that match the preferences of their target market. Huarng and Christopher (2003) identify the need for online market managers to start with an analysis of the customer's purchasing decision-making process.

The development of online website features to match users' needs within each purchasing decision-making stage would appear to be a complicated and time-intensive process. It consists of defining information requirements for proposed applications and transforming those requirements into website design. Before that, information must be

gathered from users in order to develop effective services leading to consumer satisfaction. This is considered to be a most important key for developing successful website services (Huarng and Christopher 2003). According to Zhang (2005), customers spend much time online making decisions and purchasing. Nonetheless, customers have difficulty reaching a purchase decision in electronic markets.

In this section, therefore, each of the five stages of the purchasing decision-making process will be discussed separately, and its implications for adequate website design considered, as a precursor to introduction of the research model.

1. Need recognition stage

Need recognition is the first stage of the consumer buying decision process. It occurs when the customer realizes a need or want. This need arises when customers recognize a difference between what they perceive as the current or actual state of affairs and the state of affairs they aspire to (Cant et al. 2002). Using advanced database technology, websites have the potential to trigger customers' interest in online transactions (Shang et al. 2005) and to develop a relationship with customers by using frequent incentives such as banner ads, various appetizers, and identifying new services and products in order to motivate their behaviour (Huarng and Christopher 2003). Consequently, it is important for Business to Customer (B2C) businesses to develop a better understanding of how Internet features can be perceived by customers as a promotional tool to attract customers' attention and stimulate their need recognition.

Designing website features gives marketers the opportunity to influence customers' attention when they are online. Faber et al. (2004) believe that Internet technology now presents a huge opportunity to communicate effectively with customers in order to arouse their attention, while Huarng and Christopher (2003) assert the importance of triggering customers' interest.

Some suggestions have been proposed for reaching consumers. At lower levels of arousal, effective Internet features might include banners with short catchy graphics on a web page, or unique pictures and sounds, to draw attention to a simple emotional message (Moore et al. 2005). For more involved consumers, hyperlinks to detailed product specifications, pictures, and a newsletter can be provided through the company webpage in order to increase consumers' awareness about online services (Chung 2001; Chen and Lee 2005).

However, more research is needed to understand better how the Internet generally and Internet banking websites in particular can be used effectively as a promotional tool to stimulate need recognition. Significant questions that need to be addressed and answered by the current research include:

- What website features arouse consumers' attention, or cause the recognition of new needs?
- What methods does an Internet banking website use to motivate customers' needs? What types of appetizers, advertisements, and incentives does Internet banking offer?
- How do consumers perceive website banking features such as advertisements, appetizers, and incentives that Internet banking sites provide?
- To what extent do website features succeed in capturing consumers' attention or moving customers from a low level of arousal to a more heightened sense of arousal that might encourage customers to adopt Internet banking?

2. Information search stage

Once an initial need has been recognised, customers will seek to obtain further knowledge in order to go through the purchasing process. At this stage, customers will look for more information to underpin a potential decision. Sources of information include personal, commercial, public, or experiential (Kotler and Armstrong 2004). A website could provide information which satisfies the information needs of its potential and actual customers (Gutierrez and Windsor 2005). Among the particular features welcomed by customers browsing websites, according to Ballantine (2005), are increased opportunities for interactivity and detailed product information, both of which have a significant effect on consumer satisfaction. However, it may also be argued that website interactivity is the more important of the two variables in helping understand the way consumers can respond to the interface provided by an online environment.

Research indicates that, once consumers have a high involvement in the purchasing process, they are likely to conduct a more active information search, and will be more willing to seek out detailed information from different sources (Engel et al. 1995; Cant et al. 2002; Erdem et al. 2005). For this reason, Pitta (2005) suggests that where the buying process is typified by high-involvement and complex decision-making, the website should be structured to provide the variety of information resources that can lead to a satisfactory purchase.

As noted by Flavian et al. (2005), the Internet may differ from traditional

information sources on two dimensions, which they label information flexibility and information accessibility. Information flexibility refers to the ability to tailor the information to the needs and desires of the receiver. Information accessibility refers to the user's ability to control when and where information is available. With the Internet and wireless technology, information on a website can be accessed from almost any location on the earth and at any time (Flavian et al. 2005).

Such features contribute to the advantages ascribed to the bank website as an information source, by Waite and Harrison (2002). First, it provides access to information, simplifying and reducing the time and effort related to search activity. Secondly, it can provide complete availability as a virtual medium, without physical form. Thirdly, it is conducive to interactivity, enabling two-way communication and providing greater consumer control over the speed and sequence of information. Fourthly, the bank website can be dynamic, offering the potential of limitless information that can be updated and amended easily and speedily. Finally, the bank website offers multimedia friendliness through the provision of graphics, text, tables and figures, making information attractive as well as useful to the user (Waite and Harrison 2002).

These features can be used in the service of a variety of functions, ranging from basic information provision to full transactional capability. Waite and Harrison (2002) identify four separate levels of information provision. At the most basic level, an Internet presence merely provides information about the financial institution, with no interaction between the institution and customer other than a possible e-mail link. The next level allows the institution to receive information, such as an electronic loan application. The third level offers the customer the opportunity to share information, such as account balances or transaction details. The highest level identified allows the customer to process information. For example the customer can process transfers of funds between accounts or can make bill payments.

At any level of functionality, consumers' judgment depends on the product or service information presented on the banking website. It is to be expected that consumers who are satisfied with such information features and perceive clear benefits from their relationship with the website will be more committed to adopting this new technology as a financial channel. The first of those determinants, information

satisfaction, according to Kim and Park (2005), is affected most by product information quality, while perceived relational benefit is strongly linked to service information quality. Clearly, then, the information contents of a website might be an important determinant of consumers' online purchase behaviours. This view is supported by Pikkarainen et al. (2004) who found the amount of information on an online banking website was the most influential factor, after perceived usefulness, explaining the use of online banking services and influencing online-banking acceptance.

In order to identify more specifically the ways the Internet can impact on consumer product information search activities in the context of this research, the following questions were formulated:

- What are the potential methods that Internet banking websites provide to help customers obtain the banking information they are looking for?
- In regard to offering information that customers may look for, what type of searching tools, indexes, lists, open interactions, and opportunities for answering questions does the banking website provide?
- How do customers perceive Internet banking website features in regard to information search?
- To what extent can website features in relation to information search affect customers' intention to use and accept Internet banking services?

3. Information evaluation stage

Consumers evaluate the quality and features of various products based on certain characteristics such as product attributes, degree of importance, brand beliefs, and expected satisfaction (Kotler and Armstrong 2004). For this purpose, the consumer might be inclined to seek ways to open a dialogue and interact directly with marketers (Kumar et al. 2004), or to use the Internet to obtain an abundance of relevant product information from a variety of private, commercial, or public sources (Kuksov 2003).

Shih and Fang (2006) found that information quality influences consumer attitudes toward Internet banking adoption. Specifically, four information attributes were found to have significant impact on customer attitudes: providing correct information, providing complete information, providing rapidly updated information, and belief in the information provided by Internet banking website.

Website contents can offer a number of methods to facilitate the evaluation of information (Hahn 2003). These can include links to related pages which facilitate

evaluation of information, and help with service and product selection by presenting trustworthy recommendations or providing extra services information (Huarng and Christopher 2003). However, the prevision of information alone is not sufficient. It is important too, that the information is clear, and that the client has the opportunity to raise queries, ask for checks and explanation, and confirm their understanding. Coughlan et al. (2007) argue that clients need to communicate as effectively on the Internet as they do in real-life. This requires website designers to create more positive customer communication experiences in the online environment through a better designed set of messages accompanied by clear interaction opportunities.

Information quality, therefore, is included in an assessment of the effect of web use, especially with regard to searching during performing transactions, where both consumers and firms communicate and coordinate by exchanging and sharing information via the Internet (Shih 2004). Such an assessment can be made by using consumer perceptions of the quality of information on the banking website. Perceived information quality is assumed to affect attention toward acceptance of Internet banking.

In this research, therefore, it was of interest to investigate how the Internet can be used to influence the information evaluation process. Significant questions to be tackled related to this are as follows:

- What is the potential assistance that Internet banking site features can provide to help customers in evaluation of different information, products, and services?
- What elements do consumers look at when they are engaged in information evaluation?
- How do customers perceive website elements that can help them to evaluate their information? How can this affect their intention to use the Internet banking website?

4. Purchase decision stage

Even after the consumer has made an evaluation, he/she may not make a purchase decision. Different factors and anticipated conditions can influence the decision (Hisrich 2000). One such factor is a certain amount of risk that may be perceived by the consumer (Chen and He 2003; Heijden et al. 2003; Ueltschy et al. 2004). Although perceived risk is a common threat for almost all aspects of the consumer's purchasing process, it is a particular concern in online transactions, which may affect consumers'

adoption of Internet banking. In fact, risk factors have been investigated extensively in relation to online transactions (for example, Kimery and McCord 2002; Chen and He 2003; Heijden et al. 2003; Park and Jun 2003; Ueltschy et al. 2004; Doolin et al. 2005; Drennan et al. 2006). These studies examined the general perception of risks, by asking respondents to assess whether transactions online were risky. They analysed specific aspects of risk, namely privacy, security, trust, reliability and product risk in terms of not getting what was expected. The literature thus identifies that it is important to consider the issue of perceived risk in order to understand the drivers of online purchasing.

Evidence that the decision to purchase via the Internet can be influenced by perceived risk abounds (Bhatnagar and Ghose 2004; Olivero and Lunt 2004; Doolin et al. 2005). Consumer risk may reduce the likelihood that the consumer will perform a transaction via the Internet. Drennan et al. (2006) found that perceived risk has a strong negative influence on the extent to which consumers participate in online subscription and purchasing. Similarly, Kuhlmeier and Knight (2005) and Liu (2004) found perceived risk to be an important predictor of consumers' choosing the Internet to perform a transaction.

For these reasons, it is important that web designers make the customer feel that the Internet is a simple, secure, and reliable way of performing transactions (Valentine 2003). Websites should therefore offer some technical characteristics to reduce perceived risk and give consumers adequate confidence. Website features can give consumers a greater feeling of security in performing their transaction online (Rattanawicha and Esichaikul 2005).

Questions that need to be considered, therefore, are the following:

- What elements can Internet banking websites provide to make customers feel more secure and to reduce perceived risk?
- How do consumers perceive website features provided to increase their feeling of security? How can this affect their intention to adopt the Internet banking website?

5. Post-purchase behaviour stage

Positive, post-purchase behaviour is critical to the success of any company. Each transaction should be viewed as a starting point toward building a continuing

relationship with customers (Durkin and Howcroft 2003). In this context, an important issue is consumer cognitive dissonance. This is the state of psychological tension, or post-purchase doubt, that a consumer experiences after making a purchase. It is a feeling of unease that arises when the consumer asks, "Did I make the right decision?". Indeed, according to Jayawardhena et al. (2003), the emergence of Internet virtual communities is evidence that e-consumers share with their traditional counterparts the need for post-purchase reassurance. A limited number of studies (Larson 2001; Sweeney and Mukhopadhyay 2004; Kwon 2005, Nadeem 2007) have examined cognitive dissonance in online environments. The studies thus far have shown a clear relationship between high levels of cognitive dissonance and levels of purchase returns. The consequence of this correlation has been low levels of repeat purchasing. However, a better understanding of the significance of the cognitive dissonance phenomenon as it relates to the two modes of shopping (on and off line) is required so that online marketing researchers and practitioners can develop appropriate online techniques to reduce levels of post-purchase doubts.

The other important aspect of post-purchase behaviour relates to the satisfaction or dissatisfaction that customers experience. As Huarng and Christopher (2003) concluded, customer satisfaction is a key for customer retention. Companies need, therefore, to encourage customers to discuss problems, using their feedback to improve both products and services in order to achieve consumer satisfaction (Kotler and Armstrong 2004).

This requires communication between marketers and consumers. The Internet can be a useful medium for increasing consumers' post-purchase satisfaction by support broadcast, one-on-one communications, support via websites and e-mail help (Dunn 2002). Marketers might then use that feedback to gauge customer satisfaction or dissatisfaction and to identify appropriate corrective action where necessary (Smith and Chaffey 2005).

To facilitate this process, however, website designers should strive to provide elements that can enhance the relationship between their website and the consumer (Erevelles et al. 2003; Jun et al. 2004; Park and Kim 2006). Smith and Chaffey (2005) believe that with the use of Internet technology, websites actually have many advantages and much potential to achieve customer satisfaction, such as online support

and live communication.

Therefore, a significant question is to what extent the Internet can be a powerful medium to reduce consumer post-purchase doubt and to improve consumer satisfaction. Other important questions to be answered about the Internet's potential influence on post-purchase processes include:

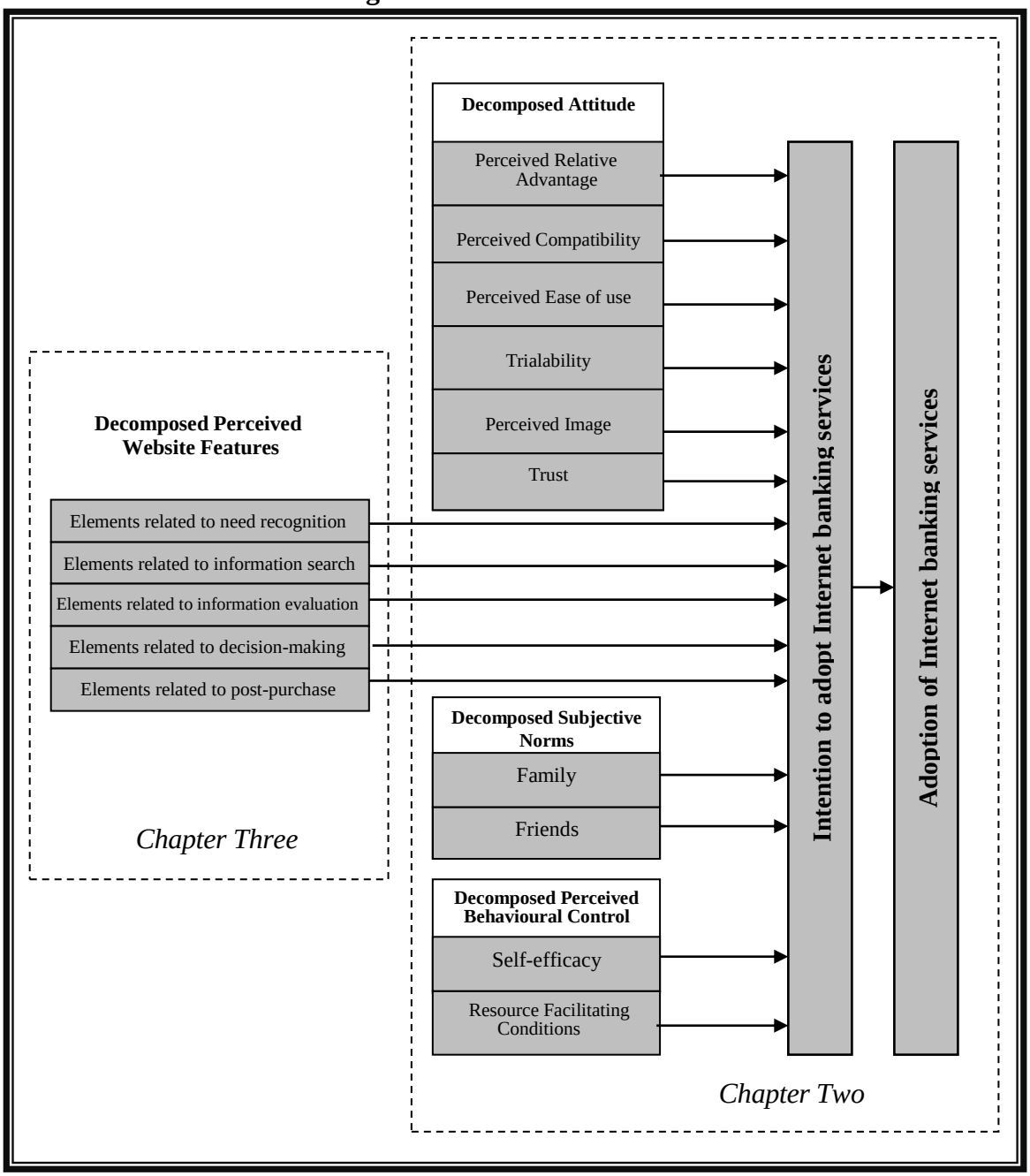
- What are the potential roles of banking website features in decreasing consumers' experience of post-purchase doubt?
- How do Internet banking website features assist in measuring consumers' post-purchase satisfaction?
- How do consumers perceive website features that may decrease post-purchase uncertainty? How can this affect their intention to adopt the Internet banking website?

This section has provided a rationale for linking website features to stages of the consumer purchasing behaviour. By integrating these elements with the components of the DTPB, introduced in section 2.2, a model for this research was developed, which will now be introduced.

3.4 Research Model

In this section, the research model is presented. As mentioned previously, the theoretical model for this study was based on the decomposed theory of planned behaviour DTPB introduced by Taylor and Todd (1995_a). The decomposition of attitude, normative and control beliefs into multi-dimensional constructs was based on their work. In this section, relevant references are provided for the decomposition of the constructs. The arguments and support related to each construct and its decomposed factors will be discussed in more detail in discussion of the hypotheses that are related to them. The research model is shown in Figure 3.3.

Figure 3.3 - The Research Model



(Source: the author)

The multi-dimensional constructs for attitude were primarily drawn from the instrument developed by Moore and Benbasat (1991). Five relevant constructs were considered, namely perceived relative advantage, perceived compatibility, perceived ease of use, perceived image and trialability. This research excluded the other three constructs, namely voluntariness, visibility and result demonstrability. Voluntariness was eliminated since it was not relevant to this research. The adoption of Internet

banking is always voluntary, and therefore, the issue of individuals being forced to adopt this technology does not arise (Tan and Teo 2000). Visibility and result demonstrability were not included, for the reason that individuals typically perform banking transactions privately. The acts are not observable, visible and demonstrable to others, and it would be not only difficult, but also unacceptable to attempt to observe them (Ndubisi and Sinti 2006). On the other hand, given the uncertain environment of the Internet, trust has been included, as an additional factor, among the elements which may affect the customer's attitude toward adopting Internet banking. Many previous studies have suggested the importance of trust in online banking adoption (for example: Saleh 2003; Kim and Prabhakar 2004; Yousafzai 2005; Shu-Fong et al. 2007). The lack of customer trust, both in the attributes of the bank and in the overall online environment has been, and remains, an important factor that can affect the spread of Internet banking. This factor will be discussed further when the relevant hypothesis is proposed.

As for the subjective norms construct, based on previous studies (Taylor and Todd 1995_a; Karahanna et al. 1999; Tan and Teo 2000; Md Nor 2005), two relevant reference groups were identified, namely, friends and family members. The internal control element was measured by self-efficacy (Taylor and Todd 1995_a; Tan and Teo 2000; Park 2003; Hsu et al. 2006; Guriting et al. 2007). The external control element was measured by resource facilitating conditions, a construct related to the availability of resources needed to engage in a certain behaviour, which was adapted from Taylor and Todd (1995_a) and Lau (2002).

The present research extended the DTPB further by including the website features construct in the model. As the research is concerned with Internet banking adoption, it was considered appropriate to investigate what website features, at various stages of the purchasing behaviour process, would have an effect on acceptance of Internet banking services by Saudi customers. For this reason the researcher decomposed website features into five categories, consistent with the five stages of the consumer behaviour process.

Actual behaviour of online banking was not measured in this study. It has been suggested that an individual's actual behaviour can be explained by his or her intention toward the behaviour (Fishbein and Ajzen 1975; Davis 1989; Ajzen 1991). Numerous

studies have supported this relationship (Davis et al. 1989; Morris and Dhillon 1997; Limayem et al. 2000; Chen et al. 2002; Lau 2002; Suh and Han 2002). In Internet banking research other studies have supported this relationship as well (Yousafzai 2005; Shih and Fang 2006). Hence, by measuring behavioural intention, we can reasonably assume that all the influencing factors tested in this study will also affect the actual usage.

As will be explained in the methodology chapter, the constructs included in this model provided the basis for the formulation of interview questions intended to explore customers' attitudes, intentions and behaviour in relation to Internet banking adoption. The model also provided the foundation for formulation of specific hypotheses to be tested, discussed in the next section.

3.5 Research Hypotheses

Sixteen hypotheses were formulated for this research. In this section, these hypotheses are introduced, with the rationale for each.

3.5.1. Decomposed Attitude

An attitude towards adopting an innovation is derived from an individual's beliefs that adopting the innovation will lead to certain consequences (Ajzen and Fishbein 1980). It indicates an individual's positive or negative evaluations about performing the behaviour. Intention to perform behaviour will take place if the individual has a positive evaluation of performing the behaviour. In other words, the more favourable the attitude with respect to a certain behaviour, the stronger should be an individual's intention to adopt the behaviour.

The effect of attitude on intention has been validated in the Internet banking domain. The results of several studies (Liao et al. 1999; Karjaluoto 2002; Laforet and Li 2005; Ndubisi and Sinti 2006; Shu-Fong, et al. 2007) showed that customers' attitude toward using Internet banking significantly affects their intention to adopt the technology. Hypotheses are derived by decomposing attitude into six elements, as follows:

1. Perceived relative advantage: Perceived relative advantage refers to the degree to which an innovation is perceived as superior to existing substitutes (Schiffman et al. 2005). It reflects an individual's assessment of the benefits received when the

innovation is adopted or used. Internet banking provides many advantages to banks' customers. Most of all, it provides convenience. Users can access their account and perform many financial transactions from anywhere and at any time of the day, avoiding long queues, the cost of trips to a bank or TAM. Internet banking also allows customers to pay bills online, and this indirectly reduces cheque and postage expenses. Theoretically, we should expect that individuals who perceive Internet banking to provide all these advantages would have an intention to use the technology.

The link between perceived relative advantage and intention has been supported by numerous studies related to IT usage. For example, in an online survey exploring Internet users' intention to shop online, Xu and Paulins (2005) found that higher perceived relative advantage (perceived usefulness) resulted in a stronger intention toward online shopping.

The effect of perceived relative advantage on intention has also been validated in studies related to the Internet banking domain. In a study investigating the effect of trust on customers' acceptance of Internet banking, Suh and Han (2002) found that perceived relative advantage (perceived usefulness) had a significant relationship with intention to use the technology. Studies by Gerrard and Cunningham (2003) and Sohail and Shanmugham (2003) revealed that adopters of Internet banking had more positive attitudes toward the technology compared to non-adopters. They found the adopters perceived the service to be convenient. A survey by Shih and Fang (2004) conducted on potential users of online banking also indicated the significant influence of perceived relative advantage on intention. In this research, therefore, the researcher theorizes the influence of perceived relative advantage on intention to adopt Internet banking technology, leading to the following hypothesis.

Hypothesis 1*: Clients with high perceived relative advantage of using Internet banking will have high intention to use/continue using this technology.*

2. Perceived compatibility: Generally, people do not like change. It has been suggested that an innovation that is perceived to be consistent with existing values, past experiences and current needs is more likely to be adopted (Rogers 1995; Schiffman et al. 2005). Generally, compatibility with lifestyle refers to the extent to which people perceive that an innovation is compatible with the way they think, act and direct their lives (Hernandez and Mazzon 2007). The Internet can be considered as part of our

everyday life. Indirectly, our daily usage of the Internet, in addition to factors such as long queues, time of waiting, parking and so forth, will encourage us to perform transactions electronically. In the long run, performing transactions online is expected to become part of our everyday life.

Several studies have suggested the link between perceived compatibility and intention to adopt new technology. Tan and Teo (2000), in their study on adoption of Internet banking in Singapore, suggested that users who perceived Internet banking as compatible with their values developed a positive attitude toward the technology and were more likely to adopt it. In an exploratory study about Internet banking, Gerrard and Cunningham (2003) suggested the need for banks to highlight positive characteristics of the technology, such as compatibility, to encourage its usage. They found that the adopters of Internet banking felt the technology was compatible with their lifestyle.

In line with the argument and findings discussed above, we would expect that individuals who perceive Internet banking as compatible with their values will be likely to have an intention to use the technology. This leads us to the second hypothesis.

Hypothesis 2: Clients with high perceived compatibility of Internet banking with their values will have high intention to use/continue using this technology.

3. Perceived ease of use: Perceived ease of use refers to *"the degree to which a person believes that using a particular system would be free of physical and mental effort"* (Davis 1989:320). The degree of complexity, in which a new product is difficult to understand or use, affects the product's acceptance (Schiffman et al. 2005). Innovation that is easy to use would encourage individuals to utilize the technology by developing a positive attitude about it. The effect of perceived ease of use on intention has been theorized and validated by numerous studies. Heijden's (2003) study on website usage revealed the significant influence of perceived ease of use on adoption. Similar results were also detailed by other researchers (Bhattacherjee 2000; Lau 2002; Change et al. 2005; Fusilier and Durlabhji 2005). In this research, the researcher also hypothesizes that individuals who perceive Internet banking as easy to use will have an intention to adopt this service.

Hypothesis 3: Clients with high perceived ease of use of using Internet banking will have high intention to use/continue using this technology.

4. Trialability: When potential adopters are allowed to experiment with an innovation, they will feel more comfortable with the innovation and be more likely to evaluate it and ultimately adopt it (Rogers 1995). The opportunity to try the innovation will lower their uncertainty and fears (Schiffman et al. 2005). Rogers' argument was supported by Tan and Teo (2000), who found that the greater the trialability of Internet banking, the more likely it was to be adopted. Trialability has also been found to affect the intention to use a smart card-based payment system (Plouffe et al. 2001), computer technology (Al-Gahtani 2004) and Multimedia Message Service MMS (Hsu et al. 2007). In this research, the researcher hypothesizes that trialability will influence customers' intention to use Internet banking, as the opportunity to try Internet banking will affect their opinion about the technology and consequently their intention. This leads to the fourth hypothesis.

Hypothesis 4: Clients with high trialability of Internet banking will have high intention to use/continue using this technology.

5. Perceived image: Moore and Benbasat (1991:195) define image as *"the degree to which use of an innovation is perceived to enhance one's image or status in one's social system."* Rogers (1995) asserts that one of the motivating factors for individuals to adopt an innovation is the desire to gain social status. The influence of image on adopting an innovation has been supported in a study conducted by Fusilier and Durlabhij (2005). In a study on the use of the Internet in India, they found that image was a significant determinant of intention to adopt this technology among the users. This result also was supported by other studies (Md Nor 2005; Hsu et al. 2007).

Internet banking brings a new way of doing banking transactions. Individuals who adopt the technology might feel conscious of participating in a new way of doing banking and might also consider themselves to have better technological skills and social standing. The perception that Internet banking enhances their image technologically and socially may affect their adoption of this technology. This leads to the fifth hypothesis:

Hypothesis 5: Clients with high perceived positive image of using Internet banking will have high intention to use/continue using this technology.

6. Trust: Trust is a willingness to be vulnerable to the actions of another person or people (Gefen 2000; Ba and Pavlou 2002). This is based on expectations that the other

person will behave in a responsible manner (Pavlou 2003) and will not take advantage of the trust-giver's dependence upon him or her (Gefen et al. 2003). It is an important component in any social and business relationship, whenever risk and uncertainty exist (Liu et al. 2005; Tamimi and Sebastianelli 2007).

Customers' trust in Internet banking transactions has some unique features due to the impersonal nature of the online environment, the extensive use of technology, and the inherent uncertainty of using an unfamiliar environment for transactions. Internet banking is an exchange situation that lacks the physical presence of the branch and personal interaction. The open nature of the Internet makes trust a very important variable in predicting Internet usage. All these increase uncertainty and make the consumer feel more vulnerable (Njite and Parsa 2005). There is theoretical and empirical support for integrating trust with DTPB variables, as trust is perhaps a more critical component in building economic relationships in an online environment.

The role of trust in Internet banking adoption has been tested many times. Sohail and Shanmugham (2003) conducted an exploratory study investigating factors that influence Internet banking acceptance among retail users of banking services. The respondents evaluated 27 factors that they felt would influence their use of Internet banking. The study found that trust in his or her bank influences the customer to use Internet banking.

Trust and risk were among the factors investigated by Njite and Parsa (2005) in a study of factors that influence consumers to engage in online transactions. The results of the study revealed that perceived risk and perceived trust both significantly affected intention to transact. Trust was found to be a significant predictor of intention to transact. It was also found to affect perceived risk. Pavlou (2003), too, showed that trust has an impact on intentions by creating positive attitudes. Yousafzai (2005) developed a model of trust for Internet banking as the theoretical framework, by examining whether perceived privacy, perceived security, and Internet trustworthiness determined trust towards Internet banking, which, in turn, affected intention. This study investigated Internet banking adoption amongst UK customers and found that perceived trust had significant influence on perceived usefulness and intention to adopt Internet banking (Yousafzai 2005). Level of trust was affected significantly by perceived security, perceived privacy and perceived trustworthiness of the Internet. This leads to the next

hypothesis.

Hypothesis 6: Clients with high trust in Internet banking will have high intention to use/continue using this technology.

3.5.2. Decomposed Subjective Norms

Subjective norms refer to the individual's perceptions of the social pressures to adopt or not to adopt an innovation. Social influence causes a normative influence that occurs when individuals conform to the expectations of others. The idea suggests that attitudes and beliefs of others in groups to which an individual belongs will shape his or her behaviour toward the usage of a specific technology (Ajzen 1991). Based on this thought, the TPB proposes that subjective norms may have a significant effect on one's intention to adopt certain behaviour. The relationship has received considerable support in empirical studies of IT related literature. For instance, a study by Md Nor (2005) on potential adopters and users of Internet banking found that subjective norms positively affected the potential adopters' intention to adopt Internet banking. A survey by Ravi et al. (2007) of online consumers revealed the significant effect of subjective norms on their intention to adopt Internet banking. Other studies have also provided support for the premise that subjective norms are a determinant of behavioural intention (Venkatesh et al. 2000; Fusilier and Durlabhji 2005; Gopi and Ramayah 2007; Hsu et al. 2007).

Researchers have identified several reference groups who may exert social pressure on individuals to perform certain behaviour. Taylor and Todd (1995_a) found that peers and superiors exerted significant influence on individuals to use computers at a computing resource centre. Fusilier and Durlabhji (2005) in their study on online services found that friends, colleagues, and relatives had an impact on users' initial adoption decisions, which they defined as interpersonal influence.

In a study on what makes consumers buy from the Internet, Limayem et al. (2000) found that family members, media, and friends were reference groups that influenced consumers to purchase online. Shih and Fang's (2006) investigation on factors that influence the adoption of online banking showed that people who are important to customers and family members are significant reference groups influencing customers' decision to adopt the technology.

Based on the results of the studies discussed above, we identify two reference

groups (i.e., friends, family members) who may affect individuals' perception of social pressure on whether or not to adopt Internet banking. This leads to the seventh and eighth hypotheses.

Hypothesis 7: Clients with high friends' influence will have high intention to use/continue using this technology.

Hypothesis 8: Clients with high family members' influence will have high intention to use/continue using this technology.

3.5.3. Decomposed Perceived Behavioural Control

Perceived behavioural control refers to individuals' beliefs as to their ability to perform behaviour (Ajzen 1991). The beliefs are affected by internal and external factors. The internal perception of behavioural control reflects an individual's self-confidence in the ability to perform the behaviour. It is compatible with Bandura's (1991) concept of self-efficacy, which suggests a person's behaviour is strongly influenced by one's confidence to perform it. The external perception of behavioural control reflects beliefs regarding the availability of resources (e.g. money, time, and other resources) needed to engage in the behaviour (Taylor and Todd 1995_a).

The TPB proposes that a person's behavioural intention is influenced by his or her perceived behavioural control (Ajzen 1991). This is based on the premise that individuals are likely to engage in certain behaviour when they believe they have the required resources and confidence to perform this behaviour. The proposition has received support from several empirical studies. Bhattacherjee (2000) found that perceived behavioural control was a significant determinant of behavioural intention in his investigation on electronic brokerage acceptance among online investors.

In a study investigating factors that influence individuals' intention to use Internet banking, Brown et al. (2004) found that perceived behavioural control factors had significant influence on consumer adoption of Internet banking. Lau's (2002) study on online trading acceptance among brokers in Hong Kong revealed that intention to use the technology was positively influenced by perceived behavioural control. This result was supported also by Shih and Fang (2004) who found that perceived behavioural control influenced intention to use Internet banking.

The positive effect of perceived behavioural control on intention was also

revealed in other studies (Taylor and Todd 1995$_{a\&b}$; Liao et al. 1999; Limayem et al. 2000; Fusilier and Durlabhji 2005; Jaruwachirathanakul 2005; Hsu et al. 2006). Overall, the literature suggests that perceived behavioural control positively influences the intention to use IT.

Based on the above conceptualization, the researcher decomposes perceived behavioural control into self-efficacy (internal factor) and resource facilitating conditions (external factor). As discussed above, self-efficacy reflects one's self-confidence in the ability to perform certain behaviour. It is a person's judgment of his/her capability to organize and execute courses of action required for specified performances. "*It is concerned not with the skills one has, but with the judgment of what one can do with whatever skills he/she possesses"* (Bandura 1986:391). With respect to this study, we anticipate that individuals who have high self-confidence (i.e. self-efficacy) in relation to performing Internet banking will have more intention to use this technology.

Resource facilitating conditions refers to availability of resources that are needed to engage in Internet banking activities, such as access to computers and the Internet. This research hypothesizes that individuals who believe that they have the resources to engage in Internet banking (i.e. high resource facilitating conditions) will have more intention to use this technology.

The effect of self-efficacy and resource facilitating conditions on intention to use a new technology has been supported by several studies. In a study investigating students' intention to use a computing resource centre, Taylor and Todd (1995$_a$) found that both self-efficacy and resource-based facilitating conditions were significant determinants of perceived behavioural control. A similar result was also reported in Taylor and Todd (1995$_b$).

Tan and Teo's (2000) study showed that adoption of Internet banking was significantly affected by self-confidence in skills to perform the intended behaviour (self-efficacy) and beliefs about availability of resources to facilitate the behaviour (facilitating conditions). Lau (2002) found that technology-facilitating conditions significantly affected intention to adopt the technology. Yi and Hwang (2003) explored self-efficacy as a motivational factor and found significant results emphasizing the role of self-efficacy to use web-based classroom systems. Abu Shanab (2005) supported the

influence of self-efficacy on customer intentions to adopt Internet banking. Guriting et al. (2007) examined the role of computer self-efficacy at three distinct levels of user perceptions (low, mid and high) and the adoption of online banking and found self-efficacy was more important at low and mid levels of user portion.

In this research, the researcher also hypothesizes that both self-efficacy and resource facilitating conditions will affect the intention to use Internet banking. This leads to the ninth and tenth hypotheses.

Hypothesis 9: Clients with high self-efficacy will have high intention to use/continue using this technology.

Hypothesis 10: Clients with high resource facilitating conditions will have high intention to use/continue using this technology.

3.5.4. Decomposed Website Features

Traditionally, there is an impact of information presentation on consumers' intention and accordingly on their behaviour (Hong 2002). Similarly, in B2C e-commerce, the presentation of the website features has the potential to play an important role in attracting customers' attention. Gao (2002) examined system design features and found them to affect visitors' perceptions of and attitude toward a commercial website. The usefulness of some features was a significant predictor of attitude toward a website. Siekpe (2003) found that features incorporated in the design of website interfaces affected consumer online behavioural intentions to revisit or purchase. Similarly, Jaruwachirathanakul and Fink (2005) found features of the bank's website to be important for intention to adopt Internet banking. Regarding the specific features preferred, Ndubisi and Sinti (2006) argued that because of the nature of Internet banking, which involves monetary transactions that demand full concentration by the customer, customers do not want many hedonic features of the site, in order to avoid distraction and possible mistakes in their transactions; functional features were likely to be more important. Gounaris and Koritos (2008_b) found that perceived characteristics of Internet banking websites as a new innovation have the ability to predict and explain the decision to adopt this technology.

Besd on the above, it is assumed that bank clients' impression of the bank website's characteristics will influence their intention to use Internet banking. This leads

to the eleventh hypothesis:

Hypothesis 11: Clients with high perception of the effectiveness of website characteristics will have high intention to continue using this technology.

Whilst the above hypothesis captures the impact of website characteristics in general, discussion earlier in this chapter (section 3.3) implies that different features may have different impacts, according to their correspondence with customers needs at different stages of decision-making process. Internet banking has many aspects that potentially affect customer intention, and accordingly can assist in creating Internet banking acceptance. This is partly because online banking designers have great control over the design of these website environments (Mandel and Johnson 2002).

This is important because, whereas with other banking channels, customers can see the transactions being processed, they can talk to the person over the counter or via a call centre if they have questions and immediately obtain answers to their enquiries, this is not so in the Internet banking environment. Therefore it is important that Internet features give customers, at all stages of their financial purchasing, the sense that it is advantageous for them to perform financial transactions in this way, compared to other channels.

It was suggested that website features should be viewed as a multi-dimensional construct, and a case was made for decomposing website features into five dimensions, consistent with the consumer decision-making process, rather than assuming a single unified dimension. This would enable a more detailed understanding of how perceived website features influence various aspects of behaviour, an area where this research may make important contributions to a growing body of knowledge.

This research, therefore, hypothesizes that perceived banking website features, which have been classified according to the five stages of the consumer's PDMP will affect consumers' behavioural intentions to adopt Internet banking services. This leads to the following hypotheses:

Hypothesis 12: Clients with high perceived website features related to need recognition will have high intention to continue using this technology.

Hypothesis 13: Clients with high perceived website features related to information search will have high intention to continue using this technology.

Hypothesis 14: Clients with high perceived website features related to information

evaluation will have high intention to continue using this technology.

Hypothesis 15: Clients with high perceived website features related to the purchase decision will have high intention to continue using this technology.

Hypothesis 16: Clients with high perceived website features related to post-purchase behaviour will have high intention to continue using this technology.

The hypotheses introduced in this section are summarized in Table 3.1

Table 3.1 - Research Hypotheses

H1	*Clients with high perceived relative advantage of using Internet banking will have high intention to use/continue using this technology.*
H2	*Clients with high perceived compatibility of Internet banking with their values will have high intention to use/continue using this technology.*
H3	*Clients with high perceived ease of use of using Internet banking will have high intention to use/continue using this technology.*
H4	*Clients with high trialability of Internet banking will have high intention to use/continue using this technology.*
H5	*Clients with high perceived positive image of using Internet banking will have high intention to use/continue using this technology.*
H6	*Clients with high trust in Internet banking will have high intention to use/continue using this technology.*
H7	*Clients with high friends' influence will have high intention to use/continue using this technology.*
H8	*Clients with high family members' influence will have high intention to use/continue using this technology.*
H9	*Clients with high self-efficacy will have high intention to use/continue using this technology.*
H10	*Clients with high resource facilitating conditions will have high intention to use/continue using this technology.*
H11	*Clients with high perception of the effectiveness of website characteristics will have high intention to continue using this technology.*
H12	*Clients with high perceived website features related to need recognition will have high intention to continue using this technology.*
H13	*Clients with high perceived website features related to information search will have high intention to continue using this technology.*
H14	*Clients with high perceived website features related to information evaluation will have high intention to continue using this technology.*
H15	*Clients with high perceived website features related to the purchase decision will have high intention to continue using this technology.*
H16	*Clients with high perceived website features related to post-purchase behaviour will have high intention to continue using this technology.*

3.6. Summary

The purpose of this chapter was to complete the task, begun in Chapter Two, of developing a proposed model of Internet banking acceptance, based on a strong theoretical foundation. While Chapter Two had concluded by making a case for the adoption of the DTPB as the basic framework for this research, a limitation had been noted in relation to the inadequate attention to characteristics of technology. This chapter, therefore, began by introducing the concept of website features, to fill the identified gap. It was argued that website features may contribute in attracting potential users to the site and, hence, the service presented. In particular, utilitarian features (those which increase usefulness in relation to the intended transaction) are more important than purely hedonic features (those solely intended to enhance attractiveness). Website features have been found to contribute in winning customer trust and enhancing their loyalty.

It was further argued that website features may operate differently at each stage of the customer purchase behaviour process, which has been classified into five stages: need recognition, information search, information evaluation, the purchase decision, and post-purchase. In order to design effective websites that attract consumers and support the B2C relationship, designers need to understand all these stages, and give explicit consideration to use of website features that operate effectively. Website features can be used to stimulate need recognition, to facilitate the customer's search for and evaluation of information, to allay perceptions of risk in the purchase decision, and post purchase, to alleviate cognitive dissonance and provide feedback on satisfaction. In relation to each of these stages, critical questions were formulated, which need to be answered in order to have a complete understanding of the role played by website features in the formation of consumers' behaviour intentions.

By incorporating the new construct of website characteristics into the DTPB explained in Chapter Two, a model was developed, containing 15 variables, which are assumed to influence the consumer's intention to adopt Internet banking. These are attitude toward Internet banking, decomposed into: perceived relative advantage, compatibility, ease of use, trialability and positive image of Internet banking, trust; subjective norms, decomposed into friends' and family influence; perceived behavioural control, decomposed into self-efficacy and resource facilitating conditions; and website

features related to the consumer's need recognition, information search , information evaluation, purchase decision, and post-purchase behaviour. Each variable was defined, a rationale offered for its adoption, and a related hypothesis proposed, to be tested in later chapters.

Whilst the research model was formulated in general terms, it must be remembered that the research was carried out in a specific socio-economic and cultural context, that of Saudi Arabia. Before applying the model, and in order to interpret the research outcomes, it is necessary to have an understanding of factors in that environment which may have a bearing on responses, such as the status of Internet access, and the nature of the financial banking system. Accordingly, these issues will be discussed in the next chapter.

CHAPTER FOUR

RESEARCH CONTEXT: FINANCIAL SERVICES AND INTERNET BANKING IN KSA

Figure 4.1 - Following the Research Stages

Chapter Two: Theories applied to new technology adoption and Internet banking acceptance
Chapter Three: Theoretical framework, the research model
Chapter Four: The situation in the KSA, financial services and Internet banking
Chapter Five : Research methodology and data collection design
Chapter Six: Outcomes of IB managers interviews and content analysis of banks' website
Chapter Seven: Outcomes of the interviews with Saudi clients (IB users and non-users)
Chapter Eight: Findings of online and offline questionnaires of Saudi banks' clients
Chapter Nine: Interpretation and discussion of the findings
Chapter Ten: Summary and conclusion

4.1 Introduction

Information Technology has become an integral part of human life. The majority of people in modern society rely heavily upon computers, the Internet and telecommunications technology. Improvements in those areas are occurring at an incredible rate. This creates challenges and opportunities for banks all around the world, both with respect to their use of these technologies, to improve delivery of their services, and with respect to legal issues created for their clients.

Internet Banking (IB) technology changes the way people perform their financial transactions (Alwabel 2005). This in turn prompts changes in consumer behaviour. However, before examining IB adoption in Saudi Arabia, the environmental context should be clarified, as aspects of the context, such as the structure of the financial sector and the availability of infrastructure, can be expected to affect the banking services available, the way they are perceived, and the level of acceptance they attract.

This chapter will, therefore, set the research in its environmental context. This is done in four sections. In the first, brief geographical, cultural and economic background on the Kingdom of Saudi Arabia (KSA) will be provided. The second contains an overview of the Saudi banking sector within which this research takes place. The current situation of KSA with regard to Internet banking is then discussed, with definitions of the Internet and IB, and a clarification of IT

infrastructure in the kingdom. In the last section, profiles of the Saudi banks, including their IB and other services, are presented.

4.2 Location and Size of the Kingdom

The Kingdom of Saudi Arabia is located in Southwest Asia, specifically in the Middle East. The KSA comprises about four-fifths of the Arabian Peninsula, a land mass constituting a distinct geographical entity, bordered to the west by the Red Sea, to the south by the Indian Ocean and to the east by the Arabian Gulf (www.nationsencyclopedia.com).

Figure 4.2 - The Kingdom of Saudi Arabia

Source: www.riyadh.gov.sa

The KSA occupies approximately 2,250,000 square kilometres (868,730 square miles), which is almost one-third of the size of the United States of America (www.cia.gov). It is bounded to the north by Jordan, Iraq and Kuwait, to the east by the Gulf, Bahrain, Qatar and the United Arab Emirates, to the south by the Sultanate of Oman and Yemen and to the west by the Red Sea (www.cia.gov). Located between Africa and mainland Asia, with long frontiers on the Red Sea and the Arabian Gulf and with the Suez Canal near to its north-west border, the Kingdom lies in a strategically important position (Saudi Arabia Information Resource 2006). The largest cities include Riyadh, Jeddah, Dammam, Makkah, Medina, and Abha. Arabic is the national language of Saudi Arabia.

The last official census of Saudi national population conducted by the Saudi government was in September 2004. The census found 22, 673,538 residents, 72.9% of which were Saudi citizens and 27.1% were non-Saudi. Amongst the Saudi citizens, 50.1% were male and 49.9% female. Currently, almost half the Saudi population is under the age of 20 (Ministry of Economy and Planning, www.planning.gov.sa/statistic_2006). By the end of 2008, the UN estimated the population of Saudi Arabia was 24,735,000.

With the surge in oil prices and increased demand for oil in the last few years, the economy has strengthened, with near record oil revenues, strong fiscal performance, healthy trade balances, good private sector growth, and low interest rates.

The Saudi economy has grown rapidly in terms of infrastructure development, industry and business amenities; Table 4.1.

Table 4.1- Overview of the Saudi Economy

Member of the Group of 20 (G20), the world's most powerful countries in 2008-2009.
The largest known resources of oil of any country in the world. Owns 25% of the world reserve of oil and it is the first producer and exporter.
The fourth country in terms of gas reserves.
Ranked as the 22nd largest economy in the world 2007.
The gross domestic product (GDP) was 572,200 $MM in 2007.
The largest producer of petrochemicals in the world.
The 21st largest exporter in the world 2007.
One of the largest economies of the Middle East.
Its currency is the Saudi Riyal (SR). Exchange Rate: 1US$ = 3.75 SR (pegged since 1986).
Member of the Arabian Gulf Cooperation Council (GCC) since 1981.
Member of the World Trade Organisation (WTO) since December 2005.

Source: several official international information resources (such as: www.cia.gov, www.wto.org, www.bbc.co.uk, www.worldbank.org, www.saudinf.com)

The religion of the KSA is Islam. Saudi Arabia's legal system is based on Sharia law, which is derived from the Quran and the traditional sayings (Hadith) of the Prophet Muhammad, as interpreted by the religious leaders' council. Thus,

Islamic values pervade all aspects of life, including (as will become clear later) the use of the Internet, which may in turn affect the take-up of Internet banking.

4.3 Saudi Arabian Financial Sector

The Saudi Arabian financial system consists of various parts. The ones most relevant to this thesis will be discussed in this section: the government-controlled Saudi Arabian Monetary Agency (SAMA), the private commercial banks, and the Saudi Stock Market (SSM) with its agencies.

4.3.1 Saudi Arabian Monetary Agency SAMA (The Central Bank)

In 1952, the Saudi Arabian Monetary Agency (SAMA) was established to stand at the apex of the financial system (www.saudinf.com). It was intended to serve as a regulatory agency and act as the government's bank. In the 1960s, SAMA created banking regulations to develop the banking industry further (www.sama.gov.sa). The Saudi currency, the Riyal, was initially circulated in 1972 (www.sama.gov.sa). Starting in 1980, SAMA began working as a consultant to the government in managing its public debt, restructuring the financial market, and regulating and monitoring commercial banks (www.us-saudi-business.org.). SAMA continues to implement the monetary policy of Saudi Arabia. SAMA and commercial banks play significant parts in upgrading and developing the Saudi banking technology such as electronic clearing, ATMs, stock trading, and the Electronic Funds Transfer System (www.sama.gov.sa).

SAMA acts as a central bank overseeing all financial activities. In addition, the government has established a number of specialised banks which help to finance various activities in their particular sectors.

4.3.2 Commercial Banks in Saudi Arabia

Saudi Arabia has eleven private commercial Saudi banks (www.saudinf.com). Before 1980, most of them had foreign bank participation, but after this time, the government of Saudi Arabia started mandating that 60% of the staff in these foreign bank branches have Saudi nationality (www.mol.gov.sa).

Saudi banks have become the primary financial institutions for provision of all banking and financial services. This policy was to ensure systemic stability in that banks were managed by fit and proper people and enjoyed sound capital positions. It

was also to promote healthy competition, as banks were able to devote sufficient funds and suitable human resources to providing a broad range of financial services, including fund management, stock brokerage, investment advice and interest-free banking. In addition, banks have been distributing life and other insurance products to their customers and investing in leasing firms. These initiatives have promoted a very healthy, competitive environment in the domestic market (SAMA 2004).

The primary engine of banking sector earnings growth since 2000 up to now has been the rapid growth in consumer lending. Based on SAMA statistics, consumer lending by Saudi banks increased significantly from SR 11 billion in December 1998 to SR 188 billion as of December 2007 (SAMA-annual report 2008:51). The banks of Saudi Arabia continue to lead the listing of the biggest banks in the Middle East. Saudi Arabia's Al-Rajhi bank, National Commercial Bank, and Samba bank top the listing (www.thebanker.com). According to the Financial Times website (www.ft.com), in 2006 four Saudi banks were ranked by market value among the biggest 500 companies in the world.

Consumer lending gave Saudi banks a significant supply of high-yield and low-risk assets at a time of declining interest rates. This high advantage was not related to economic performance, but was rather driven by institutional and technological innovation, namely, the launch of SARIE, an electronic payment system, and the subsequent leveraging of the SARIE platform to automate public sector salary payments (Homidan 2006). The new salary payment mechanism thus transformed individuals' future earning power into security to support bank lending. However, the promising economic situation supported the positive impact of consumer lending on banks' earnings by promoting a relatively benign commercial lending environment with lower credit costs (Kardouche 2005). Beginning in 2004, bullish economic conditions began to contribute more directly to Saudi banks' incomes as the continuing boom in local equities generated fast increase in brokerage fees as well as special commission income from margin lending (Kardouche 2005).

Banking client segments have all benefited from some other important factors (SAMA-Annual Report 2008):

- The increased liquidity as a result of higher oil prices combined with limited investment opportunities.

- The strong increase of stock market transactions.
- The introduction of the privatisation programme in 1997 and establishing of the Capital Market Authority in 2003.
- The large infrastructural developments initiated by the government.
- Core business segments like large and medium-sized corporate clients.

This has resulted in increased opportunities to sell banking services to these clients. In December 2007 the number of Saudi bank branches reached 1353, covering all cities throughout Saudi Arabia (SAMA-Annual Report 2008:58).

4.3.3 Saudi Arabian Stock Market (Tadawul)

In 1984, a Ministerial Committee composed of the Ministry of Finance and National Economy, the Ministry of Commerce, and the Saudi Arabian Monetary Agency (SAMA) was formed to regulate and develop the Saudi Arabian stock market. It was mainly designed for domestic long-term investors. In 2000, more than 78 firms were listed on the stock market (Almalki 2008), and in 2001, the Saudi Arabian stock market began using an automated, order-driven, continuous, screen-based trading system after starting to attract more middle and short-term investors. At the end of 2001, the old stock market system called "Esis" was replaced by a new trading system called "Tadawul" (Homidan 2006). The Capital Market Authority (CMA) was established in July 2003 to regulate and develop the Saudi Arabian Capital Market. It issues the required rules and regulations for the implementation of the provisions of Capital Market Law aimed at creating an appropriate investment environment.

The establishment of the CMA was an extremely positive development for the entire Saudi economy. The CMA is an independent government commission with the authority to establish policies and procedures for the regulation of the capital markets, combined with the responsibility to establish the supervisory framework to ensure the proper implementation and on-going compliance by all market participants. Clarification and regulation of the company listing requirements will enhance overall market transparency (Sabbagh 2005).

Moreover, as with the role of any regulatory authority worldwide, the CMA's role should be to improve fair and transparent market dealings, encouraging more Saudis to take part in the financial market (Shayif 2005).

These important developments have had, and still have, a great impact on Saudi banks as they were the only channel by which Saudi customers could participate in the Saudi stock market (SSM), until this monopoly was broken at the end of 2006, when the CMA allowed some agencies to provide such services to Saudi customers. Despite the existence of 12 brokers apart from Saudi banks by June 2008, Saudi banks still dominate the majority of this business (www.cma.org.sa).

All these developments and improvements in the Saudi financial market were logical responses to the large increase in SSM transactions witnessed in the last few years. According to the official website of the Saudi stock exchange (Tadawul), the index jumped from around the 2,500 mark at the end of 2002 to over 16,500 by the end of 2005, before it steadied at over 11,000 by the end of 2007 (www.tadawul.com.sa). In 2007 the SSM also became the largest market in the Arab world for capital value (296.6 billion U.S Dollars). This is about 31% of the total capital market value of the markets of Arab countries' exchanges, and the eleventh largest market in the world (Almalki 2008:27).

Table 4.2 -The Growth of the Saudi Stock Market (SSM) 1999-2007

Year	Trades	Change %	Volume Traded (Mn)	Change %	Value (Mn)	Change %	All Share Index	Change %
1999	438,226	16 %	528	79 %	56,579	10 %	2,028.53	44 %
2000	498,135	14 %	555	5 %	65,293	15 %	2,258.29	11 %
2001	605,035	21 %	692	25 %	83,601	28 %	2,430.11	8 %
2002	1,033,669	71 %	11,430	151 %	133,787	60 %	2,518.08	4 %
2003	3,763,403	264 %	35,414	210 %	596,510	346 %	4,437.58	76 %
2004	13,319,523	254 %	63,675	80 %	1,773,859	197 %	8,206.23	85 %
2005	46,607,951	250 %	70,996	11 %	4,138,696	133 %	16,712.64	104 %
2006	96,095,920	106 %	73,439	3 %	5,261,851	27 %	7,933.29	53- %
2007	65,665,500	32- %	58,862	20- %	2,557,713	51- %	11,175.96	41 %

Source: Saudi Stock Market-Tadawul (www.tadawul.com.sa)

These favourable market conditions led to a substantial increase in Saudi banks' lending portfolio, contributed by all business units in the banks. Such a high rate of growth was fuelled by the growth in the share-trading portfolio, which had a significant positive impact on the banks' bottom-line results (www.sama.gov.sa).

4.4 Current Situation in KSA in Relation to Internet Banking

Before describing current Saudi banks' online appearance in KSA, a brief definition of the Internet and Internet banking services should be given. Moreover,

the Information Technology infrastructure, including Internet availability in the state, needs to be understood.

4.4.1 What is the Internet?

The Internet, also known as the World Wide Web, is a system of public and private networks made up of computer hardware and software that is connected around the world (Dreyfus and Young 2001). The Internet was developed in the 1960s by the American Department of Defence linkage of computer networks (Gillies and Cailliau 2000). As the Web developed, it became a communications tool used exclusively by scientists and universities (Zimmerman 1997; Gillies and Cailliau 2000). Then, in the early l990s, the software companies Microsoft and Netscape capitalised on the emerging Internet phenomenon and created user-friendly interfaces to connect personal computers to the network of the Web (Kurose and Ross 2005).

Current developments in relation to the Internet are arguably amongst the most significant developments in the early years of the twenty-first century (Turban et al. 2004). Most aspects of life at home, at work, in shops, in government, and our leisure activities are affected. Statistics indicate that there were 45 million Internet connections worldwide in 1995. That number jumped to 420 million in 2000, and over 1.463 billion in June 2008 (www.Internetworldstats.com). The number of Internet users is expected to reach 1.8 billion in 2010 and surpass 2 billion in 2011 (www.Internetworldstats.com). At the end of 2008, China led with nearly 253 million, followed by the USA with 220 million Internet users, Japan with 94 million and India with 60 million (www.Internetworldstats.com). In the UK, 41.8 million or 68.6% of the population used the Internet in 2008. According to an extensive study carried out by comScore Inc. in June 2007, the UK topped other European countries with the highest average number of daily visitors (21.8 million), the highest usage days per month (21 per user), and the longest average time spent online per month (34.4 hours per user) (www.comScore.com).

The factors that contributed to this growth from the consumer's point of view are more affordable computer hardware and software, greater enjoyment and efficiency resulting from high speed connection to the Internet, reducing the time and cost of information search, increasingly attractive websites that are better designed and more user-friendly, and the growing number of people who acquire the skills to use the technology (Cunningham 2002). The potential of the Internet to be

harnessed by retailers and other business users is vast and varied. Due to the global nature of this technology, marketing costs can be reduced, and the products and services displayed can reach hundreds of millions of people. By virtue of its interactive nature, and the variety of possibilities it offers, the Internet can bring other benefits such as improved company image, supporting customer services, simplification of processing, compression of cycle and delivery time, and expediting access to information (Turban et al. 2004).

However, use of the Internet requires some skills and technology. These include having electricity, a communications line (e.g., telephone, TV cable, satellite), a modem, a computer, software and a certain level of English, since the English language was still the leading World Wide Web language at the end of 2008 (www.Internetworldstats.com).

Even where the infrastructure is available, use of the Internet can be constrained by various factors, and websites vary in usability. To assist potential users, efforts are made by web page designers to incorporate non-verbal cues, such as figures, pictures, videos and other presentation formats (Jiang and Benbasat 2007).

4.4.2 What is Internet Banking?

Tan and Teo (2000:4) describe online banking, also known as Internet banking or e-banking, as that which *"allows customers to perform a wide range of banking transactions electronically via the bank's Website"*. Online banking may be defined as *"the use of the Internet as a remote delivery channel for providing services such as opening a deposit account, transferring funds among different accounts and electronic bill presentment and payment*" (Ahmed et al. 2006:74). Online banking allows a bank customer to log in to his bank account through an Internet connection. Bank customers need to have a computer, Internet connection, and software to view and manage their online account information.

This financial services technology was introduced in 1995 in the form of electronic banking and home banking services (Nieto 2001). Financial services are being forced to implement this new technological development for three reasons. Firstly, old technologies cannot be extended. Secondly, new technologies offer more profitable opportunities. Thirdly, previous technologies cannot sustain business increasing rates or fulfil organisational requirements (Alwabel 2005).

Currently, financial services institutions are able to enhance their reputation and improve the bank's image, not only from their robust financial status, but also from the adoption of such new technologies (Flavian et al. 2004).

Three kinds of websites used by banks have been identified. These are informational or marketing websites, communicative websites and transactional websites. Informational websites usually have information about bank products and services that they want to deliver to their clients, whereas communicative websites present a two-way flow of information between the bank and its clients. With transactional websites, clients can manage their accounts, update their account information and perform banking transactions such as paying bills and transfer funds (Jenkins 2007). However, banks vary greatly in the range and nature of the products and services offered on transactional websites. Durkin et al. (2008) based on an extensive literature review in relation to Internet banking, found that product complexity would have a significant bearing on product delivery. They suggested the following typology which was developed to help in the classification of financial products provided by e-banking delivery channels.

Figure 4.3 - E-banking Product Complexity Levels

Product Complexity Levels
Simple
Motor Insurance **Home contents Insurance** **Buildings Insurance** **Credit Card** **Premium Bonds** **Post Office Savings** **Bank savings Account**
Medium
Life Assurance **Personal Loan** **Stocks and Shares**
Complex
Mortgage **Personal Equity Plan** **Individual Savings Account** **Unit Trusts** **Pension**

Source: adapted from Durkin et al. (2008)

According to MsMoney (2006), the majority of online banks are seeking to offer the following basic online transactions to their customers:

- Check account balances;

- Transfer money between accounts;
- Track recent account activity;
- Authorize electronic bill payments;
- Request copies of past statements and processed cheques;
- Order traveller's, cashier's, and regular cheques;
- Issue stop payment requests;
- Apply for auto, mortgage, home equity, student, or personal loans;
- Receive investment product and service information.

These correspond mainly to what Durkin et al. (2008) classified as the simple level of transaction, although the last two would fit into the intermediate category.

Whatever the precise range of services offered by a particular bank, many banks have found online banking services to be an effective and necessary tool to attract new clients and keep customers (Almogbil 2005).

Internet banking gives banks a huge financial saving, as the cost of the average payment transaction on the Internet is minimal. Al-Mudimigh (2007) declared that the transaction cost through bank branches is estimated at $1.07, through a telephone bank or Call Centre (human) $0.85, via an Automated Response System (AVR) $0.44 cents, using an Automated Teller Machine (ATM) 27 cents, Dialup PC banking using the banks' own software costs 1.5 cents and on the Internet it costs merely 1 cent.

At the same time, the decision to offer such services imposes certain demands on the bank. Today's customers require extensive services from this banking system, such as ease of use, convenience, protection against fraud and invasion of privacy and better access to financial information and payment transactions through easy, clear, concise, and precise procedures.

Although Internet banking is increasingly widespread and popular, as indicated previously, the ability of banks to offer such services, and of customers to access them, depends on the availability of an appropriate infrastructure. For this reason, the following paragraphs outline recent developments and policies related to information technology infrastructure in KSA.

4.4.3 Information Technology Infrastructure in Saudi Arabia

The Saudi Arabian government has played a major role in introducing IT into the country. It has dynamically attempted to connect all public offices with the latest technologies to improve the quality of work and services. Meanwhile, it encourages the entire private sector to follow in its footsteps by applying highly developed technology to smooth the progress of their organisations in competing in a changing business world. These efforts are an accurate reflection of its long-term objectives, which were expressed clearly in the Seventh Five-Year National Development Plan (2000-2004) and The Eighth Five-Year Development Plan (2005-09). These plans emphasized the need to strengthen the growing private sector and increase the efficiency of investment in the technology and the industrial sector, with a focus on increasing foreign as well as national investment, and on developing human resources, as set out in the 9th objective of the strategic base of the Seventh plan (2000-2004) and the 5th and 14th strategic base of the Eighth plan (2005-2009). The Minister of Planning, Khaled Algosibi, stated these important objectives (www.mep.gov.sa):

- Encouraging investments in the growth and utilisation of technologies in all public and private sectors so as to increase their work and the efficiency and effectiveness of their services;
- Motivating the expanding use of advanced technologies in all economic sectors, with particular emphasis on the use of capital-intensive procedures in the agricultural and industry sectors;
- Formulating and implementing science and technology policies, taking into account Saudi Arabia's national, social and economic goals;
- Supporting continual improvement to create a solid national base for scientific research and technology, additionally contributing to the development of national and technological manpower; and
- Organising and supporting joint international Saudi Arabian research programmes in relation to these fields.

So as to meet the increasing demand for the free flow of information and to achieve these goals in the area of information technology and other related scientific issues, the Saudi government in 1977 formed the Saudi Arabian National Centre for

Science and Technology (SANCST), which, in 1985, was renamed the King Abdulaziz City for Science and Technology (KACST) (www.kacst.edu.sa).

KACST is charged with formulating the national science and technology policies of Saudi Arabia, as well as promoting and co-ordinating research activities among scientific organisations and research centres. Its core objectives, according to KACST President Mohammed Al-Suwaiyel are:

- Providing research that helps in solving many developmental problems that the Kingdom encounters in different areas of both the public and private sectors.
- Completing the first quinquennial plan for science and technology (2007-2011) in collaboration with the Ministry of Economy and Planning, and with the participation of many related parties in the Kingdom; for this purpose the State has allocated approximately 8 billion Saudi Riyals for this period of time.
- Proposing and recommending national policies and strategies for the development of science and technology applications and implementations;
- Supervising and administering all research projects in various scientific fields, which includes providing scholarships, and training funding to support and encourage researchers and research organisations to conduct applied scientific research that will be used to assist the Saudi government in accomplishing its social and economic development plans;
- Co-ordinating the activities of the scientific research institutions to meet Saudi Arabia's rapid growth requirements and encouraging co-operation with competent organisations to identify the national priorities and policies in the area of technology; and
- Encouraging the utilisation of computers and other related technologies in all public and private sectors (www.kacst.edu.sa).

Against this general background of installation and encouragement of information technology in KSA, the next subsection looks more specifically at the growth of Internet use in the Kingdom, and factors affecting it.

4.4.4 Internet in Saudi Arabia

In December 2000 there were about 200,000 Internet users in Saudi Arabia. By 2007 the number had grown to 4.7 million, making the growth 2350 % and KSA one of the fastest growing Internet markets (Table 4.3).

Table 4.3 - Internet Growth and Population Statistics

YEAR	Users	Population	% Pop.	Usage Source
2000	200,000	21,624,422	0.9 %	ITU
2003	1,500,000	21,771,609	6.9 %	ITU
2005	2,540,000	23,595,634	10.8 %	C+I+A
2007	4,700,000	24,069,943	19.5 %	ITU

Source: Internet World Stats (www.Internetworldstats.com)

In 2006 some major changes were made to the structure of the Internet in KSA. These changes are likely to aid the expansion of Internet usage in KSA even more. This section gives more information on both the old and new structure of the Internet in KSA.

When the Internet was first made available for the public in KSA in 1999, it was supervised by King Abdulaziz City for Science and Technology (KACST) and the Internet Service Unit (ISU), a department of KACST. ISU acted as a Saudi Internet exchange point and worked in raising public awareness of the Internet. It also formulated the rules and regulations that govern the use of the Internet in the country and took care of the Saudi domain name system. The Internet was provided to the public through a number of commercial Internet Service Providers (ISPs) who were licensed by KACST. ISPs bought the International Internet bandwidth service from KACST and local bandwidth from Saudi Telecommunication Company (STC) and sold Internet access to their users.

In KSA the Internet is filtered. Content filtering is a method of blocking web pages containing pornographic, lewd, illegal, or otherwise objectionable content. Rather than serving such objectionable material to the user, the block page is presented instead. According to KACST, the vast majority of the web pages that are blocked by the filtering system are pornographic. In addition, pages that are related to drugs, alcohol, gambling, terrorism and bomb-making, account theft, and copyright infringement are blocked, as well as a number of websites containing extreme cases of slander or abuse directed towards the Islamic religion or Saudi laws and regulations (www.kacst.edu.sa).

When the Internet was first introduced to the public in KSA, the filtering took place at the servers of KACST and was supervised by ISU. The Communications and Internet Technology Commission (CITC) took over the supervision of the Saudi

Arabian Internet from KACST and ISU in 2006. In addition, since 2006, three licensed data service providers (DSPs) provide the commercial gateways to the Internet (www.citc.gov.sa). One of the biggest changes in the structure of the Internet in KSA is the change of the filtering system. Since 2006, filtering takes place at the servers of the three DSPs. The DSPs obtain the list of filtered addresses from the CITC.

It is estimated that Internet usage will keep on growing rapidly in the KSA. In addition to the new Internet structure, which can cut the cost of Internet access, there are also other factors that can speed up the growth of Internet usage in Saudi Arabia. According to CITC estimations, Internet penetration will reach 26% by the end of 2008 (www.citc.gov.sa).

There are several factors that can be expected to encourage growth in the number of Internet users in the coming years. These are as follows:

1. One reason for the growth is that according to the Central Department of Statistics & Information (CDSI) 60 % of the Saudi population are less than 20 years age (www.cdsi.gov.sa). This young generation have the potential to adopt new technologies faster than the older generation.
2. As the usage of Internet grows in all the Arab countries, the amount of Arabic content on the Internet will grow as well. This in turn will attract more and more Saudis to use the Internet (www.Internet.gov.sa).
3. Several universities and colleges in KSA are now adopting e-learning as a part of their curriculum. It is estimated that Saudi Arabia's e-learning market will expand by 33% annually over the next five years after hitting US$125 million in 2008 (www.Internet.gov.sa).

As more businesses and companies offer more of their services online, more customers are drawn to use these services. According to the Arab Monetary Fund, in the Gulf Cooperation Council (GCC) countries, total e-commerce crossed the US$1 billion mark in 2008, with Saudi Arabia taking the lion's share of these revenues (www.amf.org.ae).

The Communications and Information Technology Commission (CITC) was established under the name of Saudi Communications Commission in 2002. Due to the importance of the role of information technology and its association with successive

developments in the telecommunications world, the Commission was entrusted with new tasks related to information technology. In 2004, its name was changed to Communications and Information Technology Commission and the Commission Ordinance was amended to be consistent with the new name and to add to the tasks stipulated in the Ordinance.

The vision statement of the Commission as shown in their official website (www.citc.gov.sa) is "Universally available, high quality and affordable communications and information technology services".

The Communications and Information Technology Commission has identified the following three main issues to increase penetration in Saudi Arabia:

- **Raising Internet awareness:** government (and non-government) organisations should be aware of the benefits that Internet technology can bring to them and to their clients. Most organisations now have informative websites in which they put information about the organisation and other information of importance to their clients. Some are more advanced than others, but they are already saving time and effort for themselves and their clients. The next step is to start moving to e-government and digital signatures and other advanced technologies. Parents should be made aware of the benefits that the Internet could offer their children and their education. Some parents still look at the Internet as a 'waste of time.'
- **Internet access prices are very high in Saudi Arabia;** these are currently the highest by a wide margin in the region. This discourages users from staying online for long periods. At the same time, it encourages other means of illegal access, mainly satellites. Prices should be reduced if Internet application, local content, and more penetration are to be achieved.
- **Local Regulations should be adopted to promote e-commerce and the use of Internet.** Currently there are several initiatives for new laws for e-commerce and e-government implications (www.citc.gov.sa).

Even though many banks may have the technical capability of offering online banking services, infrastructure may limit IB services' adoption in the KSA. Banks must overcome the constraints of deficient telecommunications infrastructure and relatively low Internet penetration in the region.

4.4.5 Internet banking in KSA

There is only one type of bank that engages in Internet banking in SA, which can be called bricks and mortar banks. These banks exist with physical offices and establish websites where they can offer their services to their customers in addition to their traditional delivery channels. These banks allow their clients the option of going to the traditional channels to perform their transactions in person, or they can take advantage of Internet banking services through a bank website. Virtual banks, which do not have a location where bank clients can go in person, and only do business over the Internet, do not exist in Saudi Arabia.

Banks' Saudi clients can perform a variety of transactions by way of Internet banking. They can pay bills directly from cheque accounts. This saves their time and money, and also gives them more flexibility in the timing of payment. Funds can be transferred from a cheque account to a savings account, or vice versa. Customers can fill out loan, credit card, and account-opening applications for anything from signature loans to mortgages online. They can use IB to access a large amount of bank information. They can even use Internet banking for investments. All these services are available at most Saudi banks, as will be shown in this thesis.

Internet banking services in Saudi Arabia allow clients to view their transactions whenever they wish. If they have software for a computer, they can download the information from their Internet banking accounts. As long as they have an Internet connection of any kind, they can simply access their Internet banking accounts at any time, day or night.

The objectives of the Gulf banks in launching their online appearance, as declared by Al-Mudimigh (2007), were:

- To extend their network and overcome the situation of limited branches.
- To achieve savings in Phone/Branches' operating costs by diverting customers to the Internet. Internet banking has one of the lowest “costs per interaction” as compared to the ATM, phone banking or branch banking.
- To meet the increased consumer demand for quick and secure banking solutions, anywhere, at any time, on any device. This is important in staying ahead of competition.

- To enhance the brand image and values in the minds of the customers and the prospects by owning this channel.
- To create another arm for deepening customer relationships through cross-selling and acquisition of new customers.

As with online banking in other countries, banks vary in the range of products and services they offer through this channel. In order to evaluate the status quo in Saudi banks, Alwabel (2005) made use of a model by Diniz (1998), which not only distinguishes the three types of websites referred to previously (informational, communicative and transactional) but also differentiates three levels of activity within each type of site, in a manner similar to the recent complexity-based categorization of Durkin et al. (2008). Alwabel (2005:4/16) categorised the contents of Saudi banks' websites into three levels as follows:

a. **Banks use the Web as an information delivery tool (Informational).** At the basic interactivity level, like an electronic brochure, the website provides institutional and promotional information, details of how to contact the bank and special offer announcements. Information delivery at the intermediate level of interactivity includes search engines, report downloads, recruitment forms and hot links to other sites. Website offering advanced interactivity use customising resources, besides some subscription options or discussion groups.

b. **Banks use the Web to improve relationship with customers (Communicative).** At the basic interactivity level are e-mails and forms enabling customers to make suggestions or complaints. At the intermediate interactivity level, banks offer advising tools (e.g. calculators, rate selectors) to assist financial decisions. The advanced level of interactivity is related to the possibilities the Web brings for gathering information on product and service development. More advanced technologies, such as videoconferencing (face-to-face banking), are also considered to belong in this level.

c. **The Web is a vehicle for the most common transactions that one could expect to have with a bank (Transactional).** The lowest level of interactivity includes applications for opening accounts and requesting products and services, card requests and investment and credit applications. The intermediate interactivity level gives clients access to information on accounts

through balances and statements. There may also be facilities for fund transfers and bill payments. Transactions at this intermediate level require some access to the bank's database. The most advanced level of interactivity is represented by banks, set up as Web-based, that offer the same services as non Web-based banks. E-cash, as a way to develop transactions through the Web, is also considered to belong to this level.

These categories can be summarised in Table 4.4 below:

Table 4.4 - Framework for Banking Website Classification

Information delivery		
Basic interactivity level	**Intermediate level of interactivity**	**Advanced interactivity level**
Electronic brochure	Report downloads	Use customising resources
Promotional information	Recruitment forms	Some subscription option
Contact and location details	Hot links to other sites	Advertisement
Special offer announcements		Discussion groups
Banks use the Web to improve relationship with customers		
Basic interactivity level	**Intermediate interactivity level**	**Advanced level of interactivity**
e-mail and forms are the ways a client has to make suggestions and complaints	advising tools (calculators, for example)	More advanced technologies, such as videoconferencing
The Web is a vehicle for the most common transactions		
Lowest level of interactivity	**Intermediate interactivity level**	**Advanced level of interactivity**
Opening accounts	Clients can access their account details and statements on-line	Promoting e-cash as a way to develop Web-based transactions
Requesting products and services	Fund transfer	
Card requests	Bill payments	
Investment and credit applications	Client has to have some access to the bank's database	

Source: adapted from Alwabel (2005)

By applying Diniz's model to Saudi banks, Alwabel (2005) found that the first category of website use, for information delivery, is almost universally found in Saudi banks' websites. However, there are significant differences among banks in the second and third levels, regarding the use of the Web to enhance customer relationships and using the Web as a vehicle for the most common transactions. Sohail and Shaikh (2008) found that the main online banking services provided by banks in Saudi Arabia are current account management, personal loans, brokerage services, buying and selling stocks and shares, mutual funds and issue of credit cards.

Sabbagh (2005), a senior manager at Arab National Bank, the first bank in the Kingdom to offer Internet banking services, indicated a mixture of factors that would drive the growth of online banking service in Saudi Arabia. These are as follows:

- Increased availability of low-cost PCs and other networking devices in the

home market.

- Because many of the security concerns have been alleviated, Internet users could be becoming more comfortable using the Internet as a transaction-based medium.
- The increasing number of banks offering Web-based banking services.
- Providing an efficient service would allow Saudi customers to access banking website easily and cheaply.
- Adding new Internet-based services from time to time, such as e-brokerage, web-based letters of credit and cash management, in addition to the Internet services already on offer.

Since banks have started to offer their own online banking applications, Internet users have increased in number, year after year. In order to set this usage in context, the next section offers a profile of each of the eleven banks included in this study, in terms of its background and development, size, services offered, and Internet banking services availability.

4.5 Internet Banking in Saudi Banks

The eleven commercial banks in Saudi Arabia differ in size and capital, and this may have a bearing on the range of services they offer, including Internet banking, although all provide IB services in some form. The following profiles highlight the main features of each bank, including their Internet banking provisions.

The information of Saudi banks was collected through the companies' brochures, banks' corporate websites, and one-to-one interviews with the organisations' representatives.

4.5.1 Al-Rajhi Bank

Al-Rajhi Bank, formed in 1988, is engaged in banking and investment activities inside and outside Saudi Arabia. It is one of the largest joint stock companies in the Kingdom, with a paid up capital of SR 15,000,000,000. The bank's head office is located in Riyadh, supported by six regional offices.

The Bank has the largest branch network (more than 500 branches) distributed throughout the Kingdom, including some dedicated women's sections/branches (in compliance with Islamic segregation laws), the largest customer base (more than 8

million customers inside Saudi Arabia), the largest ATM network (1750 machines) and over 13,000 points of sale (POS) installed all over the Kingdom.

Al-Rajhi Bank completed the deployment of Oracle financial services applications, part of the Oracle E-Business Suite, specifically designed for banks and financial institutions, in June 2003. In September 2004, Al-Rajhi finalised the second phase of its Internet initiative through the deployment of the Oracle E-Business Suite. The aim of doing so was to meet three key objectives: improve competitiveness in the Kingdom's increasingly deregulated financial sector, understand and enhance customer profitability and standardise customer service levels for increased satisfaction.

4.5.2 Samba Financial Group

Samba Financial Group was formed in February 1980 to take over the ten existing branches of Citibank in Saudi Arabia. In accordance with a programme under which all foreign banks were required to sell majority equity interests to Saudi nationals, 60% of the total share capital was held by Saudi nationals. The remaining 40% of the equity was acquired by Citibank in exchange for the assets of its Riyadh and Jeddah branches.

Subsequently, in 2002, Citibank sold a portion of its shareholding to a Saudi agency, leaving Citibank with a 20% share in Samba. In September 2003, Samba moved to full local management, culminating in a transition plan previously agreed with Citigroup. In May 2004 Citibank sold its 20% share capital to a Saudi agency and the name was amended to “Samba Financial Group”.

Samba has been a technology leader among Saudi banks, being the first bank to offer a corporate Internet Website, Phone Banking, Cash Deposit through ATMs and Automated Signature Verification. Samba has over 2236 employees working in 82 branches in Saudi Arabia, including some women's branches. It also has branches in the UK, Pakistan and Dubai. In March 2008 the share capital of the bank was increased to SR 9,000,000,000.

Internet banking has received great attention in Samba bank, and has been added as a new delivery channel for remote banking alongside existing channels such as ATMs and Phone Banking (SambaPhone). Subsequently, Samba has made

the development of services over the Internet a major component of its business and marketing strategy, and adoption has grown rapidly.

4.5.3 Al-Riyad Bank

Al-Riyad Bank, established in 1957, was set up as a full-service commercial bank, and became one of the largest financial institutions in Saudi Arabia, with a strong and growing corporate and retail banking franchise. The share capital of the bank was increased from 6,250,000,000 Saudi Riyals to 15,000,000,000 Saudi Riyals in May 2008.

The bank has emerged as a lead financier, arranging and participating in a flow of syndicated loans in the oil, gas, petrochemicals, power and water sector. It has repeatedly been named by SAMA's Investment Product Committee as the leading investment performance bank in Saudi Arabia, being so named for the ninth time in 2007.

Al-Riyad Bank is based in Riyadh and has a network of 200 branches throughout Saudi Arabia, including some dedicated women's sections/branches. There are also a full branch and a wholly owned subsidiary in London, an agency office in Houston, Texas and a representative office in Singapore. Al-Riyad Bank's branch network is supported by over 300 ATMs and 1,895 POS terminals and 3557 employees in December 2007.

Al-Riyad Bank has invested heavily in information technology using the computer/telephony integration solution developed by Seibel, a world leading e-business solutions provider, and integrated by Saudi Business Machines Limited (SBML).

The Seibel solution was implemented at Al-Riyad Bank in three stages. Stage one in February 2002 involved capturing customer service requests and enquiries and tracking their progress. Stage two in July 2002 covered the automation of the fulfilment process and increased straight-through processing to back-end applications for financial and non-financial transactions. The final stage in March 2003 was the implementation of enhanced financial transactions, such as account-to-account transfers and bill payment, the addition to advanced functions, such as e-mail and fax integration, and support for remote channels (e-channels) such as the Internet and telephone-based interactive voice response (IVR). There was also

increased customer care functionality, such as managing customer complaints and responding to marketing campaigns.

4.5.4 Banque Saudi Fransi

Banque Saudi Fransi is a Saudi Arabian Joint Stock Company established in June 1977. The Bank is affiliated with Calyon, a member of the French Credit Agricole Group, which holds an equity interest of 31.1%.

The share capital of the company is 5,625,000,000 Saudi Riyals. Its Head office is located in Riyadh and it has three Regional Offices in Jeddah, Riyadh and Khobar, 74 branches located in the major cities of the Kingdom, including women's sections, 321 ATMs including 73 Cash Acceptance Machines, more than 3827 POS terminals, and 2119 employees as of 31st December 2007.

The Internet banking channel is a part of the bank's strategy to pursue high tech capability and remote banking excellence. The Internet banking channel provides services for the entire range of client segments including individuals, investors and corporate clients. Internet banking services support online registration, wherever possible, to enable customers to get enrolled quickly, without the need for any manual intervention.

The Internet banking service at the bank offers full access to customers' accounts, products and transactions where customers can view their account balances and transaction history and view a wide range of products such as term deposits, loans, credit cards, insurance, investments etc. They can also pay utility bills online quickly and easily with the ability to receive bills online, make onetime payment or set up beneficiaries for regular payments. Finally customers can perform value added services that allow them to organize and manage accounts, such as update contact information, request a cheque book or account statement, and set up passwords for accounts and credit cards.

4.5.5 Saudi British Bank

The Saudi British Bank (SABB) is an associated company of the HSBC Group, one of the world's largest banking and financial organisations, with over 10,000 offices world-wide and some 145,000 staff located in 82 countries. This association enables SABB customers to access the HSBC Group's global network resources,

skills, specialist knowledge and expertise. The Saudi British Bank is a Saudi joint stock company established in 1978, in which HSBC has a 40% shareholding. It is a major participant in foreign exchange and money markets worldwide, with over 40 years of proven expertise in treasury management. SABB was the first bank to issue a credit card in the Saudi market, and the first bank to use ATMs for equity subscription services.

The share capital of the bank was increased from 3,750,000,000 to 6,000,000,000 Saudi Riyals in April 2008. SABB operates through a network of 73 branches, including 13 women's branches, with a team of 2795 employees, as at 31 December 2007.

Through an international network linked by advanced technology, including a rapidly growing e-commerce capability, SABB provides a comprehensive range of online services, by which all registered bank customers can access their accounts via the Internet. They can pay bills on-line, transfer funds, request cheque books or even apply for a personal loan on-line. SABB is a customer of SBML for e-banking solutions, which is based around the IBM technology. It stands out in the Saudi financial sector by providing electronically integrated financial services.

4.5.6 National Commercial Bank

The National Commercial Bank (NCB), headquartered in Jeddah, was the first bank established in Saudi Arabia. Formed in 1953, it was the largest bank in terms of capital, both in Saudi Arabia and in the Middle East for many years. The bank's paid-up capital is 15,000,000,000 Saudi Riyals.

By year end 2007, the Bank operated 260 branches throughout the Kingdom dedicated exclusively to Islamic banking services, the Bank's customers surpassed 1.7 million clients, and the Bank employees numbered 5,126. The Bank operates the largest dealing room in the foreign exchange and money market in the Kingdom of Saudi Arabia, as well as 1080 Automated Teller Machines and 8,227 POS terminals. The Bank also operates two international branches in Beirut and Bahrain, and three representative offices in London, Seoul, and Singapore.

In 2002 NCB signed an agreement with IBM and its Saudi business partner, SBML, to outsource the development and hosting of its website components for its new corporate portal. The NCB website, which was jointly developed in conjunction

with IBM and SBML, was recently, officially launched at the IBM/ e-hosting centre in the Dubai Internet City. The announcement marked the first outsourcing deal of this nature in the Middle East banking industry, where services are hosted in the Middle East, rather than at hosting centres in the US or Europe. This project is part of NCB's extensive programme to enhance the way in which it serves its customers using the latest technology. This new e-banking portal will become a primary source of information for customers, with on-line customer service information, newsletters, stock values, financial news, currency calculators and on-line fund and stock prices being made available on-line. For its consumer banking customers, NCB's portal will offer access to quality information and unique investment opportunities.

4.5.7 Arab National Bank

Arab National Bank was formed in June 1979. The Bank commenced business in February 1980 when it took over the operations of Arab Bank Limited in the Kingdom of Saudi Arabia. The Bank operates through its 143 branches and 21 women's sections spanning the Kingdom, plus one branch in London, UK, opened in 1991.

Arab National Bank offers a full range of domestic and international commercial and Islamic products and services to the retail and corporate sectors. The Bank also offers a consultancy and investment, mutual funds and assets management, local and international equity trading, foreign exchange and treasury services.

The share capital of the bank was increased from 4,550,000,000 to 6,500,000,000 Saudi Riyals in March 2008. A total of 3,532 employees were working in the bank at the end of 2007. The bank also offers a kingdom-wide ATM network, telephone banking, and a short message service (SMS) service to communicate with clients through their mobiles.

To boost development plans, Arab National Bank provides modern technology to serve various customer segments, supported by a firm commitment to good professional standards. Technology initiatives of Arab National Bank provide sophisticated, electronic distribution and delivery channels for services and products in order to come closer to its customers.

The bank has been quick to adopt the technology brought by the telecommunications revolution. Al Arabi e-Bank, the first Internet banking solution to be launched in Saudi Arabia, in 2000, provides a virtual branch on the customer's desktop,

Al Arabi Internet banking provides these services: balance inquiry, statements, transactions, mini statement, transfers, payments, utility bill payment, adding beneficiaries, reviewing status, viewing messages, sending messages and orders and requests.

4.5.8 Al-Jazira Bank

Al-Jazira Bank is recognized as one of the leading and fastest growing Islamic financial institutions in Saudi Arabia, principally serving affluent individuals and successful national corporations in the region.

Al-Jazira Bank was established in June 1975 and began a restructuring process in 1992. Moving into Shari'ah-compliant banking was a turning point for Bank Al-Jazira and has led to outstanding growth in the past five years.

The bank is the smallest in Saudi Arabia in terms of capital and number of branches. The share capital was increased to 3,000,000,000 Saudi Riyals in April 2008. It has only 22 branches with 1480 employees as of December 2007.

Al-Jazira bank has set up online services, which allow clients to pay their utility bills, check their account balance, get a statement of transactions, find out about transfers from one account to another, order cheque books and also find out the price of foreign currencies. Al-Jazira bank's online services are available 24 hours a day, seven days a week.

4.5.9 Saudi Investment Bank

The Saudi Investment Bank (SAIB) was established in 1977. The shareholders of the Bank, a publicly listed company, include J. P. Morgan Chase, Mizuho Corporate Bank (formerly, The Industrial Bank of Japan), Saudi public and private institutions as well as Saudi individuals.

SAIB offers traditional wholesale, retail and commercial banking products and services in addition to investment banking. In particular, it arranges financing of

quasi-government and private industrial sectors and trade finance products for imports and for the increasing Saudi exports.

SAIB is the lead player in providing brokerage services in the Saudi equities market and acts as an international brokerage intermediary including options, foreign exchange, precious metals and other Treasury products.

The share capital of the company was increased to 4,500,000,000 Saudi Riyals in March 2008. It has 23 branches, as of December 2007, and is the smallest bank in Saudi Arabia in terms of number of employees,with only 361.

SAIB is increasingly expanding in the provision of electronic banking products and services to its customer base inside and outside the Kingdom of Saudi Arabia. SAIB has established its electronic services identity for a competitive market as a quality alternative to the larger institutions, with products and services specifically tailored for sophisticated corporate and private banking customers. SAIB offers a full range of electronic banking services through the Internet where customers can manage their accounts, pay bills and access several financial services.

4.5.10 Saudi Hollandi Bank

Saudi Hollandi Bank, the first bank in the Kingdom of Saudi Arabia, was founded in 1926 as the Netherlands Trading Society, and was originally established with one office in Jeddah to serve the pilgrims from the Dutch East Indies for the annual Hajj ritual. For some time, as the only operating bank in the Kingdom, Saudi Hollandi Bank served as the Kingdom's Central Bank, maintaining the gold stock of the country and processing the first oil related transactions.

In 1964, the Netherlands Trading Society became the Algemene Bank Nederland (ABN). Today, Saudi Hollandi Bank is a Saudi joint stock company, established in 1976, with a capital of 2,646,000,000 Saudi Riyals. The Bank's global affiliation with ABN gives immediate access to international financial markets and instruments, as well as to a global branch-banking network. Saudi Hollandi Bank is a full-service bank, headquartered in Riyadh, with regional headquarters in Jeddah and Khobar. It has a network of 42 branches with a team of 1737 employees throughout Saudi Arabia, and the bank operates 180 ATMs.

Saudi Hollandi Bank is launching a new Internet and mobile banking service for retail, commercial and corporate customers, in an effort to enhance and improve on existing banking systems. The entire project is being developed by Infosys, building front-end and back-office elements, as well as integrating them with the Bank's existing back-end systems. Infosys is deploying FinacleTM e-corporate (its comprehensive Web based Cash Management, Corporate e-banking and web based Trade Finance solution) and FinacleTM e-Channels (its powerful Consumer e-banking solution) within the bank. SHB is the second bank in Saudi Arabia to have opted for FinacleTM, after the Saudi Investment Bank. Infosys has partnered with Microsoft in this first ever .NET based offering in the Middle East.

4.5.11 Bank Albilad

Bank Albilad is a Sharia-compliant Saudi joint stock company, established in November 2004 with a corporate capital of 3,000,000,000 Saudi Riyals. The bank provides all banking products and services on all levels and segments including business finance products, retail banking products and investment products. The bank operates through a network of 84 branches, including 27 dedicated women's branches, and also offers telephone, mobile and ATM services.

As regards Internet banking services, the bank's AlbiladNet remote banking package uses the latest electronic technologies to bring banking services to its customers. In addition, the AlbiladTadawul service for trading shares is also available via online banking service and ATMs.

As this section has shown, the eleven banks, irrespective of size, structure, location and ownership, have all established some form of online presence in the last few years. The range of services available through this channel varies from one bank to another, while some offer various account management and investment services, targeted at individual and corporate clients. Since the banks vary greatly in the number and geographical distribution of branches, and women's branches, if available, are limited in number, the introduction of online banking may be a significant move in increasing the accessibility of bank services. Later chapters of this thesis will explore further the thinking underlying such a move, and the response of actual and potential users of the new services.

4.6 Summary

In order to set this research in its environmental context, this chapter provided background information on Saudi Arabia, its financial sector, IT infrastructure in the kingdom, and the current status of IB in Saudi Arabia. Profiles of the individual commercial banks and their IB services were also presented.

Saudi Arabia is a large Arab gulf country which has made rapid socio-economic progress by exploiting its oil resources. There is a large expatriate population, and Arabic is the national language. Islam is both the national religion and the dominant legal and moral force permeating all aspects of life.

Financial activity in KSA takes place within a regulatory framework provided by the central bank, SAMA. There are eleven private commercial banks, many of which originated as foreign partnerships, but are now predominantly Saudi. These offer a full range of financial services, subject to compliance with shariah (Islamic law). In addition to increased consumer lending, they have witnessed rapid growth in stock market activity among their clients. This can be attributed to the establishment of the CMA to regulate the stock market and consequent improvements in the market. Until recently, the banks had a monopoly on stock-market related services.

A recent innovation in which Saudi banks have participated is Internet banking, the provision of financial products and services online, for those who have the skills and infrastructure (electricity, computer, communication line and modem). Such facilities have become relatively widespread as a result of government development initiatives and investment. Government organisations are well-equipped with IT and the private sector is being encouraged to follow suit. The Internet itself was a relatively late arrival, being introduced in late 1999 and originally confined to academic institutions. Although restructuring has expanded Internet access and is likely to result in increased usage, the Internet is filtered to ensure conformity with Islamic values. Perception of the Internet as a source of foreign, liberal (i.e. potentially un-Islamic) ideas may be a factor that could affect its acceptance among certain segments of Saudi society. There are also deficiencies of telecommunication infrastructure and cost considerations which contribute to limit Internet penetration.

Despite these limitations, all Saudi commercial banks now offer Internet banking services, although there are no online banks as such. These services offer a way to overcome branch shortages, save cost and speed transactions. All banks offer information delivery via this medium. However, they differ in the range of transactions that can be performed on-line and in the use of a website to enhance relationships with customers. These differences were reflected in the individual bank profiles provided in this chapter.

With this background in place, attention now turns to the empirical investigation of banks' and clients' perceptions of Internet banking, website features, and how these influence intentions to use IB. The methods and instruments developed for this purpose, the research samples, and data analysis procedures will be discussed and defended in the next chapter

CHAPTER FIVE

RESEARCH DESIGN AND METHODOLOGY

Figure 5.1 - Following the Research Stages

Chapter Two: Theories applied to new technology adoption and Internet banking acceptance
Chapter Three: Theoretical framework and presenting the research model
Chapter Four: The situation in the KSA, financial sector and Internet banking services
Chapter Five : Research methodology and data collection design
Chapter Six: Outcomes of IB managers interviews and content analysis of banks' website
Chapter Seven: Outcomes of the interviews with Saudi clients (IB users and non-users)
Chapter Eight: Findings of online and offline questionnaires of Saudi banks' clients
Chapter Nine: Interpretation and discussion of the findings
Chapter Ten: Summary and conclusion

5.1 Introduction

The issue of research methodology is crucial to any study, as it underpins the types of questions that can be addressed and the nature of the evidence that is generated. In the light of this significance, this chapter discusses how the research design for this thesis was developed and implemented.

First, some general aspects of research theory are discussed, including research paradigms, types, designs and methods, to set this research in the context of research theory. Following a discussion of the quantitative and qualitative approaches, a full description of the mixed methodologies (triangulation) approach used in this research is provided. Two phases of research, each involving two methods, one quantitative and one qualitative, are described. For each stage, an account is given of the development and administration of the relevant instruments. There follows a discussion of the research population and sampling methods, and an account of the data analysis procedures.

5.2 Research Paradigm

Methodology is usually based on some philosophical paradigm (Arbnor and Bjerke 1997), which is a guiding theory concerning the nature of the world and how knowledge can be acquired; issues of ontology and epistemology, respectively.

Ontology is the branch of philosophy concerned with the nature of being, existence, or reality. Ontology addresses the following questions: What is existence? Is

existence a property? What is a physical object? What constitutes the identity of an object? One question in ontology is whether social entities can be considered as having an objective existence or are constructions built-up from the perceptions and actions of social actors (Hollis 1994). Epistemology is a branch of philosophy that is concerned with the nature of knowledge that can be acquired through different methods of inquiry. It addresses the following questions: What is knowledge? How is knowledge acquired? How do we know what we know?

In other words, ontology concerns the nature of the reality that researchers study, while epistemology studies a particular relationship between that reality and the researcher. Both have implications for methodology, which is the technique used by the researcher to investigate that reality (Healy and Perry 2000). Therefore, ontology is concerned with being and existence, epistemology is concerned with knowing and understanding, and methodology is concerned with studying and investigation.

The ontological position of the present study is that there exist both an objective physical world that has a concrete existence independent of individual observers, and also human experience. Furthermore, the epistemological position of this study is that it is possible to capture reality, but only to a limited extent; and no researcher can ever obtain a comprehensive understanding of a studied phenomenon. However, the world can be studied to a certain extent and generalisations can be made with some degree of probability. This epistemological position obviously does not reject the existence of a real world. To create models of the world to simplify its complexity is not to reject the existence of the world (Hollis 1994).

The research consequently takes an epistemological stance, which distinguishes between physical reality and human cognition. With regard to the acquisition of knowledge, there are two possibilities. In the positivist tradition, the researcher is seen as independent of the researched object and does not influence the object of the study. On the other hand, the interpretivist perspective is that the researcher is often an important factor in any study process as he/she defines the perspective and the scope of the research. This interpretive assumption has direct implications for the question of what to study and how. The positivist view is that the object of study is defined by objective criteria, rather than human interests and needs, but it is difficult to be in complete agreement with this view, as knowledge, in general, is driven and influenced by social interests.

This thesis is not only interested in knowledge construction, but also aims to contribute to a better understanding of customer behaviour towards the adoption of Internet banking technology by taking into account both positivist and interpretivist paradigms as appropriate. This study seeks to understand the phenomenon of value creating for customers and banks by understanding the drivers and barriers towards the use of Internet banking. Thus, it investigates certain elements that can be said to have an objective, external reality and also tries to question the prevalent social constructions of reality.

5.3 Types of Research

The three most common classes of research design are exploratory, descriptive or causal/explanatory research, depending on the nature of the research problem and its structure (Ghauri and Gronhaug 2005). This thesis has elements of all three types of research.

According to Neuman (2003), exploratory research is conducted on a topic that is new and is aimed at generating hypotheses for other types of research, for example, the descriptive and the explanatory. In this regard, it is regarded as the initial stage in a sequence of other studies. Exploratory research is also conducted to obtain better understanding, new information, and construct explanations of ambiguous problems (Ghauri and Gronhaug 2005). The current research can be considered in part exploratory, as it was necessary to begin by obtaining background information about the phenomenon of interest, in order to clarify the problem (Churchill 1999). This process involved an extensive literature review and preliminary empirical work (phase 1, section 5.7) to identify the main issues regarding adoption of Internet banking technology and clarify website characteristics. This contributed to construction of a research model and generation of hypotheses to guide the rest of the research.

Descriptive research is also used to generate hypotheses, but generally has more information available than in exploratory research (Malhotra 2004). It is based on some previous understanding of the nature of the research problem (Zikmund 2003). Descriptive research is commonly used for describing, testing, and analysing; it involves some type of comparison or contrast and attempts to discover relationships between naturally occurring (i.e. not manipulated) variables (De Vaus 2001; Best and Kahn 2006). Johnson and Christensen (2007:377) defined descriptive research as

"research focused on providing an accurate description or picture of the status or characteristics of a situation or phenomenon." They observe that descriptive research is commonly used to discern the attitudes, opinions, beliefs, behaviours, and demographics of a population. Surveys via questionnaires and interviews are common methods of conducting descriptive research (Johnson and Christensen 2007). In this thesis, a descriptive approach was used to describe bank clients' adoption of IB, besides the key factors that were believed to have an influence on the adoption of this technology.

However, descriptive research does not attempt to manipulate variables, but only describes them and their relationships as they naturally occur (Malhotra 2004). For this reason, causal/explanatory methods have to be included in the thesis to show the causality between variables (Babbie 2004). Causal/explanatory research is used to test hypotheses generated from both exploratory and descriptive research (Neuman 2003). Explanatory research looks for the cause or the reason why a phenomenon occurs and, thus, goes further than description (Neuman 2003). This approach was used mainly in the second phase of this research in order to test the relationships between perceptions of attitudinal, social, cultural and technological issues and the decision to use or continue using IB. It was also used to test for relationships between perceived website characteristics and intention to adopt IB, in relation to the stages of the decision-making process.

This research has also adopted multiple methods for a context-rich explanation of the research questions. Furthermore, using multiple methods as a form of triangulation increases the validity and reliability of the study (Marshall and Rossman 2006) Research design and methods will be discussed next.

5.4 Research Design and Methodologies

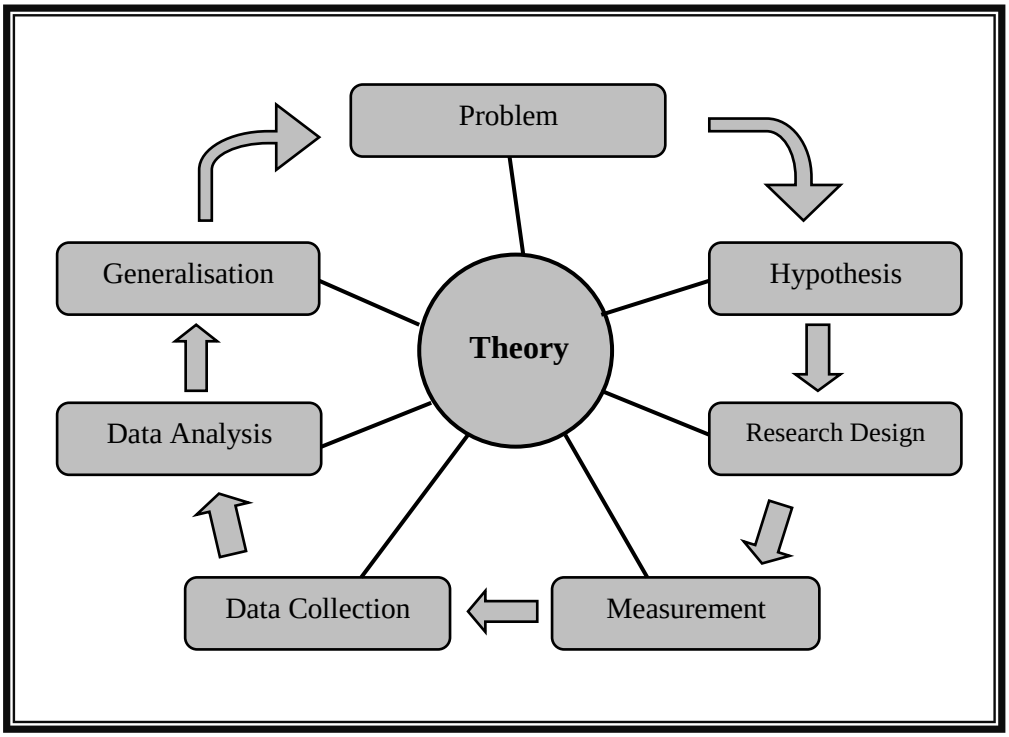
Research is a disciplined and logical investigation to find answers to a given problem and the research process is the overall scheme of scientific activities carried out to find a solution to a given problem. Sekaran (2003) defined research as:

> *"*An *organised, systematic, data-based, critical, objective, scientific enquiry or investigation into a specific problem undertaken with the purpose of finding answers or solutions to it."* (Sekaran 2003:5)

The research process consists of seven main stages: problem, hypothesis, research design, measurement, data collection, data analysis and generalisation (Nachmias 1996).

Each stage both affects, and is affected by, theory. The interaction between the various stages is illustrated in Figure 5.2. Research design and data availability are very important for a successful research study.

Figure 5.2 - Stages of Research Process



(Source: Nachmias 1996).

According to Gill and Johnson (2002) there is no universal consensus on how best to conceptualise and implement research. Research methodology is always *"a compromise between options, and choices are frequently determined by the availability of resources"* (Gill and Johnson 2002: 2), and so for the researcher, it is difficult to decide which method should be applied. No single method is "the best" (De Vaus 2001). The relative strengths and weaknesses of each method vary according to the characteristics of the study, and the suitability of each method is affected by the purposes of the study, its nature, sample size and distribution, the time available and the environment and conditions under which the study is conducted (De Vaus 2001).

Literature on research methodology generally focuses on two main methods, the ideographic and nomothetic. According to Gill and Johnson (2002) the ideographic is *"an approach that emphasizes that explanation of human behaviour is possible only through gaining access to actors' subjectivity or culture"* (Gill and Johnson 2002: 227). Although researchers can draw general conclusions from their empirical understanding, Ghauri and Gronhaug (2005) argue that in this type of research the process goes from

observations, to findings, to theory building, as findings are incorporated back into existing knowledge to improve theories.

Such research is often associated with the qualitative school, which developed in the social and behavioural sciences to allow researchers to study social, behavioural, and cultural phenomena. Bieger and Gerlach (1996) defined the qualitative research approach as one that involves the meaning, concepts, definitions, characteristics, metaphors, symbols, and description of things. Creswell (1998) observes that research questions often start with a 'how?' or a 'what is?'. An example of this approach would be a researcher's plan to interview people in order to examine their behaviour, and make a record of the verbal responses of those interviewed (Marvasti 2004; Maxwell 2005). An ideographic approach was appropriate in this research, to identify banks' policies and practices in relation to IB, and the rationale underlying them, as well as to explore bank clients' intention to adopt IB and their interpretations of their practices and experiences in this regard.

By contrast, the nomothetic methods focus on drawing conclusions via the analysis of causal relationships and explanation through logical reasoning. In this case, the inference need not be true in reality, but there would appear to be the potential for a logical causal relationship. According to Gill and Johnson (2002) the nomothetic approach *"...seek(s) to construct a deductively tested set of general theories that explain and predict human behaviour"* (Gill and Johnson 2002: 228). Ghauri and Gronhaug (2005) argue that the researcher in this type of research deduces hypotheses from the existing knowledge (literature and theses), which can be subjected to empirical testing and thus can be accepted or rejected. The researcher's main job is not only to build hypotheses from literature, but also to present them in operational terms, to show how data can be collected to test these hypotheses and the concepts being used (Bryman and Bell 2003). In this type of research, theory and the hypotheses come first and subsequently influence the rest of the research process.

The nomothetic approach is often associated with the quantitative research approach developed in the natural sciences to enable researchers to study natural phenomena. Bieger and Gerlach (1996) defined the quantitative research approach as one that involves measuring traits, characteristics, or attributes of things. An example of this approach would be where a researcher collects numeric data such as age or yearly income about individuals or groups, and converts the numbers into means or average

score for a group. In this research, a nomothetic approach was appropriate to formulate and test hypotheses related to the factors influencing adoption or rejection of IB and the role of website features in different stages of the decision process.

There are many types of research studies: historical, descriptive, correlational, causal-comparative, and experimental researches (Ghauri and Gronhaug 2005; Best and Kahn 2006) that fall into either one, or a combination, of the two research approaches: qualitative research and quantitative research (Ghauri and Gronhaug 2005). In fact, in order to answer all of the research questions, some research studies *"need to include both qualitative and quantitative methods in the same study"* (Best and Kahn 2006:271) and some writers (Creswell 2003; Ghauri and Gronhaug 2005) identify the use of both approaches in some literature and note their significance for systematic data collection. They note that the processes of induction and deduction are not totally exclusive of each other and induction includes elements of deduction and vice versa.

As the preceding paragraphs indicate, this research was of such a "mixed" type. Before discussing in detail the approach adopted for this thesis, it would be useful first to consider the distinctive features of the qualitative and quantitative approaches. This is the subject of the next section.

5.5 Qualitative and Quantitative Research

Qualitative research highlights processes and meanings that are not experimentally examined or measured in terms of quantity, amount or frequency (Denzine and Lincoln 2005). Thus, it employs nonmathematical analytical procedures that result in findings derived from data gathered by observations and interviews, but also conversation, books, articles, and recordings (Strauss and Corbin 1998:12). In contrast, quantitative research can be defined as the methods that primarily seek to express information numerically, in term of quantities or measurements (Remenyi et al. 1998). Overall, statistical analysis of experimental, survey, and archival data are considered quantitative (Creswell 2003).

While the aim of the qualitative research is to understand and interpret social phenomena in their real life context, the aim of quantitative research is to see common patterns in an examined population and to develop explanations of cause and effect relationships (Remenyi et al. 1998). The strengths and weaknesses of the two approaches are summarised in Table 5.1, below.

Table 5.1 - Strengths and Weaknesses of Quantitative and Qualitative Methods

	QUALITATIVE	QUANTITATIVE
Strengths	• Can be cheaper than quantitative if small scale • Can be simpler to undertake • Offers useful overview • Helpful as prelude to quantitative research	• Higher level of accuracy • Provides factual information • Results more significant and focused both as to information gathered and target audience used • Margin of error can be calculated • Generalisations possible • Data are in the form of numbers from precise measurement.
Weaknesses	• Findings more subjective, calling for higher level of interpretative skill as data are in the form of words from documents, observations, and transcripts. • Research procedures are particular and replication is difficult. • Smaller sample size reducing statistical accuracy levels • Greater chance of bias from respondents and through interpretation • Difficult to generalise from limited cases	• Slower than qualitative • Not so simple to undertake • Often requires computer analysis facility • Low response rates • Some risk of bias • Procedures are standard and replication is assumed.

(Source: Ghauri and Gronhaug 2005)

It can be seen from the above that both approaches have advantages for certain purposes, while both also have drawbacks. In fact, the current trend is to see them as complementary, because, as Bickman and Rog (1998) state, use of multiple methods can make valuable contributions to the same research problem. Johnson and Christensen (2007) similarly argued that both the quantitative and qualitative approaches help researchers make important discoveries, especially when they are used in combination together in the same study, for example, a combination of questionnaires and semi-structured interviews.

Therefore, a combination of qualitative research (interviews) and quantitative (content analysis and survey techniques) was used in this thesis. The use of multiple techniques for data collection enabled the researcher to explore different aspects of the central problem, and to offset the strengths and weaknesses of one method against another, providing much more confidence in the findings of the research. This multi-method approach, called triangulation, is explained below.

5.6 Triangulation Approach

As noted above, in practice, both qualitative and quantitative approaches are frequently appropriate within a single investigation. It is up to the researcher to choose specific methodologies that will permit a clear understanding of the topic to emerge.

The adoption of triangulation methods in this thesis is in line with frequent recommendations to use multiple, complementary methods to increase the validity and reliability of the study (Eid 2002; Teo and Tan 2000; Tigre and Dedrick 2004). According to Denzin and Lincoln (2005:5), *"The use of multiple methods, or triangulation, reflects an attempt to secure an in-depth understanding of the phenomenon in question."*

Methods or techniques are not 'better' or 'scientific' only because, for example, they are quantitative or qualitative. The methods and techniques which are most suitable for a specific piece of research depend on the research problem and its purpose (Ghauri and Gronhaug 2005). The strengths of the quantitative approach are seen as lying in its highly structured nature, its reliability and the representativeness of the data it provides, whereas, the strengths of the qualitative approach are seen as lying in its investigative nature, its in-depth focus and the detailed complexity of the data it provides (Anderson and Arsenault 1998; Best and Kahn 2006).

The Internet, as a marketing channel, has been an emerging and on-going research topic in the Marketing discipline. Marketing researchers use a combination of two methods or more when they want to achieve a better understanding and also to validate these methods. To accomplish this aim, the methodology design used in this research was adapted from the methodology designs used in prior studies. In order to develop additional constructs, some measurement instruments were therefore modified to fit into the context of this thesis.

Using several data sources and measures of the same phenomenon provides crosschecks on data accuracy and enhancement of researchers' conclusions. In regard to this research, such a mixture of approaches was needed to maintain objectivity and to control the bias that could be generated from using a single method.

The conservative nature of Saudi culture also strongly influenced the selection of methods and data collection techniques in this study (as will be shown later). Researchers need to know the nature of the existing culture to implement efficient

techniques, as the nature of the research and the environment in which the study will be conducted influence the chosen methods (Easterby-Smith et al. 2002; Pickering 2008).

This and the previous section have addressed general methodological issues and identified the paradigmatic stance, nature and approach of this research. Discussion turns now to the specific methods selected, their application, and the relationship between them.

5.7 Research Methodology Used in this Study

As noted previously, this study follows from other studies of the Internet in a marketing context, and adopts (with modification) methods that have previously been used in this area. There has been a trend to utilise both qualitative and quantitative approaches in the same research in order to accomplish the research objectives (Law 2000; Chen 2001; Kim 2004; Finley 2004).

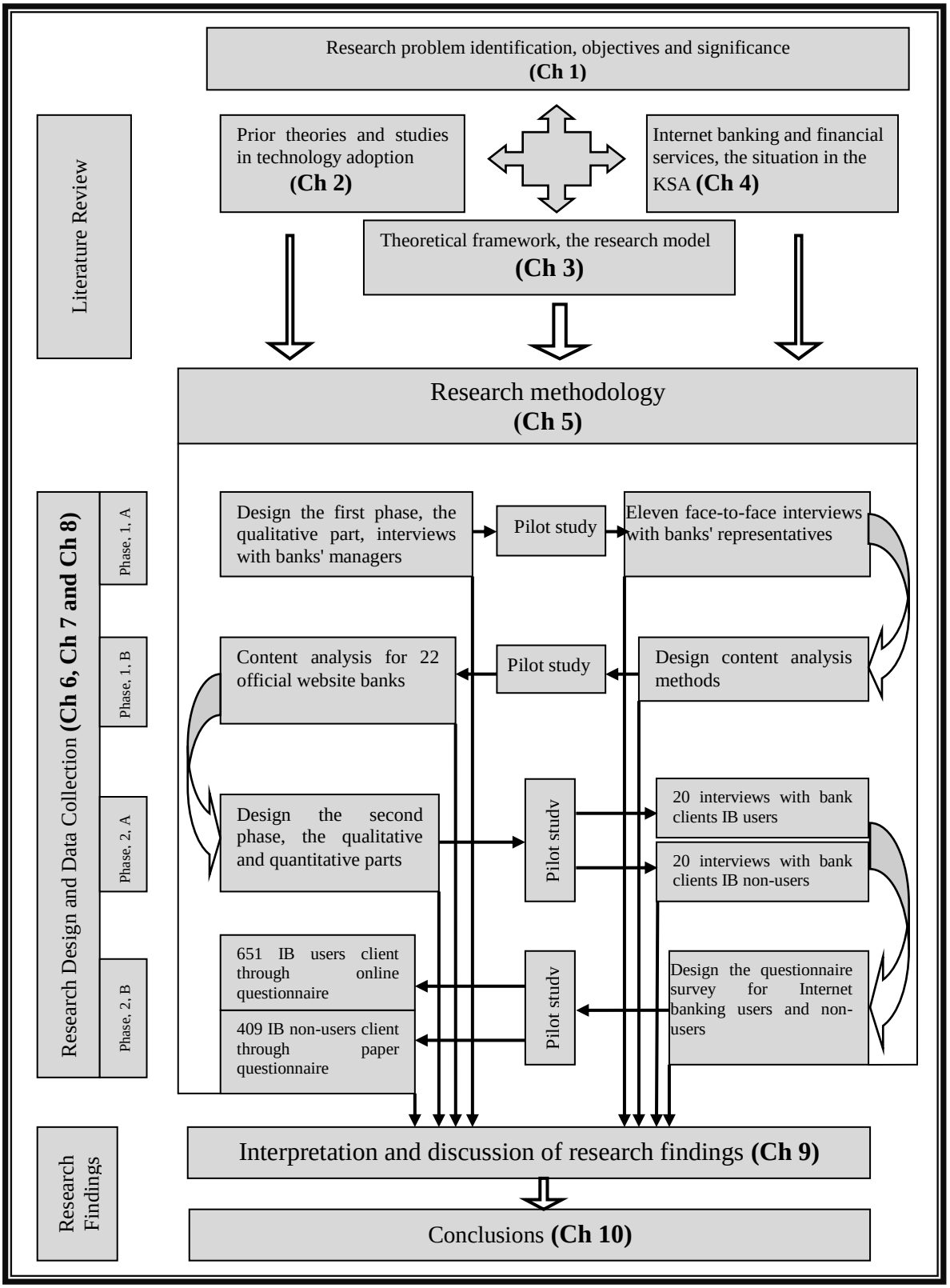
This thesis, similarly, employs both qualitative and quantitative approaches, appropriate to the combination of purposes identified above. The research was conducted in two phases, the first focused on the providers of IB services, the second on the bank clients who are actual or potential users of such services.

For the first phase, two techniques, semi-structured interview and content analysis, were used. The first was used to explore the thinking underlying Saudi banks' provision of IB and the considerations influencing their website designs. The second was used to gain an objective picture of actual website features, which would show whether and how banks' intentions were reflected in practice, in website content.

In the second phase, semi-structured interviews were used to explore bank clients' perceptions of IB, and their responses were used to develop the research instrument (questionnaire) for a survey method of clients' attitudes and behaviours in relation to IB. Figure 5.3 provides an overview of this methodological structure, and its relationship with the thesis as a whole.

The following paragraphs describe the methodological approaches used in this thesis.

Figure 5.3 - Research Design and Methodology



(Source: the author)

5.7.1 Description of Research Approaches Used in the First Phase:

As noted above, both semi-structured interviews and content analysis were used in the first phase, each making an important contribution to understanding of the IB features currently offered by Saudi banks.

Specifically, this phase was intended to fulfil the first objective of this thesis, which was to discover to what extent, and in what ways, the five stages of the consumer DMP are considered, and applied, in the design of Saudi online banking facilities.

The following paragraphs describe these approaches, and the reasons for using these instruments.

5.7.1.1 The First Phase (A): Design and Implementation of Interviews with Bank Officials.

Interviews were conducted face-to-face with Internet banking managers who could provide more detailed information about the banks' IB services as a result of their contacts with key players. The interviews with Internet banking managers in the Saudi banks aimed to deeply explore their knowledge and experiences in order to collect more detailed data and obtain an accurate picture of the considerations underlying website design.

The interviews adopted a semi-structured questioning technique to enable the interviewees to elaborate upon points of interest and develop issues raised. These interviews were informal discussions based on specific guidelines, and containing both general and specific questions, to allow the discussion to be open and flexible in nature.

The literature (Bauer and Gaskell 2000; Sekaran 2003; Marvasti 2004; Ghauri and Gronhaug 2005; Maxwell 2005) highlights the distinctions between semi-structured interviews and both unstructured and structured interviews. Through semi-structured interviews researchers often obtain information about personal, attitudinal, and value-laden material (Jankowicz 2005:266). Semi-structured interviews are considered advantageous in that the researcher can gain a more accurate and clear picture of a respondent's position and perspectives (Table 5.2 below shows a fuller evaluation). This is possible because of the open nature of the questions posed, which enable respondents to answer more freely without the limitations of a limited range of alternatives. Semi-structured interviews are also useful in the case of complicated or sensitive issues, where

the researcher can ask for further elaboration of answers and attitudes. As a result, this method of data collection was highly suitable for the purpose of probing the attitudes and opinions associated with the complexities of setting up, managing, and marketing online banking services.

Table 5.2 - The Advantages and Disadvantages of Semi-Structured Interviews

	Advantages	**Disadvantages**
Semi-structured Interviews	• Can establish rapport and motivate respondents. • Can clarify the questions, clear doubts. • Add new questions. • Can read nonverbal cues. • Can use visual aids to clarify points. • Rich data can be obtained. • Cassette or digital recorders can be used and responses entered in a portable computer afterward.	• Takes personal time. • Costs more when a wide geographic region is covered. • Respondents may be concerned about confidentiality of information given. • Interviewers need to be skilful and trained. • Can introduce interviewer biases. • Respondents can terminate the interview at any time.

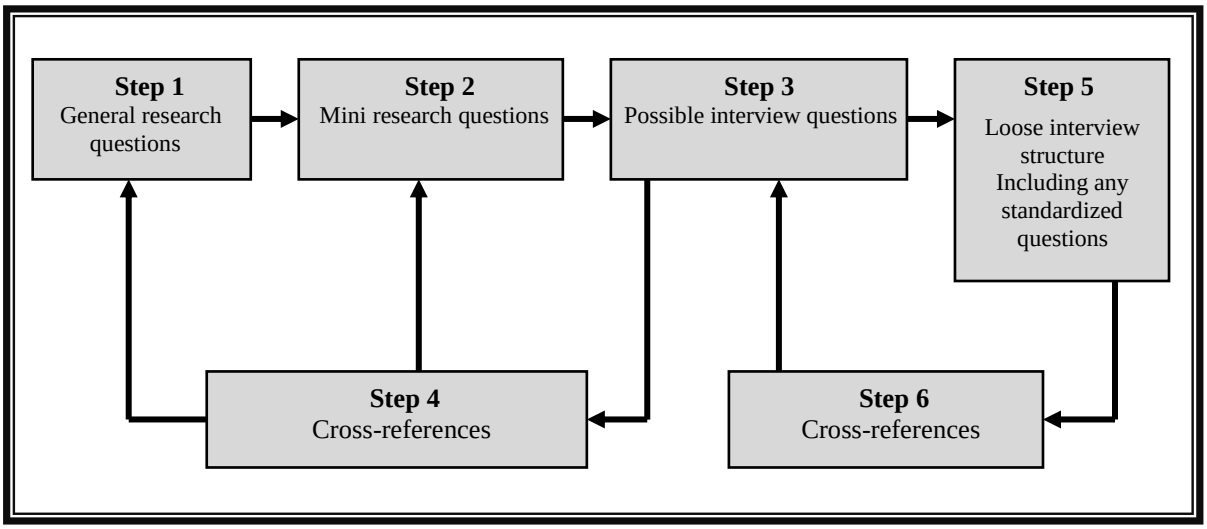
(Source: Sekaran 2003)

An interview schedule was used, to provide a framework of general questions, but the researcher also generated and developed questions according to what the interviewees said. This type of interview allowed banks' managers to offer their opinions, their understanding and experience freely. The goal of this was to see the phenomenon through respondents' eyes in order to discover their thoughts and feelings and thoroughly understand their point of view.

The interview schedule (Appendix II) was designed to be appropriate for use with website designers and bank managers. A number of factors were taken into consideration: the construction of a set of questions which served a purpose, which were unambiguous, which would allow the researcher to insert probe questions to obtain more elaboration of answers already given, and which would be easy for the respondents to answer.

Figure 5.4 illustrates the procedure which was used to prepare and plan intellectually for the interviews. It was intended not to be rigid or prescriptive, but instead to give the researcher a clear sense of the kind of work that needed to be done in advance of interviews, and how that might be achieved.

Figure 5.4-The Planning and Preparation Procedure for Conducting Semi-Structured Interviews



(Source: Mason 2002)

In step 1, the researcher formulated the general research questions that the semi-structured interviews were designed to investigate. For example, What were the objectives of Saudi banks behind implementation and development of Internet banking? What are Saudi banks doing to promote and facilitate online banking? How do Saudi banks design their websites according to the consumer's purchasing decision-making process (DMP)?

In step 2, the researcher subdivided the main research questions into mini research questions. The goal here was to encourage respondents to focus clearly and deeply on specific points related to certain issues in the stages of the customer DMP, for example, to what extent do Saudi banks consider and apply the five stage of consumer's purchasing DMP (Need recognition, Information search, Information evaluation, Purchase decision, and Post-purchase behaviour) in their Internet banking services? Do Saudi banks have a clear strategy to promote and facilitate online banking? Do Saudi banks evaluate customer satisfaction with their website design, and if so, how?

In step 3, for each mini research question, the researcher developed ideas about how it might be possible to get at the relevant issues in an interview situation. This meant thinking of and creating additional questions. It was borne in mind, however, that the process of interview interaction would help the researcher develop other possible topics and questions, in terms of their substance, and the appropriate form in which

these questions might be asked. Nevertheless, the researcher aimed to ensure an appropriate focus on issues and topics relevant to the research questions.

In step 4, cross-references were made between all the levels, so each general research question had a set of corresponding mini research questions, and each of these was linked to a set of ideas about interview topics and questions. It was made sure that the cross-referencing worked in reverse, so that the interview topics and questions would help to answer the general research questions.

In step 5, some ideas about a loose structure for interviews were developed in order to produce a guide to the key issues and types of questions that needed to be discussed. There were certain questions necessitated by the research objective, which were to be asked all Internet banking managers.

In step 6, further cross-checking was carried out to ensure that the loose structure adequately and appropriately covered the possible topics and questions.

The issues which formed the backbone of the interviews with IB senior managers in Saudi banks were:

- The objectives behind the application and development of online banking facilities,
- Banks' strategies and plans to increase online clients,
- The techniques used in an effort to stimulate clients' need recognition,
- The methods intended to be effective in terms of the information search stage,
- The approaches intended to be effective in terms of the information evaluation stage,
- The methods used to motivate clients to make their transactions online,
- The methods intended to be effective in terms of post-transaction interaction between clients and banks,
- The methods used in consideration of other issues such as perceived risk, security, trust and cognitive dissonance.

The questions formulated to explore these issues were reviewed by academic experts in Hull and King Khalid universities (Appendix I, letter 2), to obtain an assessment of their clarity and appropriateness, and revised accordingly.

Pilot interviews were held with some specialists in this field to obtain some advice from them, before conducting the main study. These included a valuable meeting with

the president of Interactive Saudi Arabia Ltd, a company that provides electronic solutions in the Gulf Cooperation Council (GCC) region, and is engaged in establishing and developing some of the banks' websites in the GCC region. Other interviews were held with the Head of E-business Consumer Banking Group - Saudi Hollandi Bank, and the former Electronic Banking Development Manager - AlRajhi Bank.

The pilot interviews enabled the researcher to discover how much time was needed for the interviews. They also helped to identify unclear, misunderstood, or inapplicable questions and questions that might not be answered. They also helped the researcher to improve his performance in regard to interview management. Piloting provided the opportunity to improve the ability to think quickly, effectively, coherently and in ways which were consistent with the research questions. It was useful to check the validity of the variables of interest, and to test many aspects of carrying out interviews before the actual data collection, in order to minimize data errors.

In order to gain access, the researcher prepared and translated into Arabic, a letter introducing himself and explaining the research purpose and its potential benefits for the bank, to the Internet banking managers (Appendix I, letter 6 and 7). Anonymity was assured and the types of questions were shown. A copy of the research findings was offered to those participating in the research.

The main research interviews were carried out during the period from 28/5/2007-15/7/2007. Eleven senior managers, representing all Saudi commercial banks, were interviewed personally. Themes for the inquiry were derived from the research objectives, previous research, the researcher's experience, and from the pilot study conducted previously.

The interviews were conducted face to face, with the shortest interview lasting 50 minutes and the longest lasting for one hour and 12 minutes. Polite encouragement was extended to the respondents to give as much detail as possible. The same sort of questions was asked as in the interview schedule, but the style was more free-flowing and conversational. The questions were adjusted according to how the interviewee responded. The interviewee was asked, as appropriate, occasionally to clarify vague statements or to further elaborate on brief comments.

A variety of interviewing styles was adopted to maximise interview effectiveness and interviewees were not restricted to following the interview framework rigidly.

Therefore, where an interview exposed issues of interest, directly relevant to Internet banking services in KSA, the researcher was free to pursue such avenues and explore additional dimensions. This made it possible to explore other themes and further enrich the collected data.

Except for one interview, digital tape recordings were made of all interviews, with the permission of the participants. This had the advantage of enabling the researcher to pay more attention to the discussions rather than being distracted by note taking. Another advantage was that the researcher could review recordings carefully at a later date in order to check information. The interviews were transcribed, with the researcher's comments, immediately after each interview.

5.7.1.2 The First Phase (B): Content Analysis

Content analysis was required as a basis for the subsequent evaluation of the relationship between consumers and the websites they utilized. Phase 1 (B) was concerned with content analysis of the main characteristics of banking websites in relation to the consumer's purchasing DMP.

Content analysis is a rigorous research technique and can be defined as:

> *"... the systematic and replicable examination of symbols of communication, which have been assigned numeric values according to valid measurement rules, and the analysis of relationships involving those values using statistical methods, in order to describe the communication, draw inferences about its meaning, or infer from the communication to its context, both of production and consumption"*. (Riffe et al. 1998: 20).

Content analysis constitutes *"a technique for the objective, systematic, and quantitative description of the manifest content of communication"* (Krippendorff 2004:19). It can take a quantitative or qualitative approach and has been extensively used in the marketing and advertising literature (Stockdale and Standing 2002: Roznowski 2003; Lerman and. Callow 2004; So 2004 ; Kalliny 2005). Studies have also used content analysis of website pages to understand some phenomena on the Internet (Huarng and Christopher 2003; Marciniak and Bruce 2004; Okazaki 2004; Jeong and Choi 2004; Singh et al. 2005). Founded on this research tradition, this study used a content analysis framework to analyse systematically the features related to the consumer's purchasing DMP depicted on banks' websites in the Kingdom of Saudi Arabia.

The first step in content analysis was to define online banks' websites. The data for content analysis was collected from the official Saudi banks' websites, details of which were obtained from the Saudi Arabian Monetary Agency (SAMA) and from the administrations of Saudi banks themselves. All Saudi commercial banks were included in the website content analysis. Since there existed several websites for some Saudi banks, two websites were chosen for each bank: the corporate website and the personal online banking services website. This was perfectly in accord with the research objectives for this stage and contributed in increasing the reliability of the content analysis approach.

As a result, a total of 22 websites were chosen to represent all eleven Saudi banks (two for each bank) as follows:

- Alahli Bank (www.alahli.com) AB.
- Samba Bank (www.samba.com) SM.
- Alrajhi Bank (www.alrajhibank.com.sa) RJ.
- SABB Bank (www.sabb.com) SB.
- Al-Riyadh Bank (www.riyadbank.com) RY.
- Al-Bilad Bank (www.bankalbilad.com.sa) BB.
- Al-Jazira Bank (www.baj.com.sa) JB.
- Arab National Bank (www.anb.com.sa) AN.
- The Saudi Investment Bank (www.saib.com.sa) IB.
- Saudi Hollandi Bank (www.shb.com.sa) HB.
- Banque Saudi Fransi (www.alfransi.com.sa) BF.

The second step in content analysis was to identify the elements to be counted and analysed (Neuendorf 2002). The website contents were identified in relation to the five stages of the consumer's purchasing behaviour (Need recognition, Information search, Information evaluation, Purchase decision, and Post-purchase behaviour). Some of the elements examined were investigated in previous studies. Other elements were derived from the Internet banking managers' interviews. Moreover, elements were validated (and modified if necessary) through a pilot study and through the interview findings.

Forty-one elements were checked in the 22 websites. Evaluation of these elements required a simple dichotomous answer (does the website content contain or not contain the elements in question). The following lines indicate the elements that were investigated and the questions that were answered, grouped by the five stages of the consumer purchasing behaviour process.

Need recognition

1. Banner ads (does the bank's website use banner ads on the pages?).
2. Pop-ups (does the bank's website use pop-ups?).
3. Discounts (does the bank give special prices for using online banking?).
4. Gifts (does the bank's website give gifts or prizes as a special treatment for using online banking?).
5. Loyalty point collection (does the bank use a loyalty point collection scheme to encourage banking online?).
6. "What's new" flashing icons (does the bank's website use "What's new" flashing icons?).
7. Identifying services and products (does the bank's website identify and explain current and new services and products?).
8. Newsletters (does the bank's Website provide or deliver newsletters? This question was answered by Internet banking managers).
9. Reminder operations (does the bank's Website notify customers about some important transactions which need to be performed once the customer logs in?).

Information search

10. Frequently Asked Questions (FAQ) (does the bank's website provide FAQ's?).
11. Interactive Demo (does the bank's website provide an interactive demo?)
12. Standard Demo (does the bank's website provide a presentation demo?).
13. Site index (does the bank's website provide an overview of the entire site?).
14. Services and products index (does the bank's website provide lists of all services and products?).
15. Contact details (does the bank's website provide information about location, phone and fax numbers, and e-mail addresses?).
16. Search Engine (does the bank's website provide its own search engine?).
17. Help desk (does the bank's website provide a help desk?).

Information evaluation

18. Links to related pages (does the bank's website provide links to related websites such as financial or economics pages?).
19. Tables (does the bank's website provide tables in order to help customers evaluate information?).
20. Figures (does the bank's website provide figures in order to help customers evaluate information?).
21. Statistical data (does the bank's website provide statistical data in order to help customers in product and service selection?).
22. Financial advice (does the bank's website provide a mechanism to allow access to financial advice?).
23. Economic reports (does the bank's website provide economic reports?).
24. Live agent (does the bank's website offer an interactive chat room to assist customers in obtaining fast information quickly?).

25. Evaluation tools (does the bank's website offers tools such as loan calculator, saving plan calculator, or expenses graph that help customers in evaluation?).

Purchase decision

26. Test security level of customer's computer (does the bank's website provide tools that can examine the security level of the customer's computer?).
27. Providing security advice (does the bank's website give security advice?)
28. Log in through corporate website (do customers log into online banking through the corporate website?).
29. Offering keyboard on the screen (does the bank's website offer an on-screen keyboard when customers log in?).
30. Registration through ATMs or bank's branches (does the bank's website require customer's registration through ATMs or bank's branches?).
31. Showing last time to access (does the bank's website show last time to access?)
32. Applying daily maximum limit (does the bank's website apply a daily maximum transaction-value limit? This question was answered by Internet banking managers).
33. Variety of services and products (does the bank's website provide at least three quarters of the bank's products? This question was answered by Internet banking managers).

Post-purchase behaviour

34. Giving transaction reference number (does the bank's website give the details of the transaction reference number?)
35. Showing a confirmation page (does the bank's website provide confirmation of online transactions to online users?).
36. Allowing printing out the transaction details (does the bank's website enable client to print out the transaction to keep a record?).
37. Checking accounts balance instantly (does the bank's website allow clients to check changes in their account balance instantly?).
38. Inquiries and complaints (does the bank's website facilitate inquiries and complaints?).
39. Short poll to indicate customer satisfaction (does the bank's website present a quick poll through online banking?).
40. Online surveys to measure customer satisfaction (does the bank's website provide a mechanism to measure and evaluate levels of customer satisfaction?).
41. Online technical support (does the bank's website provide a mechanism that provides online technical support?).

The third step of the Content Analysis consisted of a review of Saudi online banks' websites (22 websites, two for each bank) to evaluate the relationship of the websites' content to the consumer's purchasing DMP (the 41 questions above).

The fourth step was to analyse bank websites' contents related to the five stages of the consumer's purchasing DMP, for possible association with important factors which emerged through interviews with online banking managers, reported in the previous part, such as:

- Size of the bank (which can be measured by amount of the bank's capital).
- The duration of the bank's experience of online transactions.
- The percentage of online customers out of the bank's total customers.
- The percentage of online transactions out of the bank's total transactions.
- Size of the website (which can be measured by number of online pages).

A pilot study was conducted for the content analysis. This pilot study consisted of website content analysis for four Saudi banking websites, namely, Alrajhi Bank, Samba Bank, Aljazira Bank, and The National Commercial Bank, in order to verify the feasibility of applying this technique on Saudi banks' websites, and to ensure that the criteria used to analyse the website content were reliable.

The data from the 22 banking websites were collected in Summer 2007. To increase the validity of the content analysis approach, the online banking websites were coded by the researcher. Each website was individually examined by two examiners (the researcher and one of his colleagues) using a standardized checklist. Both examiners had to agree on the answers to the checklist. This approach was used to make sure of the consistency of the content analysis measuring instrument and the reliability of the outcomes (findings).

Using two different methods in the first phase of this thesis provided an opportunity to more fully understand the research phenomenon. Content analysis provided a picture of website characteristics to complement data obtained from semi-structured interviews with IB managers, as to their intentions and expectations regarding their own website. A simple example will illustrate this point. Assume a medical doctor is trying to understand a patient with a number of symptoms. The doctor will make some sort of measurement such as examining the patient's state by two methods to obtain the best understanding. Firstly she/he will ask the patient some questions about her/his state, illness, and feeling. After these questions she/he will make some analysis and examinations by taking some measurements. Subsequently, she/he will relate this understanding to her or his knowledge base and hopefully produce a reasonable explanation in order to arrive at a specific diagnosis and obtain correct conclusions (Ghauri and Gronhaug 2005).

5.7.2 Description of Research Approaches Used in the Second Phase:

In the second phase, as in the first, a mixed approach involving two data collection methods was adopted: semi-structured interviews with Saudi bank clients, both users and non-users of online services; and two types of questionnaires (online and offline).

This phase was intended to fulfil the remaining research objectives set out in Chapter One, that is, to identify the specific factors affecting intention to accept IB, to clarify how specific website characteristics may influence client's intention to adopt IB, and to understand what distinguishes IB users from non-users, including identifying obstacles that deter bank clients from using Internet banking services. The rationale and procedure in each case are explained in the following paragraphs.

5.7.2.1 The Second Phase (A): Design and Implementation of Interviews with Saudi Clients.

Carrying out interviews complemented by a questionnaire survey to understand the perceptions and behaviour of bank clients was consistent with the marketing discipline, summarised by Carson et al. (2002). They stated that in marketing research it is important to conduct small scale exploratory investigations to explore marketing characteristics, while large scale survey research is needed to study, compare and evaluate aspects of interest on a cross-sectional basis.

The second phase began with semi-structured interviews with a relatively open framework, to enable focused, conversational, two-way communication with Saudi consumers. The aim of the qualitative interviews was to gather a broad range of attitudes, opinions and behaviours from a small number of participants to gain an in-depth understanding of factors that affect customers' adoption of Internet banking services, and their reasons for responding as they do.

The interviews were semi-structured, based on pre-prepared general questions (Appendices III and IV), with the provision for further questions to evolve during the interviews, allowing the researcher to probe for details or discuss emergent issues. The interview questions were framed in such a way as to elicit insights related to the theoretical constructs introduced in Chapters Two and Three.

The first group who were interviewed were Saudi clients who did not use online banking services. The researcher explored their attitudes towards on-line banking

services as a new means of delivering financial services. The purpose of these interviews was to discover factors that may influence Saudi clients to start engaging in online banking services, how they perceive different elements that may affect their intention to adopt such new technology, why they might be resistant to change and why they might prefer to keep using familiar channels of banking services.

The second group to be interviewed were Saudi users of Internet banking services. Issues such as factors that influence clients to continue using IB were investigated in detail in order to understand clients' attitudes and the reasons behind specific behaviours. Website characteristics that were considered by IB users were also investigated.

The interviews were conducted using a flexible approach to explore deeper issues. The researcher started with general issues and posed broad questions in order to develop a specific discussion that covered research issues. Sometimes, probes were used in order to stimulate the interviewee's responses when they gave short answers, to gain some additional details. However, the researcher was careful to be objective and not to make any attempt to influence the interviewee's statements. The ultimate aim here was to elicit rich and detailed information.

Since interviews were conducted individually, the preferred method for data collection was to tape record interviews if respondents were willing. Otherwise, the researcher took notes contemporaneously and expanded on them as necessary immediately following the interviews.

Regarding testing the validity and reliability of these interviews, the same procedures as applied to the interviews with bank managers in the first phase (A) were applied, and will not be repeated. The interview schedule was also developed with the advice of staff at Hull University and King Khalid University.

Before the main interviews, four pilot interviews were conducted, two with men and two with women. They were useful in helping to make some modifications in the translations of some questions, and some changes in the order of the questions. They also helped in estimating the time needed for the interviews, and in evaluating and refining the researcher's interview skills.

The research also benefited from the researcher's intimate understanding of the culture and the society's values, which increased both the credibility and validity of this research. The researcher also tried to be objective by:

1. Making sure that all examined items were clear and understandable.
2. Asking interview respondents to give answers by using probes such as "tell me more" or "what do you think" without using questions such as "why?" to obtain answers that were not rationalized (Interview schedules for both users and non-users are provided in Appendix III and IV)
3. Encouraging respondents, before and during interviews, to give honest answers.

The research interviews took place in February and March 2008, at six branches of Al-Rajhi bank representing different areas of Riyadh, the capital of KSA. Al-Rajhi bank, according to its records, is the largest bank in Saudi Arabia in terms of its capital (15 billion SR) and its client base (more than 8 million clients and more than 500,000 online registered users).

As literature in marketing research in regard to qualitative interviews suggested that 20-30 respondents is acceptable (Ruyter and Scholl 2004), 30 interviews were conducted, initially, in six branches of Alrajhi bank in Riyadh, 5 interviews in each branch (Appendix I, letter 4). The credibility of these interviews was increased by repeating, sometimes, some interviews with new clients, if the researcher felt that clients were not willing to talk freely or gave only general information.

In order to obtain some extra information, the decision was made to increase the number of interviews from 30 to 40 interviews 20 with offline clients and 20 with online clients. It was decided to make this increase in order to allow the inclusion of more individuals from different segments of Saudi clients, and to enrich the information collected. These interviews covered many segments of Saudi customers: male and female, young and old, different occupations, a variety of educational qualifications, and diverse monthly incomes (Appendix V).

Interviews were conducted face to face with male participants and by phone with female participants, in deference to Saudi norms and values regarding avoidance of close private contact between women and unrelated men. The shortest interview lasted 24 minutes, while the longest lasted for 45 minutes. The difference in duration arose, as explained below, because there were two types of respondent who were interviewed

differently, non-users and users, and because there were two methods of interviewing, face to face and by telephone. The interviews with male users were the longest and those with female non-users were the shortest.

In general, the initial questions were the same for both groups, then different questions were posed to each group according to the research objectives. Each interview was divided into four sections. The initial section described the nature of the research and encouraged respondents to give their answers truthfully. The second section focused on the key research questions such as knowledge and experience of computers and the Internet in general, and users' and non-users' attitudes towards Internet banking services in KSA. Other general questions were posed regarding the client's family, friends, and social status. These types of questions were asked to both users and non-users. The third section was tailored to each group, so non-users were asked about the main reasons that inhibited them from using Internet banking, perception of ease of use, risk, and relative advantages and disadvantages of Internet banking use. Users of IB were asked about the main reasons that encouraged them to adopt IB, including questions about ease of use, usefulness and personal experiences with IB. The greater portion of users' questions were about website characteristics, as they were asked about IB features related to the five stages of the customer's purchasing decision-making process and their influence on their intention to continue using this services.

The fourth section requested demographic information. Demographic details included the respondents' gender, age, length of Internet experience, level of education, average monthly income and occupation. This information made it possible to establish the representativeness of the sample to cover a diverse population.

Because this research is interested in reasons why different kinds of Saudi clients may be so slow to adopt Internet banking, purposive sampling was carried out to ensure inclusion of a diverse range of Saudi client types, and obtain information from rich cases.

Several techniques were applied for this purpose (Johnson and Christensen 2007):

1. Typical and average cases were selected, as these are known to be very important to enrich information.

2. To maximize sample variation, a wide range of different cases was selected. This would provide a firm base of information as input to the design of an extensive, reliable questionnaire to be used in part two.
3. Opportunistic sampling was sometimes carried out as the opportunity arose, especially with regard to Saudi women who agreed to be interviewed and were willing to talk.

5.7.2.2 The Second Phase (B): Design and Implementation of Survey Questionnaire for Saudi Clients

This phase of the research involved the collection, collation and analysis of a large amount of data from the Saudi clients of Riyad bank. Primary data in this phase was collected through a quantitative method using two types of questionnaire. The first one was a designed website survey questionnaire for online clients (IB users), and the second type was a conventional paper questionnaire for Saudi offline clients (IB non-users), where respondents were handed an instrument and asked to respond to a structured sequence of questions and complete it while they were still in the bank.

The survey method was used in Phase 2 part (B) because this provides the most appropriate method for collecting a substantial number of responses from a large number of people (Aaker et al. 2004). According to Ghauri and Gronhaug (2005), in survey research the questionnaire is a very significant and an efficient data collection method. This was important in the context of this study, which involved surveying a large number of clients. The anticipated number of respondents, and their distribution over KSA, constituted considerable barriers in relation to the time and budget available. The use of distant, 'impersonal' questionnaires was also important in the context of social mores concerning contact with Saudi female consumers. In the light of such cultural issues, the use of questionnaires was appropriate.

The use of electronic questionnaires for Internet banking users was consistent with previous researchers' recommendation of online automated questionnaires for ease of use, low overhead cost, and reliability (Porter and Whitcomb 2003; Truell 2003). Table 5.3 shows the advantages and disadvantages of online questionnaires. According to Truell (2003) over the past 20 years organisational researchers have used and assessed the effectiveness of various Internet tools for conducting surveys. E-mail, the Web, and a

combination of E-mail and the Web are all Internet tools that have been used for survey data collection.

Table 5.3 - The Advantages and Disadvantages of Online Questionnaires

	Advantages	Disadvantages
Online Questionnaires	• Anonymity is high. • Wide geographic regions can be reached. • Respondent can take more time to respond at convenience like the mail questionnaire. • Easy to administer. • Fast delivery. • Inexpensive.	• Response rate is almost always low. A 30% rate is quite acceptable. • Cannot clarify questions. • Follow-up procedures for non-responses are necessary. • Respondents must have access to the facility. • Respondent must be willing to complete the survey.

(Source: Sekaran 2003)

Black et al. (2005) stated that questionnaires sent online can be used in a wide range of research types. In this research, all the mentioned advantages in Table 5.3 were taken into consideration. However, there are other important elements that justify the necessity of using an online questionnaire beside a conventional questionnaire in this research. These reasons are as follows:

1. Using an online questionnaire is an appropriate way to reach Internet banking users, as the proportion of Internet banking users among most general populations is relatively small, so securing a random sample by consulting postal addresses or telephone numbers would generate a large number of respondents who do not have access to the Internet. Therefore, Internet banking users can be reached easily and widely only by using an online questionnaire.

2. This method is perfectly in accordance with the research nature and objectives, as this research is interested, inter alia, in Internet banking users, who would be better contacted by the Internet as they already acknowledge the use of this method; as Selm and Jankowsk (2006) commented, online surveys are often employed in studies of Internet use in order to reach a population with Internet experience.
3. Another essential reason for conducting an online survey amongst Internet banking users is to facilitate recruitment of respondents. Users' performance of Internet banking is normally done in private, and the Internet could help in gaining access to those respondents who would be difficult to reach otherwise.

The Internet may facilitate the sharing of their experiences and opinions, especially when this questionnaire is sent to them by their own bank.

5.7.2.3 Questionnaire design

Questionnaire design is important, because a defectively designed questionnaire will collect data that may not be applicable at the analysis stage. The questionnaire design was based on a review of literature. A five-point, Likert scale questionnaire survey was the main method used to provide quantitative data and was designed around opinion statements as a means of exploring the respondents' perceptions on a wide range of cause and effect relationships. Questionnaire surveys, using the Likert scale, have been used broadly by researchers, in both technology adoption and consumer behaviour, in order to test hypotheses regarding the factors that affect the adoption of Internet banking technology (e.g. Teo and Tan 2000; Tigre and Dedrick 2004).

In order to obtain the best results from both users and non-users of online banking services, the questionnaires were designed to be suitable to each group. They followed these criteria: the questions must be understandable; focused on one concept per question; and organized in a way that took account of the expected differences between users and non-users of online banking services. The two questionnaire instruments were structured according to the outcomes from phase one (A) and (B), outcomes from the exploratory interviews in phase two part (A), and issues raised by the literature and the specific issues addressed in this thesis.

In designing the questionnaires, the researcher's membership of the Saudi population and consequent knowledge of the culture of the respondents helped him in tailoring questions to suit users and non-users of IB in the target population. Knowing about respondents' attitudes, perceptions, needs, decisions, behaviour, lifestyle, and demographics gives the researcher an excellent advantage in questionnaire design (Selm and Jankowsk 2006).

Simple and clear language was used in short and direct questions. This was intended to reduce misunderstandings and make the questionnaire appear easier to complete. Both questionnaires, especially the one sent to respondents over the Internet, were precise and concise. Sheehan and McMillan (1999) suggest that the length of a questionnaire is relevant to Internet surveys, as an average print page can take up the

space of several computer screens. Several research experts state that the longer the questionnaire, the less likely it is that people will respond (Oppenheim 2001; Walonick 2004). Gillin (2006:19) gave this advice to questionnaire designers: *"Keep questions short and specific, and avoid complex, long, and hypothetical questions that require people to make a lot of assumptions."*

In addition, items on both questionnaires were grouped into logically coherent sections, with similar questions put together in order to make respondents feel more comfortable. Questions that use the same response formats, or those that cover a specific topic, also appeared together.

Some procedures were undertaken before finalizing questionnaires. They included:

1. Taking account of other specialists and relevant experts in the questionnaire design process. Their suggestions improved the questionnaire design.
2. Formulating a plan for the statistical analysis by contacting some statistics experts at King Khalid University to take their advice about appropriate statistical tests and to obtain a second opinion of how every question would be analysed.
3. Measuring the validity and reliability of the instrument, as will be discussed later.
4. Conducting a pilot study, as will be discussed later.

For both questionnaires (for IB users and non-users) the first section involved the most consideration by each respondent, as he or she was asked to recall and record their thoughts, opinions, and behaviour in relation to factors that affected their intention to adopt IB for banking transactions. The last section, general demographics, was designed to be easily answered by each respondent and involved little effort. Therefore, the most difficult portion was placed first, when the respondent would feel the least time pressure and not be tired of responding to items (Denscombe 2003). See Appendices VI, VII, VIII and XI for both the Arabic and English versions of the online questionnaire and the non-online questionnaire.

5.7.2.4 Online instalment procedure

To reach Internet banking users and for the convenience of participants, an online questionnaire was developed. Among many online survey design websites, the researcher considered (smart-survey.ac.uk) was the best, not only because of its

effectiveness and simplicity, but also for the important reason that it was the only online website that afforded the ability to design an Arabic questionnaire in the right shape from right to left, with accurate succession between questions and answers. A Professional Edition subscription was made in April 2008. It took approximately two months to create, test, and retest the online questionnaire.

Smart-survey.ac.uk allows the researcher to export data into CSV format, which allowed the researcher to convert this format to SPSS spreadsheet software. This is one superior distinctive feature that a web survey has over a traditional survey. It increases accuracy of answers and prevents errors which may be caused by using the traditional manual process of data transfer.

Not only does smart-survey allow answers to be exported automatically to a database, it also has a capability of accepting only completed questionnaires and reminding participants about forgotten answers. This would increase reliability by having respondents who were willing to answer all the questions and complete the questionnaire. Reliability was increased also by applying another feature, which was randomizing row phrases for measurement questions.

Given the mentioned benefits, the advantage of the online survey amply compensated for the difficulties of designing and installing it.

5.7.2.5 Translation procedure

The developed questionnaires -English version- were submitted to a certified translation office in Saudi Arabia. Meanwhile, the same version was reviewed and translated by the researcher and two Arab doctoral candidates residing in the UK. After translation, the Arabic versions were reviewed for differences between the translations. The dissimilarity was insignificant. The final Arabic version was then resubmitted to an Assistant Professor in the English department of King Khalid University, who is a native Arabic speaker and has a doctoral degree in English language from the United States (Appendix I, letter 5) for additional testing .

As stated by Sha (2008), the importance of accurate translation is not just about what words translate better, but rather knowing what to expect and understanding what needs to be done across different cultures. These cultural distinctions when translating a questionnaire from one language to another could affect the response and lead to

misunderstanding among respondents (McGorry 2000). Being a native Arab who grew up and lived for more than thirty years in Saudi Arabia helped the researcher to overcome this drawback. Besides, the procedure mentioned above ensured that the Arabic translation was professionally done and fully corresponded to the English version.

5.7.2.6 The pilot process

According to Oppenheim (2001), Aaker et al. (2004) and Chisnall (2005) researchers are advised to develop some procedures for survey pretesting. This research, consistent with this advice, adopted a multi-stage testing process that integrated testing techniques and could be applied to both the written and online questionnaire. The process began after the survey was considered "ready" by its developers (members of Hull and King Khalid Universities). This stage consisted of a review by knowledgeable colleagues and analysts to ensure question completeness, efficiency, relevance, and format appropriateness. This included an assessment of the cognitive and motivational qualities of both questionnaires and helped to ensure wording understandability, interpretation consistency, logical sequencing, translation style and overall positive impression from the look and feel of the survey. Stage 2 consisted of a small pilot study (discussed below) that emulated all the procedures proposed for the main study. This helped to refine question wording and to test the clarity of both questionnaires.

The main points considered during the piloting were the following:

- Bias in question wording
- Requesting inappropriate demographic data
- Overlapping question scales or selection options
- Inaccurate or missing instructions
- Technical vocabulary with no definitions
- Lack of motivational techniques to go to the survey

In discussing the piloting of surveys, Oppenheim (2001:49) emphasises that piloting begins with question development because every question, every question sequence and every scale used in the survey must be tested and re-tested as improvements are made. In addition to the questions, the question lay-out, instructions to respondents, the answer categories and even the question numbering system should be tested, along with the sampling and data analysis techniques.

Accordingly, a pilot study was conducted to discover any errors, ambiguities, and inadequate answers, or highlight any confusing questions. The pilot testing of the instrument was performed also to detect weaknesses in questionnaire design, in terms of validity, reliability and practicality. It included 40 questionnaires collected from two large bank branches in Riyadh for non-user clients, and 25 questionnaires through the Internet for IB user clients. Respondents were asked to express their opinion about the clarity of the questionnaire and to make suggestions about how the questionnaire could be made easier to understand. A special section was added at the end of those questionnaires to allow the respondents to provide their comments about the instrument. Further feedback was received from direct personal contact between the researcher and respondents, during the pilot testing, with non-user clients, concerning some of the terms used.

In consequence, a number of changes were made to the questionnaires, of which the most important were as follows:

- In part three – a question asked about the experience of clients with the Internet in both questionnaires, there were two changes. The first was to change the phrase "My Internet experience is...." to "My experience in using the Internet is.....", and the second was to change the phrase "No experience" to "I don't use this technology."
- The heading of the second question of the non-users' questionnaire was changed to replace the word "understanding" with "to know the reasons."
- As a result of the pilot study, the time needed to complete the questionnaire was re-evaluated to be 5 minutes for finishing the non-users' questionnaire and 7 minutes for completing the users' questionnaire.
- In questions related to the influence of family members and friends, in both questionnaires, changes were made after the pilot study. The non-users' questionnaire originally contained the followed items:

...my family members who are important to me strongly support the use of Internet banking
...my family members who influence my behaviour think that I should use the Internet banking

These two items were not clearly distinct in clients' views, so the second was changed to this:

> ... my decision to start using Internet banking is influenced by my family members who are close to me

The same applies to the items on friends' influence.

For the users' questionnaire, the question was changed to this:

> ... my decision to keep using Internet banking is influenced by my family members who are close to me

The same applied to the corresponding item for friends.

5.7.2.7 Conducting the main study

The final approval of the executive manager of Riyad bank to cooperate in conducting this research was gained, subject to a proviso that the bank would have the right to receive an executive summary of the key research findings of this research.

Several meetings were held with Mr. Mohamed Rabeeah, Senior Vice President, Head of Marketing and Communication, in Riyad Bank to decide the best way to distribute both questionnaire types (the online and the conventional questionnaire, which were delivered through the bank branches). Also, Riyad Bank appointed the Head of its Marketing Research Department as a supervisor and a coordinator for the project, in making the arrangements with the researcher about the methods and techniques for distribution and collection of data from clients (Appendix I, letter 1) .

The choice of Riyad bank for reaching clients was based on these reasons:

1. The size of the bank, as it is one of the three major banks in KSA regarding its capital volume, number of branches and number of employees.
2. The mixture of its clients, as Riyad bank is considered one of three banks in Saudi Arabia which have a public preference as a national bank.
3. The interest of the bank in this research and its willingness to participate.
4. The availability of personal contacts at executive management level, which facilitated the process of collecting data.

The population of interest in this study was Saudi bank clients, whether they were Internet banking users or non-users. Internet banking users were reached by online questionnaire, which was sent to them by their bank (Riyad Bank). Internet banking clients from all regions of KSA were included, as an online questionnaire is not restricted by geographical boundaries. Regarding IB non-user clients, they were

represented by "counter bank customers" and ATM users in Riyadh, the capital of the Kingdom of Saudi Arabia.

Regarding Internet banking users, an invitation from Riyad bank was distributed to its online clients to participate in this study. This increases response rate, as people are more willing, as Walonick (2004) noted, to participate in surveys that deal with new services that have the capability to improve existing services, which is the case of this research. This letter included the link to the online questionnaire. This invitation was sent out to random clients in a series of mass mailings until the researcher obtained the required number of respondents. Based on bank experience with similar surveys, a low response rate was expected. Of 677 participants who responded to the e-mail invitation, 651 useable responses were achieved. Twenty-six responses were excluded as they gave the same answers for all questions.

For off-line clients, a conventional paper questionnaire was distributed to clients who did not use Internet banking in 15 branches covering the main regions in Riyadh, including five women's branches, altogether representing 36% of the bank branches in Riyadh. Of 700 questionnaires distributed, 472 questionnaires were returned, rendering a response rate of 58.4 percent, and of these, 409 responses were usable. Sixty-three responses were eliminated from this sample due to incompleteness of the questionnaire or giving the same answers to all questions. Although collection of data from clients was carefully conducted, the incompletion was caused, according to some participants, by their lack of time to finish their questionnaires.

5.8 Population

McMillan and Schumacher (2001:164) describe a population as *"a group of elements or cases, whether individuals, objects, or events, that conform to specific criteria and to which we intend to generalise the result of the research."* For the purposes of this study, the relevant populations were as follows:

- For the first phase (A), which involved semi-structured interviews, the population was all bank officials who were responsible for the design of Saudi banks' websites (at least one online services manager from each bank).
- For the first phase (B), which involved content analysis, the population was all 11 Saudi banks' official websites.
- For the second phase (A) and (B) the population of IB users was all Saudi banks'

clients inside and outside KSA, who had at least an online account with Riyad bank. The population of IB non-users was all Saudi banks' clients living in Riyadh, the capital of KSA, who did not use Internet banking.

Riyadh, the Kingdom's capital, is at the centre of all aspects of life in KSA. It is home to the kingdom's government, key institutions, embassies and diplomatic missions, the centre of decision making and home to a real mixture of all Saudi citizens who reflect the different backgrounds of people who come from several regions of Saudi Arabia to study, work and live. The population of Riyadh is 4.62 million, which represents 18.6% of whole Saudi population (High Commission for the Development of ArRiyadh 2008).

For the above-mentioned reasons and due to time, cost and ability limitations, choosing the population of Riyadh in this research was an excellent proxy for the population of KSA.

5.9 Sampling Procedures

Wiersma (2000:269) described the sample as *"a subset of the population to which the researcher intends to generalise the result."* Sampling procedures were used in the second phase of this research, as the first phase (A) and (B) applied to all members of the relevant populations.

5.9.1 The second phase (A) sample

Since qualitative samples tend to be purposive, rather than random (Crabtree and Miller 1999), participants in this phase were chosen purposively from Saudi banks' consumers who had at least one bank account, whether they were online-users or offline-users. Taking account of these two segments and sampling them in a way that covered different demographic characteristics of Saudi customers helped the researcher to develop a greater understanding of both online and offline banking users and give a more complete picture of the situation. This consideration of those segments was perfectly consistent with the research objectives, and facilitated answering the research questions clearly.

5.9.2 The second phase (B) sample

Achieving a random sample of Internet users can be problematic, according to Selm and Jankowsk (2006), who consider the main problem with Internet surveys to be

the absence of a central registration of users on the Web, such as telephone numbers and home addresses. However, in this research, the bank had a list of the e-mail details of all its online clients. This enabled random selection, in which all units of the population had an equal probability of inclusion in the sample that was drawn to represent all bank IB users. The participating bank administered the entire process of sending the questionnaire to its clients' emails, with the researcher's directions.

Regarding non-users, as a list of bank clients and their contact numbers could not be obtained, steps were taken to reduce the influence of coverage and sampling errors. Such error is extremely difficult to overcome when the research population is large (Sapsford 1999). Moreover, it cannot be avoided in a developing country where no population lists can be obtained as there are no reliable postal addresses that can be consulted. Also, for a strange researcher to call telephone numbers or knock on house doors would not be acceptable in such a conservative environment as Saudi society.

Despite these difficulties, this research employed careful sampling procedures to help to reduce coverage and sampling errors, such as:

- Targeting the maximum number of respondents possible in the light of the available time and resources.
- Implementation of a wide area sample that covered all districts of Riyadh, the capital of KSA.
- Choosing respondents randomly and at different times of the day, using systematic random sampling (taken at intervals) of the customers entering the bank over a period of time.

Wide area sampling was applied by dividing Riyadh into five districts (North, South, West, East, and Middle). Based on maps of the city 15 bank branches were chosen randomly out of 41 branches in Riyadh, representing 36%, using a list of bank branches in each district (three branches in each district, Appendix I, letter 1). Women clients were represented in the IB non-users sample according to their proportion in the whole population.

5.9.3 Sample size

The necessary sample size was estimated based on the number of independent variables. The total number of independent variables in this study was 15, excluding personality dimensions. Based on the recommendations by Hair et al. (2005), the

sample size should be 15-20 observations per variable for generalizability purposes. For power calculations and to detect significant differences in some statistical tests such as Correlation and Regression, the sample size was 1060 usable observations; 651 Internet banking users and 409 non-users. This sample size was a very satisfactory number as it was larger than is recommended for similar research in the marketing field (Aaker et al. 2004; Chisnall 2005)

Generalizability of the results was one of the research objectives. The survey was administered by the researcher himself in men's branches and by one of the bank's employees at women's branches. Clients were sampled and invited politely to fill in the questionnaire while they were waiting their turn to be served. Participation was voluntary. The sampling process utilized random selection of one client out of each five entering the bank.

The generalizability of this study is additionally enhanced by a circumspect selection of branches to cover all main areas in Riyadh. Such a selection allows this study to include people from a variety of backgrounds.

5.10 Qualitative Data Analysis

Qualitative data are based on meanings expressed through words. Such data were obtained from interviews with IB managers, clients (IB users and non-users). Analysing the qualitative data in this research involved the following activities (Saunders et al. 2000; Seale et al. 2004; Ghauri and Gronhaug 2005):

- Data reduction: to avoid becoming overwhelmed by the masses of data resulting from transcriptions of all recorded interviews, data reduction is essential. This refers to selecting, focusing, simplifying, abstracting, and transforming the obtained data.
- Categorisation: This activity involved classifying data into meaningful categories.
- Unitising data: This activity involved attaching relevant bits or chunks of the original data to the appropriate categories. A unit of data could be a sentence or a number of sentences that fits the category.
- Recognising relationships within and between categories of data.
- Developing categories to produce and develop clear interpretation and well-grounded conclusions.

Creswell (2003) explained that qualitative data analysis can help researchers to make important discoveries. The strengths of analysing qualitative data in this research were seen as understanding the cultural and social factors which shape Saudi bank clients' behaviour. In the context of the KSA, such knowledge can only be obtained through either being 'a native' from Saudi Arabia or through conducting extensive interviews.

5.11 Quantitative Data Analysis

The most commonly used computer software for quantitative data analysis is SPSS, the Statistical Package for the Social Sciences. A program like SPSS has two main components, including data analysis and data management facilities (McDaniel and Gates 2004; Carver and Nash 2005; Samuel 2006). Therefore, the SPSS program was a significant tool for this research because it played a vital role in presenting and analysing quantitative data.

One of the unresolved issues in quantitative data analysis is the question of when parametric rather than non-parametric tests should be used. *"The term parameter refers to a measurement that describes the distribution of the population, such as the mean and variance"* (Bryman and Cramer 2001:115).

Parametric tests are tests which assume that the underlying distribution of the data being examined are known. They are a branch of statistical tests, which makes assumptions about the underlying mathematical distribution form of observed variables; the most familiar distribution is the normal distribution (Cramer 2003)

Bryman and Cramer (2001: 115) mentioned that *"non-parametric tests are so named because they do not depend on assumptions about the precise form of the distribution of the sampled population."* These tests are called distribution free tests (Cramer 2003; Zikmund 2003). Hence, these tests attempt to avoid reliance on any particular assumptions regarding the form of the underlying distribution or parameters.

Non-parametric statistical tests typically are much easier to learn and to apply than are parametric tests. In addition, their interpretation often is more direct than the interpretation of parametric tests (Bryman and Cramer 2001). In this research, parametric tests were used with interval or ratio data, whereas for nominal and ordinal data it was more appropriate to use non-parametric tests.

More explanation and justification for the use of certain tests will be provided in Chapter Eight where the test outcomes are reported.

5.12 Summary

This research employed a mixed-methods approach, combining both qualitative and quantitative methods to explore the phenomenon of Internet banking adoption from several perspectives. It was conducted in two phases, each entailing two data collection techniques.

Phase one looked at the providers' side of the Internet banking service. Semi-structured interviews with personnel of 11 banks were conducted to learn their opinions and expectations regarding provision of online services generally, and banking websites in particular.

This was complemented by content analysis of bank websites, to see how bank intentions were translated into specific features on the sites through which they interfaced with clients.

Phase two was concerned with bank clients' perspective. Semi-structured interviews with bank clients were carried out to obtain some preliminary insights into perceptions of IB and factors likely to influence the decision to use or reject it. The responses were used to inform the design of a survey of both users and non-users of Internet banking, in order to gain an understanding of the factors influencing their intention to use or continue using IB, and for users their perceptions of website features.

The outcomes of this empirical work are reported in the next three chapters, beginning in Chapter Six with the results from phase one, parts A and B.

CHAPTER SIX

THE FIRST PHASE: DATA ANALYSIS

Figure 6.1 - Following the Research Stages

Chapter Two: Theories applied to new technology adoption and Internet banking acceptance
Chapter Three: Theoretical framework and presenting the research model
Chapter Four: The situation in the KSA, financial sector and Internet banking services
Chapter Five : Research methodology and data collection design
Chapter Six: Outcomes of IB managers interviews and content analysis of banks' website
Chapter Seven: Outcomes of the interviews with Saudi clients (IB users and non-users)
Chapter Eight: Findings of online and offline questionnaires of Saudi banks' clients
Chapter Nine: Interpretation and discussion of the findings
Chapter Ten: Summary and conclusion

6.1 Introduction

As explained previously, this research was conducted in two phases, the first concerned with the banks' perspective on Internet banking, and the second concerned with the consumers' perspective. In this way it was hoped to gain a holistic understanding of the attitudes and behaviours of both parties, and how these may encourage or inhibit the adoption of Internet banking among Saudi people. As indicated earlier, each phase entailed the triangulation of quantitative and qualitative methods.

In this chapter, the data collected from the first phase are analysed and discussed in two main parts. Part one contains the qualitative findings from Phase 1 (A), involving semi-structured interviews with eleven Internet banking managers of Saudi banks. These interviews elicited respondents' opinions and perceptions in relation to the objectives of Saudi banks in initiating online services, the plans and strategies being implemented to encourage bank clients to conduct transactions online, and issues related to the five stages of the customer's purchasing DMP: need recognition, information search, information evaluation, purchase decision and post-purchase decision. The section is divided into seven sub-sections, addressing these themes successively. The result is a general view of the current status of Internet banking in Saudi Arabia as perceived by those most closely involved in its implementation, including the underlying rationale for the practices adopted, and the various problems and issues encountered. As indicated in Chapter Five (the research methodology), this information was used to inform part B where quantitative analysis of bank websites was carried out to see how banks' strategies and intentions are reflected in practice in their websites.

Part two of the chapter consequently presents the findings from the content analysis, which represents phase 1 (B). The purpose of this section is to provide detailed evidence of the Internet banking tools and facilities provided by each bank, mapped onto the five stages of the customer's purchasing DMP discussed earlier. The section begins with a profile of the banks' characteristics, after which the website contents are analysed in relation to these characteristics: size, duration of experience in providing online services, percentage of clients using Internet banking, percentage of the bank's transactions performed online, and the size of the Internet banking website. Presentation of the findings is followed by a short critical discussion, which examines the relationship between the two sets of findings from this phase and their implications for phase two. Finally, the chapter is concluded by a discussion and a brief summary, which highlights the main outcomes of phase one and explains how these are taken forward, prior to the presentation of phase two findings in Chapters Seven and Eight.

6.2 Part One: Interviews with Internet Banking Managers

The research approach in phase one (A) was to conduct semi-structured interviews with senior managers of Internet banking in all Saudi commercial banks, to explore their views of online banking services in the KSA as explained in chapter five.

In order to help in organising the qualitative data into patterns, categories and basic units, the Nvivo7 software program was used (Bazeley 2007). Nvivo7 facilitated many of the manual tasks associated with analysis of the data, helping in classification, sorting and arranging data, freeing the researcher to focus on the more complex aspects of organising similar information, exploring trends, and ultimately arriving at answers to questions. More specifically, large amounts of data were sorted into different nodes. Each node was coded as a theme which was covered by several questions. Then the source content related to the same theme was explained. Sometimes, it was necessary to extend the Nvivo7 analysis by using tree nodes to organize data hierarchically.

The qualitative analysis process was completed by interpretation of the gathered data: clarifying meanings, organizing and explaining data, and looking for relationships, to gain an understanding of the various dimensions explored.

The interview analysis covered seven themes. The first two themes concerned general issues related to Internet banking services: the objectives behind the application and development of online banking facilities and the strategies and plans that Saudi

banks have to increase online clients. The last five themes constituted the core of the interview investigation, and represented the stages of the consumer's purchasing decision process (Chapter Three), namely:

- Stage 1: Need Recognition.
- Stage 2: Information Search.
- Stage 3: Information Evaluation.
- Stage 4: Purchase Decision.
- Stage 5: Post-purchase Behaviour (Engel et al. 1995; Cant et al. 2002).

The following sub-sections present the actual research findings in relation to each theme in detail:

6.2.1 Theme One: Objectives of the implementation and development of Internet banking.

One objective of this research was to find out the reasons prompting initiation of Internet banking services by Saudi banks and the most important objectives they hoped to achieve by so doing. A straightforward question was posed to elicit this information. The answers to this question will provide a benchmark to understand the provision of Internet banking and its objectives in relation to the KSA, and especially how Saudi customers are considered in relation to these objectives.

Seven overarching objectives were stated by all Saudi Internet managers as being absolutely fundamental to the development of online banking services. These are presented in general terms in Table 6.1 and then each of the categories of response is discussed, with illustrative individual statements from managers. To avoid repetition, the objectives will be presented according to the frequency with which they were mentioned, beginning with those most frequently stated. The anonymity of the banks has been preserved in accordance with an undertaking made by the researcher.

Table 6.1 - Objectives of the Implementation of Internet Banking in KSA

Cutting cost
Keeping abreast of competition in the financial sector
Responding to accelerated technological developments
Reaching some additional segments
Saving the resources of the banks' branches for the most sophisticated transactions
Achieving a balance between banking channels
Giving clients the opportunity to perform financial transactions in a simple, attractive, and effective way

1. *Cutting cost*

Cutting cost was considered one of the most important objectives being mentioned by almost all the eleven Internet banking managers. Respondents noted the economic advantages of Internet banking compared to other ways of performing transactions. For example one manager commented that an online transaction cost only one eighth as much as a branch visit. Interviewees were generally of the opinion that adoption of online banking would dramatically reduce the cost of banking operations.

However, managers differed in the degree of importance they attached to cost cutting. Two interviewees saw it as less important. In their view, the primary motive for introducing Internet banking was competitive pressure, rather than cost saving, as initially, the cost of launching the online service exceeded the revenue that could be generated from the anticipated small number of clients. Services in this stage were limited in range and complexity.

The financial imperative emerged over time as a secondary objective. As one manager explained, *"Later on the banks tried to use these channels looking for an economic justification for their existence. Thus, a big sum of money was invested in banks to activate these channels"*.

Consequently, banks started to consider increasing the range of transactions conducted via the Internet, to maximize the return on their investments, leading to the position taken by the great majority of respondents, that the financial motive had become paramount.

2. *Keeping abreast of competition in the financial sector*

Another factor in the introduction of Internet banking services by Saudi banks was the need to keep pace with competition. In the view of nine online banking managers, online banking had became an industry standard, in the same way as, for example, ATMs, so it was incumbent upon Saudi banks to follow this trend. Related to this view was the suggestion that proactivity in embracing this trend was a potential source of competitive advantage in the, as yet, relatively undifferentiated Saudi banking sector. As one respondent explained:

> *"Saudi banks' services are similar all over the KSA. They do not go beyond financial transactions, for instance, deposits, inquiries, remittances, loans or payments (settlements). Accordingly, some banks found that designing a new channel such as online services would*

safeguard the bank position in this competitive environment against other banks."

Therefore, Saudi banks have tried to offer their services through a variety of channels in an attempt to secure a competitive advantage vis-à-vis other banks.

3. *Responding to accelerated technological developments and changing economic circumstances*

Eight interviewees reported numerous changes in the economic environment, which provide an impetus for Saudi banks, not only to set up online banking services but also to improve them continuously. Banking websites had been introduced and developed in line with the stage of development of the banks themselves. Economic circumstances contributed significantly in using new means to perform financial transactions.

It was apparent from interviewees' responses that several Saudi banks had launched online banking services in five phases. They started with inquiry facilities only. This was shortly followed by the introduction of online services for simple transactions within the client's account, then, successively, transactions between different accounts in the same bank, transactions with other banks in Saudi Arabia, transactions with other banks in the region, and eventually international transactions. Meanwhile, they expanded the range of online facilities to include, for example, Initial Public Offerings (IPOs), utility bill payment, and payment of government fees.

Another significant element that may have provided an impetus for Internet banking was speculation in the Saudi stock market. The interviewees pointed out that with the Saudi stock market boom in 2004 and 2005, a large number of Saudis started speculating on the stock market, either in person at bank branches or by phone, selling and buying shares several times a week. The provision of Internet banking at that time was clearly advantageous, as it facilitated increased speed and frequency of transaction, and offered a solution to the saturation of other channels. Online banking, it was suggested, was particularly attractive to women, the elderly, and Saudis travelling or working abroad, who could not easily use more traditional banking methods. The availability of online banking service was a significant factor in the ability of these groups to participate in the stock market boom.

4. *Reaching some additional segments that can't be reached without providing Internet banking services*

Online banking was perceived by seven interviewees as valuable for banks with few branches, enabling them to serve clients irrespective of location. Online banking services were associated particularly with certain client segments, such as educated people, students living abroad, and Saudi women. Educated people were targeted early, as being most likely to have the relevant skills and facilities. As one interviewee said:

> *"Our aim at first by setting up Internet banking was to attract educated people and we grabbed them immediately and the penetration among this segment has become very high in the last few years because they already use the Internet."*

Women were seen as a good potential client segment because, since they are not allowed to drive, it may be difficult for them to visit banks; moreover, it is costly for banks to provide female agents in every branch to deal with female clients. Internet banking is therefore convenient for the bank as well as the clients in this segment.

5. *Saving the resources of the banks' branches for the most sophisticated transactions*

In addition to the aforementioned objective, the Internet managers asserted that implementation of the Internet banking saved banks' resources. The importance of this factor was highlighted by five respondents, who argued that the availability of online banking for simple transactions such as paying bills freed branch resources for more sophisticated transactions and more profitable operations. In this regard an Internet manager said:

> *"Our online services were set up to relieve the burden on limited human resources because we need branches' resources to sell loans and insurance policies, not to be consumed by paying utility bills or receiving IPOs applications".*

6. *Achieving a balance between banking channels by encouraging movement of less profitable clients from ordinary channels to the Internet banking channel*

Internet banking was considered to serve an economic objective, by contributing to a cost-effective distribution of business across diverse channels. One Internet manager declared that:

> *"We want the less profitable people to come to the less expensive channel. Thus we try to shift the mass of people, people with accounts that hold less than one thousand Riyals, because they are considered unprofitable for the bank if we deal with them through the heavy channels".*

Thus, Saudi banks aim to encourage many clients to transfer transactions from traditional channels to electronic channels and to divert a large proportion of users to online banking. However, this is predicated upon provision of effective alternative channels to suit the client's needs. Before any such shift to electronic channels, banks need to ensure that all channels are equivalent and that the full range of the operations provided in the branches is available electronically. This issue will be considered further in a later section.

Four Internet managers, however, did not agree with their colleagues about the need to endeavour to transfer people from one channel to another, as they considered that each banking channel naturally appeals to a specific client segment. They pointed out a risk that people who were pressured into using online banking inappropriately or before they were ready might develop negative attitudes, which would affect their subsequent dealings with the bank, and might even cause them to switch banks. They also argued that movement between channels would not be feasible until clients were sufficiently convinced of the reliability of the new channel.

7. *Giving clients the opportunity to perform financial transactions in a simple, attractive, and effective way*

Some banks have introduced online facilities, not only because of the previously-stated objectives, but as a part of client focus, with the aim of facilitating the performance of financial transactions more rapidly, unfettered by constraints of time and distance, and in a straightforward, high-quality, and efficient manner.

One manager used the example of utility bill payment to illustrate the convenience of online banking:

> *"By providing Internet banking to our clients we tried to make things easier. For example, utilities payment: when a client needs to pay a telephone bill in traditional ways he has to provide his account number and the reference number of the telephone bill. In this case, the operation will be less convenient. But when he does that via online banking services, the operation is programmed to be registered once and after that the client will be notified electronically whenever a new bill is issued; the operation will be easy and convenient".*

Three managers highlighted the implication of the objective for website design, which should be simple and straightforward. One respondent, for instance, mentioned his bank's rule is that any transaction should be able to be completed with no more than three clicks on the mouse.

It can be concluded that there was a consensus among all interviewees as to several main objectives of introducing Internet banking, the majority of which were related to direct benefits for the banks themselves. On the other hand, much less attention was paid to the benefits for Saudi clients. An explicit customer focus was the last of the aforementioned seven objectives, being cited by only three bank representatives. Capturing new users or providing value-added services to existing clients was not an urgent goal of Saudi banks. This does not imply that the other aims are not important, but means the Saudi banks have been out of touch with their clients' needs. This suggests that Saudi banks may not have given Saudi customers' needs adequate consideration when they were setting up their online facilities. Whatever their reasons for introducing online services, however, it is clear that most banks saw such services as advantageous, and were keen to attract more clients to this way of doing transactions. Their efforts to do so were the focus of the second theme, discussed below.

6.2.2 Theme Two: Increasing online clients

The second theme encompasses Internet managers' views about increasing the number of online clients, including whether they had a specific plan for this, what means they adopted to attract clients to online services, and the factors they thought influenced acceptance of or resistance to Internet banking

1. Plans to increase online clients

This issue was raised, first to identify whether banks followed any particular strategy to increase online clients, or not; and second to provide baseline information for subsequent questions.

All eleven Internet managers confirmed that they set business plans to be followed each year. Part of the plan concerns the number of clients to be reached and how this number can be achieved. This applies to all electronic channels, whether it is ATMs, the Internet, or mobile phone. For example, an Internet manager said:

> *"Considering our ambitious strategies, we surely have an annual plan that endeavours to increase our clients' numbers. This includes online services users".*

The other interviewees answered this question in similar terms.

2. Methods to attract clients to Internet banking

When asked about the methods used to encourage clients to use online banking facilities or how banks could attract or convert offline clients to online services, interviewees reported a range of strategies.

All Internet banking managers were aware of the importance of advertising and said that they used various types of advertisements, not only to attract clients to start using online services but also to update clients with new products and services of which they might be unaware. Among the most effective advertisements, in the view of the interviewees, were newsletters, SMS messages, and brochures distributed with banking statements. Press advertisements had also been used.

A number of banks used economic inducements of various kinds to attract clients to online services. These ranged from simply pointing out the cost savings to be made (for example 10 Riyals to perform a transaction online versus 25 for visiting a branch) to promotional offers, gifts and prize draws. One interviewee gave examples of the kinds of inducement on offer:

> *"Prizes from our partners are presented constantly, such as portable PCs, shopping coupons, airline tickets, and loyalty programme points which can entitle clients to gain rewards from well-known companies".*

The rest of the interviewees who reported promotional activities to encourage clients to use Internet banking gave similar answers.

Another dimension of the attempt to encourage Internet banking is the follow-up of clients who have online accounts but are inactive, continuing to perform transactions in other ways. Respondents were asked how the banks handled such situations. Surprisingly, only two banks had explicit plans to motivate inactive online users. They aimed to target low users and encourage them by means of SMS, e-mails, or leaflets sent out with statement.

The rest of the interviewees reported no specific policy in relation to these clients, apart from advertisements and the promotional offers mentioned previously. However, they indicated that inactive accounts of online clients would be closed automatically after a certain time and could not be reactivated unless the client visited the branch or called the call centre. After a longer period of inactivity, the account would be cancelled and could not be reactivated without a new registration, for security reasons.

3. Reasons for not using Internet banking

Interviewees were asked why they thought some Saudi clients use online banking facilities and others do not. The answers showed agreement on certain factors perceived as deterrents or obstacles to the use of Internet banking facilities in the Saudi context, including computer illiteracy, security concerns, purchasing habits, Internet infrastructure, and fear of new technology.

The interviewees asserted that those Saudi clients who are familiar with using computers and have adequate knowledge and experience of using the Internet in general, predominantly educated and younger people, would have no difficulty in using online banking, and would be the priority target segment.

Conversely, older people were expected to be less interested in Internet banking, either because of lack of competence in computer use, or simply because they had developed strong financial purchasing habits and were resistant to change. Another suggested factor, particularly in the early stages of Internet banking, was infrastructural problems, which were gradually being addressed, for example with the availability of DSL service from two operators.

Computer illiteracy was a term mentioned frequently by the interviewees; some Internet banking managers added other inhibiting factors, such as technophobia. Others suggested that ingrained purchasing habits in relation to financial products might deter conservative people from performing banking transactions online, as they have no interest in seeking out new channels. These technological impediments should be considered by Saudi banks. They can be solved by exerting more efforts to encourage clients or attract their interest. This brings the discussion to the central theme of this analysis, which is to what extent Internet banking managers take account of clients' needs in the various stages of purchasing behaviour. This will be expounded in the next sections.

6.2.3 Theme Three: The first stage of the decision-making process: need recognition

It was suggested in Chapter Three that website features may influence clients differently on different stages of the decision-making process. For this reason, the researcher posed several questions to Internet banking managers to investigate issues that arise at each stage of the purchasing process.

In respect of the first stage, interviewees were asked four questions about this theme. These questions were:

- How do you identify clients' needs?
- How are these needs reflected in the bank's website contents?
- What methods are you using through the Internet to motivate clients' needs?
- In regard to triggering clients' needs, what types of appetizers, advertisements, and incentives do you provide on your website?

The purposes of these questions were to investigate how Internet bank managers recognize and identify clients' financial needs, which could be met by website content. The responses are vitally important, in order to understand how Saudi banks address the needs of this stage in website contents, to activate clients' need recognition.

1. Identifying clients' needs

All Internet banking managers claimed that the banks studied their clients' needs continuously. They used various mechanisms to obtain sufficient knowledge about their clients, but mainly depended on surveys executed by market research companies or by the banks themselves, for example as part of their monitoring of client satisfaction.

A second approach, reported by seven Internet banking managers, was the use of benchmarks based on observing competing banks to see what new services they provide, in order to learn from this comparison. This was part of an on-going process of environmental scanning at national, regional and international levels.

A third approach depended on the assumption that, since the service designers are themselves service users, their experience, needs and preferences can be generalised to other clients.

Six respondents explained that some Saudi banks have strategic partnerships with major names in the international financial world, such as City Bank, HSBC, and Calyon, in order to benefit from their expertise.

The last approach mentioned was studying client segments carefully, usually through the Market Development Department, to identify potential targets for specific services:

> *"The bank can obtain valuable information through scanning its clients' data base to see who is eligible to receive a specific service, for example, credit card; if the client's salary is transferred via the bank and he has a good relation with the bank, he is a potential client for this product".*

Surprisingly, only two Internet managers reported conducting regular face-to-face interviews with their clients to obtain first-hand information. During such interviews, banks can ask clients about any additional services they require, how they can best be presented, and what positive and negative experiences they have had with the bank or other banks. Such an approach, of carrying out in-depth interviews with representatives of different client segments, one to one, would enable valuable qualitative information to be gained.

2. Reflection of clients' needs in the bank's website contents.

In regard to reflection of clients' needs in website contents, Internet banking managers had the same view that the range of products and services offered to individuals by banks is very small compared, for instance, to other businesses such as retailers, who have a massive number of products. These common banking products are accounts, credit cards, loans, mortgages, and funds. Apart from depositing, the interviewees said all those products and services can be presented online, and some of them are accessible even through corporate Internet banking websites. Most of the managers seemed to take the view that initiative in determining the services to be offered lay with the banks and were confident that they were providing the services that clients need.

Others, however, expressed a different perspective, expecting clients to be proactive in expressing their needs, rather than the bank taking the initiative:

> *"I believe the need should come from the client at the beginning. If there is demand for a new service or product to be online, this will make the bank think about fulfilling the demand and I don't think the bank has to create new services, due to the limited number of the services and products that banks can provide to individual clients".*

A further point emerging in relation to banks' reflection of clients' needs, however, was that some of Saudi Arabian Monetary Agency SAMA's regulations could prevent them from meeting certain client needs, despite the banks' ability and willingness to do so. For example, with regard to account opening:

> *"The bank could finish all the steps from A to Z online. Later on, the client could come to the bank to confirm his identification. But SAMA doesn't allow such practices".*

Thus, it can be concluded that website contents may not always reflect clients' needs, either because of complacency on the bank's part, or institutional obstacles.

3. Methods used through the Internet to motivate clients' needs

Website features appeared to be widely employed to motivate clients' needs. For example, all Internet banking managers agreed that they used banner ads as a popular method to attract online clients' attention. Another mechanism was the use of multiple hotlinks in the website, especially in the corporate website, that transfer clients directly to the selected service or product. E-mails and newsletters were widely mentioned by online managers as prevalent mechanisms used to motivate online clients and inform them of new products and services. Additionally, all interviewees said they alerted

online clients and browsers to new products through using "What's new" flashing icons. Many banks, moreover, have directed significant attention to reminder operations. Those are messages displayed once the client logs in, to prompt clients to perform certain transactions; in this way, Internet website contents can have some influence on clients' needs.

However, most Internet managers said they did not depend solely on Internet banking to motivate online clients, seven of them described broader-based integrated campaigns, employing sending SMS, promotion literature (e.g. brochures, pamphlets, and leaflets inside the branches) and advertising through the mass media. One respondent suggested that these other media have greater reach and attractiveness than online mechanisms.

4. Type of Internet banking motivations and incentives

Interviewees were asked what kinds of appetizers, advertisements, and incentives they favoured, so that in the second stage of this research, clients could be asked about the impact of such elements on their attention.

There were several promotional approaches used by Saudi banks to trigger clients' needs and stimulate their online purchasing behaviour. The number of Internet managers who mentioned each element will not be stated here, as the frequencies will be shown in detail in section 6.3 reporting the content analysis. What is important here is to obtain an overall picture of these elements.

Firstly, an important promotional approach which was mentioned by the majority of interviewees was giving special discounts for clients who perform transactions through the Internet, compared to fees payable when performing them through other channels.

An interviewee gave this example:

> *"If there is a new product introduced online it might be free of charge for the first three months. For example if you join e-trading, you will receive this service free of charge for three months; after that you will receive a 50% discount".*

It was suggested that financial incentives were more effective than other types for Saudi clients, since they look for instant benefit. Other respondents mentioned promotion schemes and prizes such as those previously discussed in relation to plans to attract clients to Internet banking generally.

The website features cited previously in relation to need motivation were also mentioned in this context.

In individual Internet banking websites (not corporate websites), however, four Internet managers thought banner ads, pop-ups and the like should be used sparingly or not at all. Several reasons were given; that it is an infringement of clients' privacy ("*We think that this is the client's personal home and we don't want to harass him with more advertisements which may bother him"*); that it duplicates information available on the corporate website, and that there may be technical difficulties, for example the suppression of pop-ups by new anti-spam software.

To sum up, Saudi banks have opened a broad portal in which a good range of their products and services have been presented through their online facilities. A wide range of incentives were mentioned by the interviewees. However, although all the aforementioned methods are potentially beneficial and consistent with the latest technology, it is important to examine whether these incentives and motivations have significant impacts on Saudi clients, as a first, vital step towards producing an effective package customized to suit financial clients in general and Saudi clients in particular. This will be explained in detail in the next chapter. At this point, however, we move to information search, as the second stage of the purchasing behaviour.

6.2.4 Theme Four: The second stage of the decision-making process: information search

Saudi banks' websites have been improved significantly in the last few years. However, this is an endless journey and Saudi banks have to keep developing and up-dating their online facility regularly. As a basis for such effort, it is very important to know where Saudi banks' website contents stand nowadays in relation to providing adequate information that Saudi clients are looking for. It is important also to know what are their methods to accomplish this and what website tools are being used in Internet banking websites. Two questions were posed to Internet managers in relation to the second stage of consumer purchasing behaviour. These questions were:

- What methods are you using through the Internet to help clients obtain the banking information they are looking for?
- In regard to offering information that clients may look for, what type of searching tools function, indexes, lists, open interactions, and answering question opportunities does the website provide?

1. Methods used through the Internet to provide banking information

Saudi banks adopted the practice of enriching the website with quality services, products, and information likely to interest clients, presented in a clear, simple, accurate, and concise manner. Interviewees pointed out that information provision was an issue of quality more than quantity. All the information needed by the client can be displayed online but interviewees asserted the necessity of considering simplicity. For example, one said it is necessary to *"make it (information) simple for them to reach"*, while another noted the use of information architecture to simplify the arrangement of information. The general view was that clarity and ease of navigation were at issue, more than the actual information provided. As one manager expressed it,

> *"The problem is not the content. The content covers all that the client needs. There may be some information on the website that even the employees in the bank branches do not know. The problem is how to reach this information. The big problem is if clients know the bank website and visit it continuously, but they don't know how to obtain certain information".*

It was reported that various information function tools are used by Saudi banks to aid clients, from which they can derive enormous benefit, such as search engines, website maps, Frequently Asked Questions FAQs, an illustration function, newsletters, demos, and a guide list showing the products and services that the bank offers. These tools will be discussed in detail in relation to the next question. Additionally, the interviewees highlighted that the information should be clear and the data should be presented in a simple way. If the client experiences any difficulty in obtaining the information, this can be interpreted as indicating a huge error that needs to be corrected. All Internet managers mentioned a variety of assisting tools, the details of which are presented and discussed in section 6.3 on content analysis.

Seven Internet banking managers affirmed that the Internet banking website should be accessed via the corporate website. The significance of this is that it is an opportunity for clients to notice several access points directing them to advertisements, promotional offers, new products, extra information, and the latest news. On the other hand, four interviewees out of the eleven said they had separate domain names for their Internet banking services, with different portals. This will be discussed further in relation to security issues in the fourth stage.

As for the scope of the information provided, some banks went beyond information related to the bank itself. Four out of the eleven Internet banking managers

reported the existence of a specialized economics section, containing monthly reports, and also various reports about the Saudi economy and other economic features. Clients can browse these reports through the main website of the company (Corporate website). Three of the eleven banks introduced extraneous information on their website, such as weather forecasting, the latest political news, and so forth. The Internet managers of these banks said they wanted to increase the clients' loyalty to the bank website; they wanted the bank website to be the main site that clients looked at, irrespective of the need to perform a transaction. They wanted the bank website to be part of the client's daily routine.

In contrast, the rest of the Internet managers, who did not want to provide information on matters outside the bank's main activities, asserted a concern not to deviate from their specialization or enter into a losing competition with other specialized websites.

It is worth mentioning that three Internet banking managers suggested that it could be beneficial to reorganize the succession of pages to simplify the acquisition of the information. They said this could be achieved by studying the website pages to examine the number of hits. On this basis, they took steps to ensure that information with a high request rate was made easier for the client to reach with fewer clicks.

This concern to simplify information search brings us to more detailed consideration of the types of search tools function, indexes, lists, open interactions, and opportunities for answering questions provided by websites.

2. Type of information searching tools

The interviewees were asked a second question to find out what type of information searching tools were used for Internet banking through Saudi banks' websites. The answers to this question would provide a guide for the later content analysis segment of this research phase, where the frequency of these tools in Saudi banks' websites would be examined. They would also inform the next phase, on Saudi customer purchasing behaviour, where it would be investigated how these tools are most commonly perceived by Saudi clients.

All Internet banking managers said they used several information search tools inside their online website to assist clients to reach the information they want easily, quickly, and accurately. These tools include search engines, Frequently Asked Questions (FAQs), website maps, demos, contact details, an illustration function, a help

desk, a live agent (chat room), newsletters, and a guide list of products and services. The following lines give more details.

Search engine: interviewees said it is important to include a website search engine where clients can enter a key word and the search engine will lead directly to the places where they may find what they are looking for.

Frequently Asked Questions (FAQs) should also be provided, but information available by this means is limited. It normally contains specific informative directions. However, it provides clients with answers for the most asked questions, rather than being an information source.

Website map: it is used to display the headline of the website's design map to guide users easily and quickly to the contents of the website. In this regard an Internet banking manager said, *"The bank also cares about designing a site map to facilitate the nature of the website without browsing every page"*.

Demo: it is a piece of film that the client can play to illustrate transactions. Five out of the eleven Saudi banks used interactive demos, enabling clients to take part in simulated transactions.

Contact details: all Saudi banks provide basic information related to contact details, phone numbers, fax numbers, branch locations, "about us" and so forth.

Help desk: it involves agents who answer clients' questions. If the agents do not know the answer they will transfer the enquiries to the relevant department. Help desk agents will follow up the requested information until it reaches the client, which does not usually take more than three days. One Internet banking manager reported, *"I will deliberately send an enquiry to see how long it will take the staff to get back to me"*.

Live agent (chat room): only one of the eleven banks offered an interactive chat room to assist clients in obtaining information quickly. Other banks said they did not provide such a service because they perceived the market to be not yet ready for it. They currently depended on the Internet help desk and on call centres. An Internet banking manager said:

> *"We haven't reached the level that allows us to introduce interactive services such as an interactive hotline help desk and interactive chat room. We have specific links that state the type of inquiry, whatever it is, such as complaint, request, or require. There is a special agent to answer it".*

Newsletters: they are letters that are delivered to clients regularly. They normally include a variety of useful information, lists, statistics, latest reports, new products and services, and security alerts. Newsletters can be delivered via clients' inboxes through links in the online banking website related to clients themselves, or through the client's personal e-mail.

Assuming that clients are able to access information provided by the bank's website, the question arises as to how they evaluate this information. This is the next theme of the analysis.

6.2.5 Theme Five: The third stage of the decision-making process: information evaluation

Website contents can offer a number of methods to facilitate the evaluation of information. The quality and characteristics of various financial products depend on the style of information provision. Four questions were posed about information evaluation. The first was about what Internet banking assistance banks can provide to help online clients in evaluation of different information, products, and services. The second was about accessibility of financial advice through online banking. The third was about providing hotlinks to related pages, to find out how this can help online clients to evaluate information. The fourth was about the provision of tables, figures, and statistical data. Here are the details.

1. Internet banking assistance in information evaluation

Regarding information, products, and services related to the bank itself, all interviewees claimed that Saudi banks provide support to clients in order to help them evaluate different information, products, and services. For example, in terms of investment channels, clients who do not know much about the products of the investment funds that the bank provides can return to the bank to ask assistance. Two interviewees said banks can use clients' answers to various questions to familiarize themselves with the client's nature and preferences, for example, whether the client is conservative and prefers stable investments, or has a propensity to take risk. They also study the client's age, family size, income, and interests and hobbies. Such information helps the bank to give feedback about the type of investments which would suit the client best.

The rest of the interviewees, nine Internet banking managers, said that although it is uncommon to perform such communication online, this can be done through Internet banking. The reason why it is rarely done online, they claimed, is not because of any unwillingness or inability on the banks' part, but because human contact is still important for the majority of Saudi clients, who still prefer to visit the bank to conduct their business face to face.

One use of online communication was to explain to clients the difference between various types of funds, for example, what is Islamic and what is not, or the features of long-term and short-term funds, to help clients to choose suitable investments. They also mentioned that through Internet banking, broad information such as tables, figures, charts, and different historical and statistical data are presented to help clients to evaluate diverse alternatives and to choose the best one. For example one manager said:

> *"Up to now we have reached the point of providing a good amount of information that can help clients to evaluate several alternatives through the Internet, but there is still a need for other channels to achieve this aim".*

Regarding investment channels that are not offered by the bank itself, such as products in the Saudi stock market, Saudi banks do not make purchase or sale recommendations, as this is prohibited and would give rise to legal liability. The banks' role is only to provide the opportunity of selling and buying shares by providing the necessary facilities, without incurring any further liability. An interviewee elaborated on this. He said:

> *"We do not offer special recommendations for specific investments or stocks, as we would be liable. We are trying to be an independent house. We sell and buy on the responsibility of the client. We are for execution only. If you want to sell, come. If you want to buy, come".*

Nevertheless, four interviewees said they provide periodical reports on their Internet banking website in which a large amount of information is presented. As one manager commented, *"We provide research support on various sectors of the Saudi economy aimed at supporting credit and risk management decisions."* These economic reports are usually issued by research units specializing in producing reports on the Saudi economy and other economic matters. Clients can browse these reports through the main website (Corporate website). It provides valuable information by analysing various aspects of the Saudi economy on several levels. They added that these reports are prepared by a team of economic and financial professionals.

The rest of the interviewees said they did not provide such reports. When they were asked the reason, they asserted that all Saudi banks have a shortage of specialized personnel capable of writing regular articles, collecting news, and providing technical opinions with regard to economic factors. Such a shortage exists all over the country, they believed. In fact, those banks that provided economic reports did not necessarily produce them themselves, but simply provided links to reports published by specialist agencies. This being the case, there seems to be no clear reason why other banks could not use the same resources. One interviewee said:

> *"We provide links to some reports that are published monthly, such as "NCB Economist" and "Saudi Stock Market Review", as well as a weekly "Market Review and Outlook".*

Regarding the selection of bank products and services, there was strong competition among the banks with regard to service introduction, giving special prices, and providing evaluation tools, which could have a significant influence on clients' evaluation. Some Saudi banks endeavour to distinguish themselves in the market by providing more extensive services. For example, two banks process e-government payments such as passport or driving licence renewal, and they provide the relevant forms online. Banks expect that clients will be aware of the differences between the services they provide and the services of other banks, and so hope the extension of online services will be a source of competitive advantage.

2. Financial advice through online banking

A sub-theme that emerged in relation to information evaluation was the provision of professional financial investment advisory services. All Internet banking managers said such services are not available online. However, there was disagreement among interviewees in regard to the importance of providing advisory services to clients through the Internet. Three interviewees expressed the view that this was potentially an important service, but thought Saudi clients are not yet ready for it, while one of them also acknowledged the bank's shortcomings in this respect:

> *"This type of financial adviser can plan your investments according to different products. However even inside the branches we don't find those expert financial advisers. We are very weak in this service".*

The other eight managers thought banks should not be involved in giving this sort of advice to clients, even if they are completely sure about it, but should confine themselves to indirect advice and hints, to avoid incurring responsibility. A manager from this group stated:

> *"We can't provide the client with financial investment advice via the Internet. We can provide this service only face-to-face with clients in an indirect way and if he asked for such services".*

This was unexpected, because clients cannot benefit from most investment channels without expert advice.

Thus, while Saudi banks still depend on Internet banking as a means of contact with clients to attract them, financial investment advice is available only within the branches and to a limited degree.

3. Providing hotlinks to related pages

The next question was about the extent to which Saudi banks provide links to other websites. This was of interest because links to other websites can be beneficial in facilitating evaluation of information, by increasing the depth of information available. Some Saudi banks provide the two official links to the Saudi Arabian Monetary Agency, SAMA and to the Saudi stock market, Tadawul, which can offer a large amount of information regarding regulatory rules, companies' information, the latest news, and various economic reports.

The interviewees' responses, when asked about providing other website links that can help clients to assess their economic information and support their financial decisions, were divided into two groups. The first group, consisting of seven interviewees, rejected such a notion. They all gave the same reasons; that they were wary of directing clients to sites if they were not certain of the nature and trustworthiness of their content. They added that provision of links to unauthorized websites was dangerous, as it could lead to the bank incurring liability.

Nevertheless, four interviewees, representing the second group, indicated that they provided direct links to several international economic websites, such as Reuters, CNNfn-Financial Network, Bloomberg, Bonds online, Financial Times, and The Economist, via their corporate website, and they thought it very useful to provide such links. As an example, one said:

> *"I think we have to inform our clients about the famous international websites such as financial news providers. We also buy economic news by making a subscription. They provide the bank with the latest news and the market trend".*

Moreover, two Internet banking managers said they had arrangements with some economic information providers which can present regular reports about international,

regional, and Saudi economic news. These reports can be obtained by either direct hotlinks or PDF files.

The first said:

> *"We have had a contract with a famous Jordanian Company for four years. It provides economic news and financial analysis for the markets in the region and the Saudi market in particular".*

The second revealed:

> *"In the Samba website, we have an economics page that has a great number of hits. It is supervised by a famous American, the chief economist at Saudi American Bank called Brad Borland. He adds to it all the necessary economic analysis and the annual forecast with a comparison with the previous year".*

These responses suggest that some banks, at least, were aware of and willing to trust certain other sources of information, which they are prepared to pass on to their clients. However, there appears to be no clear means of validation or list of approved sites and organisations, and that banks providing such links must rely on their own vetting procedures or be willing to take a risk, which the majority were unable or unwilling to do.

4. Providing tables, figures, and statistical data.

The final issue considered under information evaluation concerned the presentation of information in graphical form. Tables, figures, charts, statistical diagrams, and useful drawings were provided on some products, to illustrate the bank's previous achievements. Respondents considered these as necessary aids which should be presented to clients to facilitate their decision-making. More details of these elements will be presented and discussed in the content analysis part. Meanwhile, we turn to the sixth theme from the interviews: issues related to the customer's purchasing decision.

6.2.6 Theme Six: The fourth stage of the decision-making process: transaction decision-taking

Three questions were posed to Internet banking managers in respect of this stage in which clients take decisions to complete their purchase. The questions were about security concerns, the ability of the banks to build clients' trust, and the capability of the bank website to provide a wide range of products and services. These questions are:

- Security of online banking websites is a very crucial issue. How can you show to your online clients that you are dealing with this matter efficiently?
- How can your bank build (and increase) clients' trust in your reliability in regard to using your online facilities?

- To what extent does the bank website provide capability for interaction with a wide range of services and products? In your opinion, what types of banking products or services are not suited to an online bank website?

Each issue will be addressed in turn.

1. Security concerns

Security is a very crucial issue in Internet banking, as doubts about security will deter clients from using Internet banking. It was therefore of interest to find out how Saudi banks address this problem.

All interviewees asserted that Saudi banks have given careful consideration to the security issue. They have set high standard criteria to be applied and introduced highly sophisticated regulations for security. Saudi banks have also signed contracts with specialized companies for the monthly conduct of protection tests and advice on how to increase the level of security and prevent any breakthrough. Multiple firewalls, in both software and hardware have been installed and are up-dated regularly. Such arrangements are illustrated in the following typical comment:

> *"Even though the bank sets stringent standards for security, the bank brings in specialized companies on a regular basis. Their job is to evaluate the security of the website and provide solutions for weak points and update firewalls".*

It was notable in a number of replies that the banks did not rely solely on local expertise, but took advantage of international experience, both on the adoption of international standards and by employing well-known international companies. Regarding the standard applied, one manager commented:

> *"In our bank we have the BS 7799 Security standard. It is a special standard that means the highest level of implementation of security procedures".*

Another referred to international security expertise:

> *"On our website we display a banner with the name of the biggest and best company that provides security services all over the world".*

It is interesting that this manager not only referred to the employment of an international company, but also indicated that this company's involvement was prominently displayed on the bank's website. This suggests a wish to reassure clients by demonstrating the efforts made by the bank to ensure their safety.

This example illustrates the importance, for banks, not only of protecting their clients, as well as themselves, but also of convincing their clients of the security of online transactions via Internet banking. If they are unable to do so, take-up of Internet

banking will be low and all banks' promotional activities may be to no avail. There is also an issue, raised by one interviewee, that clients themselves may be the weakest link in the bank security system, due to their lack of awareness of security and failure to take appropriate precautions when they go online. Interviewees were therefore asked what measures the banks take to alert clients to security issues and demonstrate to clients that they are dealing with security issues efficiently. Their answers can be divided into three groups, according to the ability to provide several standards to deal with security issues. The first group is Saudi banks which provided only informative tools to enhance the level of clients' awareness of their security. The second group is those banks which apply special conditions of use, to provide extra protection for their clients. The third group is those banks which adopt a sophisticated system which combines the elements of individual knowledge and possession of a key item, to enhance the security level of online transactions. The following lines give the details.

Saudi banks worked first to educate their clients by providing several tools on the website, either in the main page of the corporate website or by sending e-mails. All interviewees mentioned that they provided security links and useful advice tips.

Security link: it allows the client to understand the level of security that he/she has in his/her computer and provides a simple, concise explanation of the features in the computer and what they mean.

Advice tips: There are many regular advice items displayed to protect clients' accounts. Firstly, these advice tips are available in the portal page, which provide a full explanation of security for clients, explaining how they are protected. Secondly, these tips give clients the basic necessary knowledge and awareness of how to safeguard themselves in the website, to increase their awareness of security issues, for example, the risks associated with using public computers, or not being equipped with protection mechanisms. Thirdly, information is provided on how to build firewalls and to install anti-virus programs. Two banks said they notified and up-dated their clients via specialized companies such as Symantec, about the latest kinds of viruses, so they can protect their equipment.

Some Saudi banks, as a second tier, have introduced strict conditions for online transactions, in order to reduce the security concerns. Examples given by several interviewees included setting limitations on some transactions, such as a cap on the

sums that clients can transfer via the Internet, allowing a beneficiary to be added only by ATMs or visiting a bank branch, following up some important transactions by sending SMS messages or e-mails to clients for confirmation of transactions, and freezing an online account that has not been logged in for a specified length of time.

In addition, seven Internet banking managers said they did not allow clients to log in, except at the corporate website. This has the advantage of familiarizing clients with the identity of the bank, thereby increasing the likelihood of their being able to identify imitation websites set up for fraudulent purposes.

As a third level of security, three Internet banking managers said they employ two safeguards in combination at the same time, namely, something that the client knows and something in his possession. They do this by giving tokens for VIP clients. These tokens are small devices that generate numbers, which can change every minute. These tokens are connected with the bank's system, so by clients' normal identifications plus token numbers, clients can be identified by the system and log into their accounts. Another Internet banking manager said his bank, mindful about security issues, was planning the introduction of a similar scheme:

> *"We have a plan in the near future, to use chips similar to those used in the ATMs Card. The client will have a device that can be attached to the computer and insert this chip. This will raise the security level because it will be a combination between two things; something you have, which is the chip, and something you know, which is the password".*

For other ordinary clients, interviewees said they used SMS messages to convey a code number that has to be used in combination with clients' normal identification.

The next section indicates in more detail the specific measures taken by banks to gain clients' trust in online services.

2. Clients' trust

Since Internet technology is relatively new in the KSA, Saudi banks need to work on building up clients' trust towards Internet banking as a reliable channel. Interviewees were therefore asked how Saudi banks can build up and increase clients' trust, and what methods they are using to achieve this. The eleven Internet banking managers reported eight approaches to build and increase clients' trust, some of them more widespread than others. They are presented here according to the frequency with which they were mentioned.

Giving clear indications: Saudi banks give Saudi clients clear indications of their attention to security issues and accordingly increase clients' trust. For instance, they provide several tips such as "don't share your password", "change your password monthly", "if you have any link to our website from any other website do not use it", and "always make sure of the URL at the top of the website page".

Showing the last time the client logged in and number of failed attempts to log in: when a client logs in to his account he will see the last time he accessed the account and how many times there had been a failed attempt to enter the account. The client can also see the last ten times he logged in.

Registration of online users is made through ATMs or through paying visits to the bank. This allows the banks to verify client identification and so it increases clients' trust.

Obtaining services through ATMs or branches for the first time: To raise the clients' level of trust, Saudi banks required certain transactions to be performed the first time through ATMs or at a branch; subsequent transactions could then be performed via the Internet. Examples include adding beneficiaries and IPO transactions.

Applying a daily maximum limit: Saudi banks have applied a maximum limit on the daily amount transferable through Internet banking. This will reduce the risk of fraudulent transferring and so it increases clients' trust.

Putting a keyboard on the screen: seven banks were using this technique, whereby clients could only log in to their accounts by clicking this keyboard. This increases the level of trust, as most fraudulent hackers use devices that can record keyboard clicks and the pages that have been logged in and send them directly to a pre-defined e-mail. Clients who visit doubtful Internet websites would be vulnerable to such devices.

Using an additional code number: a code can be sent to the client by token or by SMS message, for use when accessing some services. Respondents indicated that not all transactions would require a token number; only those previously specified by the client. This raises the level of trust.

Human support: Saudi banks show the client that there is a personal dimension to the system. If an error is detected, the client will receive a telephone call. An interviewee gave this example:

> *"Supposing a client transferred a sum but he had added the International Bank Account Number (IBAN) wrongly. So the operator will check up and the client will be informed that there is an error in the given information".*

Thus, being pro-active with clients when they make mistakes is very important to increase their trust and confidence.

The above responses suggest that banks perceived security issues as of major concern to clients, and devoted much attention to applying protective mechanisms to allay such concerns. The outcomes of Phase Two, in later chapters, will shed light on the validity of bank managers' assumptions, and the success of their efforts to provide security in order to give clients a reason to use or continue using Internet banking.

Another concern, however, is to what extent Internet banking actually provides the financial products and services clients require. This is discussed next.

3. Variety of services and products

Attracting clients to perform transactions through Internet banking necessitates that the banks should provide a wide range of products and services. The greater the diversity of products and services available, the more new clients will be attracted, to benefit from these products. Two questions were posed to interviewees to understand the nature of online products and services, and whether there are any Internet banking products that Saudi banks consider inappropriate for Saudi clients. The following paragraphs give the answers.

Internet banking managers' responses were divided into two groups. Some respondents considered that Internet banking is still underdeveloped, while others asserted that Internet banking can cover most banking products and services. Here are the details:

Some interviewees explained that there are still some shortcomings in Internet banking because it cannot cover all banking products and services. This is a discrepancy between client demand and service availability:

> "*There are some demands from clients to provide additional products and services. Clients always want something better, faster, easier, and cheaper, but there is a question: What is practical and what is not?"*

Internet banking cannot execute cash and cheque acceptance, money deposit, consultations, or sophisticated banking transactions such as insurance, and finally, cash transactions cannot be completed online.

Some of these transactions were considered unsuitable for performance online, because they were thought to involve a degree of complexity, which made personal consultation preferable. Insurance was cited as an example.

> *"Sometimes we have services, but they are not suitable for Internet banking, such as insurance because it needs more trading and explanation from an expert to explain to clients the forms and characteristics of the contract. Although that can be added online, it is far better to be done face to face".*

Another asserted the desirability of personal contact for advisory services:

> *"Asking for consultation and getting advice. The financial planner needs to sit with you, read your profile, communicate with you, discuss your needs and take the decision with you. We need a real communication with the client and this is not suitable via the Internet".*

Such responses suggest that these managers were not deterred from offering services by technical considerations, but wished to preserve their advisory functions and retain a personal relationship with the client. Another group, in contrast, said everything is possible in Internet banking except cash deposit. Nevertheless, there may be external factors that prevent banks from offering certain services. For example, Saudi banks may desire to provide a service via the Internet but be prevented from doing so by the strict regulations applied by SAMA.

One manager said:

> *"In the bank we intended to provide some services that will benefit the bank, but we encountered some other rules and regulations from the central bank which are out of our control. For example our bank has a way to make sure of the client's ID without forcing him to visit the bank. We will keep it in reserve till SAMA allows us to unveil it then we will be the first bank in the Kingdom of Saudi Arabia to adopt this method".*

Another view was that most Saudi banks can provide all the online banking services that can be found in the Western world, but that there are some services that are not demanded by the Saudi market, as reflected in this comment:

> *"I believe the need comes from the client: if there is a demand, this makes the bank think to fulfil the demand. However, I don't think that the bank has to create new services if they are not needed in the market at this time, although they may be in the future".*

This topic completes the responses in relation to the client's purchasing decision. The discussion turns now to the last theme covered, post-purchasing behaviour.

6.2.7 Theme Seven: The fifth stage of the decision-making process: post-transaction behaviour

Three questions were posed to Internet banking managers in regard to the post-purchase stage. The questions were about reducing the level of post-purchase doubt, ways of gauging client satisfaction, and the types of online technical support offered to clients.

1. Reducing the levels of clients' post-transaction doubt

The purpose of the first question was to discover what Internet banking methods are used to reduce clients' feelings of doubt that may arise after performing transactions, and to understand online techniques that can be used to reduce clients' levels of cognitive dissonance.

Internet banking managers indicated that online banking offers several means of reducing the level of post-transaction doubt. Among the useful elements in decreasing the feelings of unease that clients may have after performing transactions, were:

Giving every transaction a reference number: Giving transactions executed by Internet banking a reference number will reassure the client, and facilitate any further inquiries related to the transaction in the future.

Sending confirmation messages through e-mails or *mobile phone:* Online banking enables confirmation messages to be sent to clients through their e-mails, displaying the transactions details. This service can also be provided by SMS messages. For the sake of privacy, clients may request this service for specific transactions, such as outgoings and international transfers.

Showing a confirmation page: This tells the clients that the operation has been completed successfully and gives them reassurance.

Checking accounts balance instantly: Internet banking allows clients instantly to check their accounts in order to view a record of the most recent transactions.

Allowing clients to print out the transaction details: Online banking offers the capability for printing the transaction details with a reference number, to enable the client to print out the transaction and keep a record.

Giving tools to support post-active interaction: Supporting clients when they want to make further inquiries or complaints after performing their transactions is very

important to reduce the level of post-transaction doubt. This can be done through a help desk. If the client is still in doubt about something, he can contact the bank by the call centre. An Internet manager added *"With the positive transactions and handy interactions between clients and the banks, the doubt level will be reduced over time"*.

Such measures may contribute to client satisfaction, discussed next.

2. Client satisfaction

Regarding client satisfaction measurement, there are some difficulties associated with Internet banking service, due to its intangibility, heterogeneity and the combination of several products and services at the same time. Accordingly, it is important to explore how Saudi banks measure and evaluate levels of online client satisfaction. This was the purpose of the second question within the theme of post-transaction behaviour and the following lines provide the answers.

Internet banking managers mentioned several methods employed by Saudi banks to measure the level of client satisfaction. Several of these methods were prevalent in the banking industry and applied by a number of banks. Some banks applied more than one method. Here are the details:

Quick polls through online banking: The most popular method, which was mentioned by all interviewees, was the conduct of quick polls through online banking. Internet banking managers said these give a quick indication about client satisfaction or dissatisfaction, especially with regard to new products or services. Such online polls are usually simple and brief and do not take a long time to be answered. The poll contains three or four short questions that can be changed frequently. Other interviewees said this is a useful way of measuring how pleased clients are with specific products. Three managers added that it is also a good way to demonstrate to clients that the bank takes account of their needs.

Online surveys: Five interviewees said they had an expert unit that conducted such surveys to measure client satisfaction. They did this by asking clients some questions regarding specific points and asking them to record their response on a five-point scale. Such online surveys can be conducted in two ways; firstly, through a banner ad or a hotlink on the website portal and the main pages of the bank's website; secondly, through sending e-mails to online clients, asking them to participate in the survey. Some gifts could be offered to encourage clients to participate in these online surveys.

Quick polls through call centre: Interviewees mentioned that a poll can be conducted through agents who are working at the call centre. Typically, when a client phones the call centre, after his request has been dealt with the agent will politely ask him to spare a few more minutes to answer some quick questions. Whilst this does not give a rapid feedback on several products and services, the high response rate among the targeted population is considered a major advantage of this approach.

Reports through a specialized company: Five interviewees said they obtained client satisfaction data via specialized companies, which conducted surveys throughout the year and provided the banks with comprehensive reports. This is known as annual client satisfaction loyalty measurement research. Normally, the banks design the questionnaire and the company gathers the information and prepares an inclusive analytical report which is presented to the bank. It measures the level of satisfaction with regard to the offered services, and the new services and products requested by the clients.

Through obtaining regional awards: Some interviewees said they applied strong standards from the beginning to achieve client satisfaction. As a result they had received high rankings from specialized financial institutions and from well-known banking journals. They considered these commendations of their banking services as sufficient evidence of client satisfaction.

Increasing transactions and growth of online users: Some interviewees said they study some technical reports that show the increase in certain transactions and decline in others. This gives them clear indications about how far clients are satisfied with some services and dissatisfied with others. Besides, the growth in the number of online clients indicates clients' satisfaction.

Through clients' complaints and feedback: Some interviewees took the view that continuous client feedback, whether positive or negative, highlights the level of consumers' satisfaction. Website sections such as contact us, inquiries link, and complaints link can facilitate evaluation of clients' satisfaction with different aspects of Internet banking services. Some added that studying clients' inquiries and complaints gives them a sense of the way their product and services are evaluated by clients.

The third and final topic addressed in relation to post-purchasing behaviour was the provision of technical support, discussion of which follows.

2. Providing technical support

Since online banking is a completely new service that has been provided to Saudi clients for only a few years, it was very important to know if Saudi banks provide support and back up for clients who need it, and what kind of technical support they provide. This was the purpose of the third question. Here are the Internet banking managers' answers:

All Internet banking managers said they offer appropriate online technical support, and considered this to be essential. The technical support can be provided by both call centre and help desk. Saudi banks, according to the interviewees, have exclusive expert teams familiar with various problems, and the methods of solving them. Those teams are prepared to provide help to clients whenever it is needed. Some interviewees offered some useful explanations on this practice. For instance, one manager said:

> *"I think that the technical support is presented in a good way through FAQs. For example, explaining the steps for a special operation or providing knowledge both on the technical level and in general".*

Regarding technical problems faced by clients, the responses can be divided into two categories. The first category, represented by ten interviewees out of the eleven, was of banks that do not intervene in individual clients' technical problems. These respondents added, however, that if the problems are related only to the Internet banking system, they would offer adequate support to the clients. The second category, represented by only one Internet banking manager, was a bank that claimed to offer technical support to clients, even if their problem was not related to the online banking system. He added:

> *"Even if a client asks for computer programs such as educational or security programs, we might provide them with these programs or at least direct them to links where they can buy them. We also present technical support about individual problems to clients who need some help due to their limited knowledge of computers and the Internet".*

This topic completes the analysis of the interviews with the Internet banking managers. It has covered seven themes, including the objectives behind the implementation and development of online banking facilities, strategies and plans that Saudi banks have to increase online clients, and their efforts to consider and assist clients in the five purchasing decision-making stages, which formed the core of the interview investigation. The issues raised will be further explained and discussed in the next chapters.

The interview data, however, constitute only one aspect of the first phase of investigation, concerned with bank officials' opinions and perspectives. To obtain a more complete picture of the measures taken by the Internet managers, it was necessary to examine website contents for quantitative evidence of how the banks' policies and intention are reflected in practice. The following section, therefore, contains a content analysis of the eleven banks' websites.

6.3 Part Two: Content Analysis of Online Banks' Websites

Since content analysis was conducted on all Saudi banks' websites, there was no need for inferential statistics. Descriptive statistics, such as frequencies and percentages are used in this part to present the data systematically and meaningfully, in order to highlight any trends and characteristics of the analysed banks' websites. Several frequency tables of content analysis findings provide answers to questions such as "What are the types of contents related to purchasing decision-making process that are shown in Saudi banks' website? To what extent are these contents considered and applied by Saudi banks consistent with different independent factors?"

Banks' websites were analysed relating to some important independent factors to help in assessing the significance of the outcomes that were derived. A set of standard questions was handed to Internet banking managers at the end of each interview to help provide a profile of the Saudi banks. Four questions (Appendix II) were posed to Internet banking managers about the length of the period during which the bank had provided online banking services; the percentage of online banking clients out of the total bank clients, the percentage of online banking transactions out of the total bank transactions, and the size of the online banking website. A question that related to banks' annual expenditure on developing Internet banking services has not been included, since some banks refused, for a variety of reasons, to disclose numbers or percentages related to this factor. In terms of the question related to the bank's capital, it was answered by reviewing information on the banks' official websites. Here are the details:

6.3.1 Banks' Characteristics

Table 6.2 shows Saudi banks' characteristics that were considered in this research. Firstly, the size of Saudi banks was gauged through the sum of its capital. Consequently, Saudi banks were divided into three groups as follows. The banks with capital less than 5 billion SR are classified as small banks. The banks with capital from

5 billion SR to less than 10 billion SR are classified as medium banks. The banks with capital 10 billion SR or more are classified as large banks. Table 6.2 shows the number in each group.

Table 6.2 - Saudi Banks' Characteristics According to Different Factors

The size of the banks	Small banks		Medium banks		Large banks		Total	
	N	%	N	%	N	%	N	%
	6	54	2	18	3	28	11	100
	IB,HB,JB,BB,SB,AN		RY,BF		AB,RJ,SM			
The period of providing online banking services	less than 3 years		3 to less than 5 years		5 years or more		Total	
	N	%	N	%	N	%	N	%
	1	9	3	28	7	63	11	100
	BB		1B,HB,JB		AN,SB RY,BF AB,RJ,SM,			
The percentage of Internet banking clients out of total bank's clients	less than 10%		10% to less than 30%		30% or more		Total	
	N	%	N	%	N	%	N	%
	4	36	5	46	2	18	11	100
	IB,HB,JB,BB		AN, RY,BF AB,RJ		SB,SM			
The percentage of Internet banking transactions out of total bank's transactions	less than 10%		10% to less than 30%		30% or more		Total	
	N	%	N	%	N	%	N	%
	4	36	5	46	2	18	11	100
	IB,HB,JB,BB		AN, RY,BF AB,RJ		SB,SM			
The size of Internet banking website	less than 500 pages		500 to less than 1000 pages		1000 pages or more		Total	
	N	%	N	%	N	%	N	%
	3	28	4	36	4	36	11	100
	IB,HB,JB		AN, BB,BF,SB		AB, RY,SM,RJ			

Secondly, since all the investigated banks employed Internet banking, it was very important to pose a question about the duration of their experience in this field. This was measured by the number of years; the eleven banks were split into three categories, with online experience ranging from less than 3 years to over than 5 years. Table 6.2 shows the distribution of the online banks by this variable.

Thirdly, the percentage of Internet banking clients out of total bank clients was given by Internet banking managers who chose the appropriate percentage from pre-defined categories. Answers were divided into three groups. The first contained banks

whose online clients represented less than 10 percent out of the total bank clients. The second group consisted of banks whose online clients represented from10 percent to less than 30 percent of their total clients. The last group comprised banks with online clients representing 30 percent or more out of the total clients.

Fourthly, the percentage of Internet banking transactions out of total bank transactions was given by Internet banking managers, who chose the appropriate percentage from pre-defined categories. They were asked to exclude the number of e-trading transactions in order to give actual percentages of online transaction without bias. The answers were divided into three groups. The first included banks whose online transactions represented less than 10 percent out of the total bank transactions. The second group was the banks that had from 10 percent to less than 30 percent of their transactions performed online. The third group comprised banks with online transactions representing 30 percent or more out of the total transactions.

Lastly, the size of the Internet banking website was measured through the number of its personal online banking website pages. Consequently, Saudi banks' websites were divided into three groups as follows. Websites with fewer than 500 pages are classified as small. Websites with from 500 pages to less than 1000 pages are classified as medium-sized. Websites with pages 1000 pages or more are classified as large.

This profile of the banks enabled the elements of content analysis to be viewed in relation to the aforementioned factors, in order to investigate possible association between bank characteristics and their Internet banking practice as reflected in website content. The Spearman's rank order correlation test was used to reveal correlation between the 41 website elements, which represented the five purchasing behaviour stages, and the aforementioned factors. Data were analysed with the aid of the statistical analysis program SPSS (Statistical Package for the Social Sciences). To examine the correlation direction between two or more variables, the following criteria were used:

- positive relationship between two or more variables, if r = +
- no relationship exists, if r = 0
- negative relationship between two or more variables, if r = -

To measure the magnitude of correlation (i.e., what is the strength of the relationship?) the following scale was used:

- strong, if -0.80 > r > + 0.80 ***
- moderate, if -0.50 > r > + 0.50 **
- weak, if -0.20 > r > + 0.20 *
- no relationship, if 0.0 > r > 0.0 NR

The following sub-sections report the results in relation to each bank characteristic in turn, beginning with bank size.

6.3.2 Relationship between bank size and website elements

Table 6.3 presents a list of all website elements that were considered in this research and displays the degree of their relationship with the bank's size. Six banks are small banks, two are medium banks, and three are large banks. It is appropriate to begin with a general overview. Only two elements out of the 41 were not found on large banks' websites, whereas 11 elements were not found on small banks' websites. Likewise, half the elements (21) had a positive relationship with bank size, which means there was a greater tendency for these elements to be provided by large banks than small banks. Only two elements had a negative relationship with the size of the banks.

Concerning the first part of Table 6.3, the percentage of need recognition features out of all online banking features was 21.9 percent. All Saudi banks' websites had at least three design attributes related to need recognition. Those were banner ads, "What's new" flashing icons, and newsletters. However, clients will find pop-up ads and loyalty point collection schemes presented only by large banks. On the other hand, promotional discounts and gifts were widely used, although they were offered by large banks more than smaller banks. Generally, the data displayed in Table 6.3 show that the size of the bank is moderately related to need recognition design features (the average of Spearman's correlation = 0.577), which means larger banks' websites tend to provide more design attributes than smaller websites .

With respect to the information search stage, every Saudi bank's website provided at least three elements. These elements were services and products index, contact details, and help desk. Large banks, again, tended to have more features than smaller banks. The analysis shows a significant correlation between the size of the bank and some elements, in favour of large banks, for instance: interactive demo, website map, and search engine; the exception was standard demo (presentation style), which was offered by more small banks. The percentage of the information search features out of all online banking features was 19.5 percent. The average Spearman correlation was

0.125, which indicates that there was no significant relationship between the elements of this stage and the size of the bank.

Table 6.3 - Relationship between Bank Size and Website Elements

Internet banking website's contents		The size of the banks								
		Small banks(6)		Medium banks(2)		Large banks(3)		Total		Spearman correlation
		IB,HB,JB,BB,SB,AN		RY,BF		AB,RJ,SM		11		
		N	%	N	%	N	%	N	%	
Need Recognition	Banner ads on the pages.	6	100	2	100	3	100	11	100	NR
	Pop-ups	0	0	0	0	2	66	2	18	+***
	Discounts	4	66	2	100	3	100	9	82	+***
	Gifts	2	33	2	100	3	100	7	64	+***
	Loyalty points collection scheme	0	0	1	50	3	100	4	36	+***
	"What's new" flashing icons	6	100	2	100	3	100	11	100	NR
	Identifying services and products.	0	0	1	50	2	66	3	27	+***
	Newsletters	6	100	2	100	3	100	11	100	NR
	Reminder operations	3	50	2	100	3	100	8	64	+***
The average of Spearman correlation for this stage is 0. 577										
Information search	Frequently Asked Questions (FAQ)	4	66	2	100	2	66	8	73	NR
	Interactive demo (test drive)	1	17	1	50	3	100	5	45	+***
	Standard demo (presentation style)	5	83	1	50	0	0	6	55	-***
	Site index (website map)	5	83	1	50	3	100	9	82	+**
	Services and products index (guide list)	6	100	2	100	3	100	11	100	NR
	Contact details	6	100	2	100	3	100	11	100	NR
	Search engine	1	17	2	100	2	66	5	45	+**
	Help desk	6	100	2	100	3	100	11	100	NR
The average of Spearman correlation for this stage is 0.125										
Information Evaluation	Links to related pages	2	33	0	0	2	66	4	36	+**
	Financial advice	0	0	0	0	0	0	0	0	NR
	Economic reports	0	0	2	100	2	66	4	36	+**
	Live agent (chat room)	0	0	0	0	1	33	1	9	+***
	Tables to evaluate information	4	66	2	100	2	66	8	73	NR
	Figures to evaluate information	4	66	2	100	2	66	8	55	NR
	Statistical data to evaluate information	5	83	2	100	2	66	9	82	-**
	Evaluation tools	0	0	1	50	1	33	2	18	+**
The average of Spearman correlation for this stage is 0.233										
Purchase Decision	Test security level of client's computer	0	0	0	0	2	66	2	18	+***
	Providing security advice	6	100	2	100	3	100	11	100	NR
	Log in through corporate website	3	50	2	100	2	66	7	64	+**
	Putting a keyboard on the screen	3	50	2	100	2	66	7	64	+**
	Registration through ATMs or bank's branches	6	100	2	100	3	100	11	100	NR
	Showing last time to access	6	100	2	100	3	100	11	100	NR
	Applying daily maximum limit	6	100	2	100	3	100	11	100	NR
	Variety of services and products	4	66	2	100	3	100	9	82	+***
The average of Spearman correlation for this stage is 0.341										
Post-Purchase Behaviour	Giving transaction reference number	6	100	2	100	3	100	11	100	NR
	Showing a confirmation page	6	100	2	100	3	100	11	100	NR
	Allowing printing out the transaction details	1	17	2	100	1	33	4	36	+**
	Sending confirmation by e-mail	1	17	1	50	1	33	3	27	+**
	Providing access to inquiries and complaints.	6	100	2	100	3	100	11	100	NR
	Short poll to indicate client satisfaction	0	0	1	50	2	66	3	27	+***
	Online surveys to measure client satisfaction	0	0	1	50	0	0	1	9	+**
	Online technical supports	6	100	2	100	3	100	11	100	NR
The average of Spearman correlation for this stage is 0.312										

Note: Very strong ***, Moderate **, Weak *, No Relationship NR + positive, - negative.

Large banks' websites were characterized by an extensive range of elements designed to help clients to evaluate information, such as economic reports, live agent, and evaluation tools. In contrast, none of the small banks offered any of these elements.

The financial advisor function was not found in either large or small banks' websites. There was no significant relationship between provision of tables and figures and bank size. Overall, the size of the bank was weakly correlated with the elements of this stage as the Spearman correlation average was = 0.233. The percentage of the information evaluation features out of all online banking features was 19.5 percent.

Regarding the purchasing decision stage, two thirds of large banks provided all eight elements related to this stage. Table 6.3 shows that websites reflected banks' careful consideration of security issues. However, large banks paid more attention to security elements than small banks, although half of them provided at least six elements in regard to security issues. Size of the bank was significant in relation to four elements: test security level of client's computer; log in through corporate website; putting keyboard on the screen; providing variety of services and products through online service. However, the size of the bank was weakly related to purchasing decision design features (the average of Spearman correlation = 0.341).

As regards post-purchase behaviour, when clients have a problem, both large and small banks allow clients to make inquiries and complaints. Large banks gave more consideration to measuring client satisfaction than small banks. There was no significant relationship between the size of banks and some elements such as online technical supports, giving transactions' reference number, and showing a confirmation page. The size of the bank was weakly related to this stage's design features (the average of Spearman correlation = 0.312).

6.3.3 Relationship between the period of providing online banking services and website elements

According to Table 6.4, the banks that had more than 5 years experience with providing Internet banking represented 64 percent of the total banks. Banks with less than 3 years experience represented 9 percent. Banks with experience between 3 years and less than 5 years represented 27 percent. Only one bank had been offering Internet banking for less than 3 years. The reason for this is that the bank, Albilad bank, was a new bank established in 2004.

Regarding the first stage, need recognition, more than half the experienced banks provided at least six elements that motivate clients and stimulate their behaviour. Three quarters of the banks that had less than 5 years experience with Internet banking tended

to offer discounts and present gifts more than experienced banks, whereas, banks with more than 5 years experience depended on loyalty points collection schemes. This suggests that less experienced banks tried to attract clients by giving more discounts and gifts, while the more experienced banks depended on loyalty points collection schemes to maintain their clients and sustain their loyalty. The period of providing online banking was not significantly related to this stage's design features (the average of Spearman correlation = 0.040)

Regarding information search, there was no correlation between elements in this stage and the bank's years of experience of online banking (the average of Spearman correlation = -0.079) as all banks provided a variety of different means to help clients obtain information. However, it is noticeable that the banks which had provided Internet banking services for longer had a greater tendency to present elements such as interactive demos and search engines, whereas the banks with less experience tended to offer FAQs, standard demo, and website map. Lastly, the number of years did not have any influence with regard to elements such as guide list, contact details, and help desk.

Regarding the third stage, information evaluation, banks that had provided Internet banking for more than five years extensively provided access for their clients to use some evaluation tools. One large expert bank provided a live agent service 24 hours a day. Economic reports and links to related pages were provided by only one third of banks which had provided Internet banking for more than three years. The average Spearman correlation was 0.279, which indicates a weak relationship regarding elements of this stage with number of years providing online banking services

In relation to the fourth stage, the transaction decision, websites reflected banks' careful consideration of security issues, as all banks provided at least four elements through their website, irrespective of experience. There was a strong significant correlation between experience and both logging in through the corporate website and putting a keyboard on the screen; the more experienced the bank, the more likely it was to use these two elements. In general, the average Spearman correlation was 0.437, which indicates a moderate positive relationship. This means the more experienced banks are in Internet banking services, the more they will provide elements related to this stage.

Table 6.4 - Relationship between the Bank's Years of Experience in Providing Online Banking Service and Website Elements

Internet banking website's contents		Period of providing online banking services								
		less than 3 years(1)		3 to less than 5 years(3)		5 years or more(7)		Total		Spearman correlation
		BB		1B,HB,JB		AN,SB RY,BF AB,RJ,SM		11		
		N	%	N	%	N	%	N	%	
Need Recognition	Banner ads on the pages.	1	100	3	100	7	100	11	100	NR
	Pop-ups	0	0	0	0	2	29	2	18	+***
	Discounts	1	100	3	100	5	71	9	82	-***
	Gifts	1	100	2	66	4	57	7	64	-***
	Loyalty points collection scheme	0	0	1	33	3	42	4	36	+***
	"What's new" flashing icons	1	100	3	100	7	100	11	100	NR
	Identifying services and products.	0	0	0	0	3	42	3	27	+***
	Newsletters	1	100	3	100	7	100	11	100	NR
	Reminder operations	1	100	1	33	6	86	8	64	-**
The average of Spearman correlation for this stage is 0.040										
Information search	Frequently Asked Questions (FAQ)	1	100	2	66	5	71	8	73	-**
	Interactive demo (test drive)	0	0	0	0	5	100	5	45	+***
	Standard demo (presentation style)	1	100	3	100	2	29	6	55	-***
	Site index (website map)	1	100	2	66	6	86	9	82	-**
	Services and products index (guide list)	1	100	3	100	7	100	11	100	NR
	Contact details	1	100	3	100	7	100	11	100	NR
	Search engine	0	0	2	66	3	42	5	45	+**
	Help desk	1	100	3	100	7	100	11	100	NR
The average of Spearman correlation for this stage is -0.079										
Information Evaluation	Links to related pages	0	0	1	33	3	42	4	36	+***
	Financial advice	0	0	0	0	0	0	0	0	NR
	Economic reports	0	0	2	66	2	29	4	36	+**
	Live agent (chat room)	0	0	0	0	1	14	1	9	+***
	Tables to evaluate information	1	100	2	66	5	71	8	73	-**
	Figures to evaluate information	1	100	2	66	5	71	8	55	-**
	Statistical data to evaluate information	1	100	3	100	5	71	9	82	NR
	Evaluation tools	0	0	0	0	2	29	2	18	+***
The average of Spearman correlation for this stage is 0.279										
Purchase Decision	Test security level of client's computer	0	0	1	33	1	14	2	18	+**
	Providing security advice	1	100	3	100	7	100	11	100	NR
	Log in through corporate website	0	0	1	33	6	86	7	64	+***
	Putting a keyboard on the screen	0	0	1	33	6	86	7	64	+***
	Registration through ATMs or bank's branches	1	100	3	100	7	100	11	100	NR
	Showing last time to access	1	100	3	100	7	100	11	100	NR
	Applying daily maximum limit	1	100	3	100	7	100	11	100	NR
	Variety of services and products	0	0	2	66	7	100	9	82	+***
The average of Spearman correlation for this stage is 0.437										
Post-Purchase Behaviour	Giving transactions' reference number	1	100	3	100	7	100	11	100	NR
	Showing a confirmation page	1	100	3	100	7	100	11	100	NR
	Allowing printing out the transaction details	0	0	1	33	3	42	4	36	+***
	Sending confirmation by e-mail	0	0	1	33	2	29	3	27	+***
	Providing access to inquiries and complaints.	1	100	3	100	7	100	11	100	NR
	Short poll to indicate client satisfaction	0	0	1	33	2	29	3	27	+**
	Online surveys to measure client satisfaction	0	0	0	0	1	14	1	9	+***
	Online technical supports	1	100	3	100	7	100	11	100	NR
The average of Spearman correlation for this stage is 0.420										

Note: Very strong ***, Moderate **, Weak *, No Relationship NR + positive, - negative.

In relation to the fifth stage, post-transaction behaviour, all Saudi banks provided at least three elements to reduce post-transaction doubts that clients may experience after performing transactions. These were: giving a transaction reference number, showing a confirmation page, and providing access to inquiries and complaints. Only a

quarter of the banks that had been offering Internet banking for less than 5 years showed an approach to measure consumer satisfaction through the Internet, compared with almost half the banks that had provided Internet banking for five years or more. There were significant positive relationships between the number of years of providing Internet banking and elements such as sending confirmation through e-mail and allowing the client to print out the transaction details. Generally, the average Spearman correlation was 0.420, which means the more experienced banks have in Internet banking, the more they will provide elements related to this stage.

6.3.4 Relationship between the percentage of online clients out of total bank clients and website elements

Table 6.5 shows that in more than half Saudi banks, online clients represented between 10 to less than 30 percent out of the total client number. Only two banks had online clients representing more than 30 percent, and three banks had fewer than 10 percent. Looking at the first part of the table shows that there is a positive relationship between the percentage of online clients and some elements related to the need recognition stage, such as using pop-ups, loyalty points collection schemes, identifying services and products, and reminder operations. On the contrary, a negative significant correlation was found between percentage of online clients and giving discounts, which indicates that banks with fewer online clients are more dependent on this means to attract clients than other banks.

Banner ads on the pages, "What's new" flashing icons, and newsletters were used equally by all groups. Gifts were given by different banks with different percentages of online clients. The average Spearman correlation was 0.237, which indicates a weak relationship between providing elements related to this stage and the percentage of online clients.

In relation to the second stage, information search, three quarters of Saudi banks presented at least half the relevant elements. Banks with more than 30 percent of online clients were doing better than other banks; six elements were presented by all the banks in this category. Significant relationships were found in two elements, which were using search engine and providing interactive demos. The average Spearman correlation was 0.295, which indicates a weak relationship.

Table 6.5 - Relationship between the Percentage of Online Banking Clients out of the Bank's Total Clients and Website Elements

Internet banking website's contents		Percentage of online banking clients out of the bank's total clients								
		less than 10% (3)		10% to less than 30% (6)		30% or more (2)		Total		Spearman correlation
		IB,HB,JB,BB		AN, RY,BF AB,RJ		SB,SM		11		
		N	%	N	%	N	%	N	%	
Need Recognition	Banner ads on the pages.	3	100	6	100	2	100	11	100	NR
	Pop-ups	0	0	1	17	1	50	2	18	+***
	Discounts	3	100	5	83	1	50	9	82	-***
	Gifts	1	33	5	83	1	50	7	64	-***
	Loyalty points collection scheme	0	0	2	33	2	100	4	36	+***
	"What's new" flashing icons	3	100	6	100	2	100	11	100	NR
	Identifying services and products.	0	0	1	17	2	100	3	27	+***
	Newsletters	3	100	6	100	2	100	11	100	NR
	Reminder operations	1	33	5	83	2	100	8	64	+***
The average of Spearman correlation for this stage is 0.237										
Information search	Frequently Asked Questions (FAQ)	2	66	6	100	0	0	8	73	-**
	Interactive demo (test drive)	0	0	3	50	2	100	5	45	+***
	Standard demo (presentation style)	2	66	4	66	0	0	6	55	NR
	Site index (website map)	1	33	6	100	2	100	9	82	+***
	Services and products index (guide list)	3	100	6	100	2	100	11	100	NR
	Contact details	3	100	6	100	2	100	11	100	NR
	Search engine	0	0	4	66	2	100	5	45	+***
	Help desk	3	100	6	100	2	100	11	100	NR
The average of Spearman correlation for this stage is 0.295										
Information Evaluation	Links to related pages	0	0	2	33	2	100	4	36	+***
	Financial advice	0	0	0	0	0	0	0	0	NR
	Economic reports	0	0	2	33	2	100	4	36	+***
	Live agent (chat room)	0	0	0	0	1	50	1	9	+***
	Tables to evaluate information	1	33	5	83	2	100	8	73	+***
	Figures to evaluate information	1	33	5	83	2	100	8	55	+***
	Statistical data to evaluate information	1	33	6	100	2	100	9	82	+***
	Evaluation tools	0	0	1	17	1	50	2	18	+***
The average of Spearman correlation for this stage is 0.858										
Purchase Decision	Test security level of client's computer	0	0	1	17	1	50	2	18	+***
	Providing security advice	3	100	6	100	2	100	11	100	NR
	Log in through corporate website	0	0	5	83	2	100	7	64	+***
	Putting a keyboard on the screen	0	0	5	83	2	100	7	64	+***
	Registration through ATMs or bank's branches	3	100	6	100	2	100	11	100	NR
	Showing last time to access	3	100	6	100	2	100	11	100	NR
	Applying daily maximum limit	3	100	6	100	2	100	11	100	NR
	Variety of services and products	1	33	6	100	2	100	9	82	+***
The average of Spearman correlation for this stage is 0.483										
Post-Purchase Behaviour	Giving transaction reference number	3	100	6	100	2	100	11	100	NR
	Showing a confirmation page	3	100	6	100	2	100	11	100	NR
	Allowing printing out the transaction details	0	0	2	33	2	100	4	36	+***
	Sending confirmation by e-mail	0	0	2	33	1	50	3	27	+***
	Providing access to inquiries and complaints	3	100	6	100	2	100	11	100	NR
	Short poll to indicate client satisfaction	0	0	2	33	1	50	3	27	NR
	Online surveys to measure client satisfaction	0	0	0	0	1	50	1	9	+***
	Online technical supports	3	100	6	100	2	100	11	100	NR
The average of Spearman correlation for this stage is 0.358										

Note: Very strong ***, Moderate **, Weak *, No Relationship NR + positive, - negative.

In regard to the third stage, information evaluation, seven elements out of eight showed a significant positive relationship to proportion of online clients. They were, providing links to related pages, economic reports, live agent, tables, figures, statistical data to evaluate information, and additional evaluation tools. Banks whose online

clients represented less than 10 percent of their total did not present links to related pages, financial advisors, economic reports, or live agent (chat room) and only a third of banks in this category provided the other three elements. The average Spearman correlation was 0.858, which indicates a strong positive relationship between the provision of elements related to this stage and the percentage of online clients.

Regarding the fourth stage, transaction decision-taking, Table 6.5 shows that security issues were considered more by the banks with more online client than banks with a small percentage, although seven of the eight elements examined, related to this stage, were shown by half the banks in any case. However, three elements had a significant positive relationship with the number of online clients. They were giving clients a means of testing the security level of their computer, allowing log in only through the corporate website, and putting a keyboard on the screen. The average Spearman correlation was 0.483. This indicates a moderate relationship.

In regard to the fifth stage, post-purchase behaviour, banks with online clients representing over 30 percent of the total provided all eight elements related to this stage. In contrast, however, the website of three banks with fewer than 10 percent of their clients online were lacking several elements, such as allowing the printing out of transaction details**,** sending confirmation by e-mail**,** and measuring client satisfaction by a short poll or online survey. However, help to clients by providing technical support or through giving them access to make inquiries or complaints was offered on all banks' websites. The average Spearman correlation for this stage is 0.358.

6.3.5 Relationship between the percentage of online transactions out of total bank transactions and website elements

First of all, it is important to mention that the transactions which were considered here are online banking transactions, excluding e-trading transactions of selling and buying into the Saudi share market, since they might influence the accuracy of the findings and give misleading results. Therefore, the researcher asked the interviewees to give the percentage of online transactions, excluding e-trading transactions, out of the total banking transactions that clients' make. Table 6.6 shows that four banks completed less than 10 percent of clients' transactions online; the number of banks that accomplished between 10 percent and less than 30 percent was five banks and only two banks achieved 30 percent or over of their clients' transactions online. About half of the elements (21) had a positive relationship 17 elements did not show any relationship, and

three elements showed a negative relationship with percentage of transactions online. Here are the details:

In the first stage, need recognition, banks with fewer online transactions used gifts and discounts more than banks with more online transactions. Three elements did not have a relationship with the volume of online transactions. These were banner ads, "What's new" flashing icons, and sending newsletters. The rest of the elements showed a positive relationship. The average Spearman correlation was 0.237.

In the second stage, information search, half the elements did not show a correlation with proportion of online transactions. However, interactive demo, website map, and search engine were used by banks with a higher percentage of online transactions rather than banks with a low percentage of online transactions. Only frequently asked questions (FAQs) had a negative relationship, which means it was used more by banks with a smaller proportion of online transactions. The average Spearman correlation was 0.295.

In the third stage, information evaluation, about three quarters of the elements had a strong positive relationship with the volume of online transactions. This means the more banks provide tools that help clients to evaluate their transactions, the more online transactions will be obtained. The average Spearman correlation was 0.858, which indicates a strong relationship between provision of elements related to this stage and the percentage of online transactions out of the total number of clients' transactions.

In the fourth part of Table 6.6, purchase decision, half the elements showed no relationship with the online transaction volume, which means that all banks give security concerns equal consideration, regardless of the amount of online transactions they perform. Banks with a higher percentage of online transactions used additional elements such as log in through the corporate website and putting a keyboard on the screen more than other banks. The average Spearman correlation was 0.483.

In the last stage, post-purchase behaviour, tools to measure client satisfaction through the online banking website were not used in banks with online transactions representing less than 10 percent of the total. Technical support was equally used by all banks, irrespective of the percentage of online transactions. Regarding clients' cognitive dissonance, banks with more online transactions tended to provide more elements that

can reduce clients' cognitive dissonance than banks with fewer online transactions. The average Spearman correlation was 0.358.

Table 6.6- Relationship between the Percentage of Online Banking Transactions out of the Total Bank Transactions and Website Elements

Internet banking website's contents		Percentage of online banking transactions out of the bank's total transactions								
		less than 10% (3)		10% to less than 30% (6)		30% or more (2)		Total		Spearman correlation
		IB,HB,JB,BB		AN, RY,BF AB,RJ		SB,SM		11		
		N	%	N	%	N	%	N	%	
Need Recognition	Banner ads on the pages.	4	100	5	100	2	100	11	100	NR
	Pop-ups	0	0	1	20	1	50	2	18	+***
	Discounts	4	100	4	80	1	50	9	82	-***
	Gifts	2	50	4	80	1	50	7	64	-***
	Loyalty points collection scheme	0	0	2	40	2	100	4	36	+***
	"What's new" flashing icons	4	100	5	100	2	100	11	100	NR
	Identifying services and products.	0	0	1	20	2	100	3	27	+***
	Newsletters	4	100	5	100	2	100	11	100	NR
	Reminder operations	2	50	4	80	2	100	8	64	+***
The average of Spearman correlation for this stage is 0.237										
Information search	Frequently Asked Questions (FAQ)	3	75	5	100	0	0	8	73	-**
	Interactive demo (test drive)	0	0	3	60	2	100	5	45	+***
	Standard demo (presentation style)	4	100	2	40	0	0	6	55	NR
	Site index (website map)	2	50	5	100	2	100	9	82	+***
	Services and products index (guide list)	4	100	5	100	2	100	11	100	NR
	Contact details	4	100	5	100	2	100	11	100	NR
	Search engine	0	0	3	60	2	100	5	45	+***
	Help desk	4	100	5	100	2	100	11	100	NR
The average of Spearman correlation for this stage is 0.295										
Information Evaluation	Links to related pages	0	0	2	40	2	100	4	36	+***
	Financial advice	0	0	0	0	0	0	0	0	NR
	Economic reports	0	0	2	40	2	100	4	36	+***
	Live agent (chat room)	0	0	0	0	1	50	1	9	+***
	Tables to evaluate information	2	50	4	80	2	100	8	73	+***
	Figures to evaluate information	2	50	4	80	2	100	8	55	+***
	Statistical data to evaluate information	2	50	4	80	2	100	9	82	+***
	Evaluation tools	0	0	1	20	1	50	2	18	+***
The average of Spearman correlation for this stage is 0.858										
Purchase Decision	Test security level of client's computer	0	0	1	20	1	50	2	18	+***
	Providing security advice	4	100	5	100	2	100	11	100	NR
	Log in through corporate website	1	25	4	80	2	100	7	64	+***
	Putting a keyboard on the screen	1	25	4	80	2	100	7	64	+***
	Registration through ATMs or bank's branches	4	100	5	100	2	100	11	100	NR
	Showing last time to access	4	100	5	100	2	100	11	100	NR
	Applying daily maximum limit	4	100	5	100	2	100	11	100	NR
	Variety of services and products	2	50	5	100	2	100	9	82	+***
The average of Spearman correlation for this stage is 0.483										
Post-Purchase Behaviour	Giving transaction reference number	4	100	5	100	2	100	11	100	NR
	Showing a confirmation page	4	100	5	100	2	100	11	100	NR
	Allowing printing out the transaction details	0	0	2	40	2	100	4	36	+***
	Sending confirmation by e-mail	0	0	2	40	1	50	3	27	+***
	Providing access to inquiries and complaints.	4	100	5	100	2	100	11	100	NR
	Short poll to indicate client satisfaction	0	0	2	40	1	50	3	27	NR
	Online surveys to measure client satisfaction	0	0	0	0	1	50	1	9	+***
	Online technical supports	4	100	5	100	2	100	11	100	NR
The average of Spearman correlation for this stage is 0.358										

Note: Very strong ***, Moderate **, Weak *, No Relationship NR + positive, - negative.

6.3.6 Relationship between the number of Internet banking website pages and website elements

Table 6.7 shows that four Saudi banks had large websites containing 1000 pages or more, four banks had medium websites which contained 500 pages to less than 1000 pages, and only three banks had small websites with fewer than 500 pages each. The first part of the table, concerning need recognition elements, shows that eight elements out of nine were presented by three quarters of banks with bigger websites, while only four elements were considered by two thirds of banks with smaller websites, as a minimum. Large banking websites tended to provide more design attributes than smaller banking websites. Two elements were not seen in either medium websites or small websites. These elements were identifying services and products and pop-up ads. Three elements showed a strong positive relationship with website size, namely, giving discount, loyalty points collection scheme, and "What's new" flashing icons. The average Spearman correlation for this stage was 0.622.

In the second stage, information search, there was a significant relationship between two elements and the size of Internet banking website. These elements were site index (website map) and search engine. Three essential elements, namely services and products index (guide list), contact details, and help desk, were presented by all bank websites, irrespective of size. Interactive demos and search engines were not provided by smaller Internet banking websites. The average Spearman correlation for this stage was 0.466, which indicates a moderate relationship between this stage's elements and the size of the website.

In the third stage, information evaluation, seven elements out of eight were not seen in the smaller banking websites with less than 500 pages. This shows quite clearly that large websites tended to provide more elements than small websites in terms of the information evaluation stage. Financial advice was not provided by either larger or smaller websites. Clients cannot find any evaluation tools to assist them in smaller websites. The average Spearman correlation for this stage was 0.541, which indicates a moderate relationship between this stage's elements and the size of the website.

In the fourth section of the table, purchase decision, elements such as log in through the corporate website, putting a keyboard on the screen, and providing more than 75 percent of banking services and products online were found in only a third of small websites. In contrast, the same elements were shown in no less than three quarters

of the large websites. Four elements of security issues were considered by all bank websites, irrespective of size. The average Spearman correlation for this stage was 0.433, which indicates a moderate relationship between this stage's elements and the size of the website.

Table 6.7 Relationship between the Number of Internet Banking Website Pages and Website Elements

Internet banking website's contents		The number of Internet banking website pages								
		less than 500 pages (3)		500 to less than 1000 pages (4)		1000 pages or more (4)		Total		Spearman correlation
		IB,HB,JB		AN, BB,BF,SB		AB, RY,SM,RJ		11		
		N	%	N	%	N	%	N	%	
Need Recognition	Banner ads on the pages.	3	100	4	100	4	100	11	100	NR
	Pop-ups	0	0	0	0	2	50	2	18	+***
	Discounts	2	66	3	75	4	100	9	82	+***
	Gifts	1	33	3	75	3	75	7	64	+***
	Loyalty points collection scheme	0	0	1	25	3	75	4	36	+***
	"What's new" flashing icons	3	100	4	100	4	100	11	100	NR
	Identifying services and products.	0	0	0	0	3	75	3	27	+***
	Newsletters	3	100	4	100	4	100	11	100	NR
	Reminder operations	1	33	3	75	4	100	8	64	+***
The average of Spearman correlation for this stage is 0.622										
Information search	Frequently Asked Questions (FAQ)	2	66	3	75	3	75	8	73	+***
	Interactive demo (test drive)	0	0	2	50	3	75	5	45	NR
	Standard demo (presentation style)	3	100	2	50	1	25	6	55	+***
	Site index (website map)	2	66	3	75	4	100	9	82	+***
	Services and products index (guide list)	3	100	4	100	4	100	11	100	NR
	Contact details	3	100	4	100	4	100	11	100	NR
	Search engine	0	0	2	50	3	75	5	45	+***
	Help desk	3	100	4	100	4	100	11	100	NR
The average of Spearman correlation for this stage is 0.466										
Information Evaluation	Links to related pages	2	66	1	25	1	25	4	36	-***
	Financial advice	0	0	0	0	0	0	0	0	NR
	Economic reports	0	0	3	75	3	75	4	36	+***
	Live agent (chat room)	0	0	0	0	1	25	1	9	+***
	Tables to evaluate information	0	0	4	100	4	100	8	73	+***
	Figures to evaluate information	0	0	4	100	4	100	8	55	+***
	Statistical data to evaluate information	1	33	4	100	4	100	9	82	+***
	Evaluation tools	0	0	1	25	1	25	2	18	+***
The average of Spearman correlation for this stage is 0.541										
Purchase Decision	Test security level of client's computer	0	0	1	25	1	25	2	18	+***
	Providing security advice	3	100	4	100	4	100	11	100	NR
	Log in through corporate website	1	33	3	75	3	75	7	64	+***
	Putting a keyboard on the screen	1	33	3	75	3	75	7	64	+***
	Registration through ATMs or bank's branches	3	100	4	100	4	100	11	100	NR
	Showing last time to access	3	100	4	100	4	100	11	100	NR
	Applying daily maximum limit	3	100	4	100	4	100	11	100	NR
	Variety of services and products	1	33	4	100	4	100	9	82	+***
The average of Spearman correlation for this stage is 0.433										
Post-Purchase Behaviour	Giving transaction reference number	3	100	4	100	4	100	11	100	NR
	Showing a confirmation page	3	100	4	100	4	100	11	100	NR
	Allowing printing out the transaction details	0	0	1	25	3	75	4	36	+***
	Sending confirmation by e-mail	0	0	1	25	2	75	3	27	+***
	Providing access to inquiries and complaints	3	100	4	100	4	100	11	100	NR
	Short poll to indicate client satisfaction	0	0	2	50	1	25	3	27	+**
	Online surveys to measure client satisfaction	0	0	0	0	1	25	1	9	+***
	Online technical supports	3	100	4	100	4	100	11	100	NR
The average of Spearman correlation for this stage is 0.420										

Note: Very strong ***, Moderate **, Weak *, No Relationship NR + positive, - negative.

In the last stage, post-purchase behaviour, there was a significant relationship between the size of the website and the following aspects: allowing printing out of transaction details and sending confirmation by e-mail. However, online technical supports, providing access to inquiries and complaints, giving a transaction reference number, and showing a confirmation page can be found by clients in any bank website, regardless of size. The average Spearman correlation for this stage was 0.420.

6.4 Discussion

The previous sections have presented the findings from the first phase of data collection, consisting of interviews with bank managers, and content analysis of banks' websites. These findings will be discussed in detail, in relation to the findings of Phase Two, and relevant literature, in Chapter Nine, in order to answer the research questions. At this stage, however, it may be useful to highlight a number of points regarding the relationship between the two sets of data reported here, as well as the issues taken forward to Phase Two.

Part A of Phase One, the interviews, was exploratory in purpose, and was considered necessary to inform the design of Part B, the content analysis. At the most basic level, Part A elicited reports of the use of a variety of tools, features and mechanisms to attract and support Internet banking clients. These were used to generate a list of website features to be considered in the Part B content analysis. Part A also elicited claims related to efforts made by banks to consider clients in the five stages of the customer's decision-making process, which provided a basis for examining, through the content analysis, how far the considerations relevant to each of the five stages are reflected in website content. In other words, Part A was intended to provide insight into bank managers' and website designers' attitudes and rationales in relation to provision of Internet banking facilities, while Part B examined whether and how these are translated into website design.

Banks claimed to know clients' needs and several mentioned conducting surveys for these purposes, but few appeared to talk directly to clients in order to establish their needs. Their stance was generally reactive rather than proactive; in other words, they preferred to wait for clients to voice their needs. However, some mentioned a variety of discounts, gifts and promotional offers.

Content analysis revealed that in practice, all banks provided some website features related to the need recognition stage of decision-making, such as using banner ads, "What's new" flashing icons and newsletter, but large banks with large websites provided a wider range of features. Interestingly, banks with less Internet banking experience relied more than others on discounts and gifts, yet these features were also associated with smaller percentages of clients banking online, and smaller percentages of transactions done online. This calls into question the effectiveness of these particular mechanisms.

Related to information search, interviewees were generally confident that the website content was sufficient, and that the main concern was to focus on style of delivery, technical support and provision of search tools. In practice, however, content analysis revealed that larger banks, those with more online experience and those with larger websites reflected those concerns more in their websites, particularly through the availability of interactive demonstrations, website maps and search engines. These, in turn, were associated with higher percentages of online clients and transactions. Other banks offered less interactivity, confining their support to FAQs and presentations.

Regarding information evaluation, interviewees claimed to offer help, including in some cases, links to reports from other agencies, but they showed reluctance to provide online financial advice, either due to a preference for face-to-face contact, or for fear of incurring liability. This reluctance was reflected in website content, where financial advice was lacking, irrespective of bank size and experience. Larger websites provided more elements to aid in information evaluation than others. Notably, banks that provided more links to sites had more online clients, suggesting that the caution expressed by some interviewees about this practice might be an obstacle to the development of their online client base.

In relation to the purchase decision, interviewees focused strongly on security concerns and various ways of alerting and advising clients in this respect. The implication was that they saw this as a key issue in attracting and retaining clients. These views appeared to be supported by the content analysis. All websites surveyed contained a number of security features, although larger and more experienced banks offered a wide range of features. Moreover, banks offering more security features had higher percentages of online clients and transactions.

Finally, related to post-purchase behaviour, interviewees referred to a variety of confirmation and checking mechanisms, interest in client satisfaction (either through polls and surveys, or assumptions drawn from client behaviour) and technical support. In practice, the content analysis suggested that actual measurement of client satisfaction was more prevalent in larger banks. Banks more experienced in Internet banking offered a wider range of client service measures, and banks that offered more client service elements tended to have more online clients.

In general, Phase One of the research revealed that Internet banking managers claimed to have awareness of client needs and to make efforts to support clients at each stage of the decision-making process. However, the range and nature of the mechanisms they used in practice differed in relation to bank size and experience, suggesting that these factors affect banks' preferences, priorities and capabilities. Phase One also revealed that certain website features are associated with larger percentages of online clients and transactions; less reliance on gifts and discounts, greater interactivity and search support, more evaluation tools, including links to other relevant agencies' reports, more security features, and more client service elements – all of which tended to be found on larger websites.

This might appear to suggest that it would be desirable for some banks to expand their websites in order to offer more facilities and so attract more online clients and encourage clients to perform more of their transactions online. This phase, however, offers only general indications in this respect. In order to understand better which features are important to and influential on clients – and therefore most likely to repay the time, money and effort invested in the website as a marketing tool – the client perspective is necessary.

This leads to the issue of the relationship between the outcomes from this chapter, and Phase Two of the research. In Phase One, bank officials' explanations of their intentions and practice in relation to promoting Internet banking were explored, and it was shown how these are reflected in website content. As suggested above, it is necessary to investigate how website features are perceived by clients, in order to see whether banks' assumptions about client needs are valid, and whether the website features they provide have (or are likely to have) the intended impacts on clients. In other words, it is necessary to find out from clients themselves, how far the features of Internet banking as currently presented affect their intentions to continue using it.

In this respect, it is interesting that the interviewees in Phase One, Part A, expressed not only their intentions towards clients, but also certain assumptions about clients (for example computer literacy, security concerns, purchasing habits, fear of technology) suggesting that they tended to see obstacles to adoption of Internet banking as related more to weaknesses on clients' part, than to the nature of the bank's service or the manner in which it is presented. Examination of clients' perspectives would test whether bankers' assumptions are consistent with the interests and concerns expressed by clients.

It has also been suggested that certain features are relevant and influential at specific stages of the decision-making process. Such assumptions have been based on the literature and on bank interviewees' perspectives. This raises the question of what impact such features actually have at each of the five stages.

Thus, the two complementary parts of Phase One, that is, the interviews with bank managers and content analysis of websites, combine to provide a picture of Internet banking website features related to the five stages of the customer decision-making process, as interpreted by the providers. At the same time, they provide a springboard for Phase Two, where the clients' perspective is examined.

6.5 Summary

This chapter has presented an analysis of the outcomes of the first phase of this research. These outcomes have been presented in two parts. Part A focused on the findings of the interviews with 11 Internet banking managers. Part B reported the findings of the content analysis of 22 Saudi bank websites.

Regarding the objectives of the Saudi banks in setting up their online facilities, investigated in part A, agreement was manifested among the interviewees about several main objectives. However, these focused more on advantages to the banks (cost savings, competitiveness) than the benefits to Saudi clients.

All Internet banking managers claimed to have had clear plans to increase online clients over the coming years. However, there were differences between Saudi banks in their strategies to accomplish this. Internet banking managers held a number of assumptions about Saudi clients, perceiving computer illiteracy, security concerns, purchasing habits, Internet infrastructure, and fear of new technology as reasons why they may not use IB.

Internet managers displayed awareness related to all five stage of customers' decision-making process, and all the banks referred to various ways in which they aimed to attract and support clients in each stage, including through the provision of website features. However, they showed concerns that some kinds of information were not appropriate to be provided online, as they were considered more suitable for face-to-face contact. Interviewees also expressed fears of incurring liability, and a view that online services were constrained by current regulations (for example, through SAMA). Part A provided a basis on which a checklist of website features could be drawn up for content analysis in part B.

The interview data were complemented by content analysis of bank websites. Forty-one website elements which represented the five stages of the customer's purchasing behaviour were examined in relation to five bank characteristics: the size of the banks, the period of providing online banking services, the percentage of Internet banking clients out of total bank clients, the percentage of Internet banking transactions out of total bank transactions, and the size of the Internet banking website. It was found that the intentions and concerns expressed by interviewees were reflected in bank websites, all of which contained a number of the listed features related to each stage of the decision-making process. However, large banks, those with more IB experience, and those with larger websites, provided greater interactivity and a wider range of website features at each stage. Those characteristics, moreover, were associated with larger percentages of online clients and transactions.

This phase of the research provides insights into banks' perceptions of and intentions towards their clients in relation to IB, and how these are translated into website contents. However, questions now arise as to the validity of banks' assumptions about their clients, how IB services generally and website features specifically are perceived by clients, and how important such features may be at different stages of the decision-making process. These issues were investigated in Phase 2, the outcomes of which are presented in chapters Seven and Eight.

CHAPTER SEVEN

THE SECOND PHASE DATA ANALYSIS: PART ONE

Figure 7.1 - Following the Research Stages

Chapter Two: Theories applied to new technology adoption and Internet banking acceptance
Chapter Three: Theoretical framework and presenting the research model
Chapter Four: The situation in the KSA, financial sector and Internet banking services
Chapter Five : Research methodology and data collection design
Chapter Six: Outcomes of IB managers interviews and content analysis of banks' website
Chapter Seven: Outcomes of the interviews with Saudi clients (IB users and non-users)
Chapter Eight: Findings of online and offline questionnaires of Saudi banks' clients
Chapter Nine: Interpretation and discussion of the findings
Chapter Ten: Summary and conclusion

7.1 Introduction

The research employed a triangulation approach, combining quantitative and qualitative methods in phases one and two, with the aim of minimizing the potential disadvantages of either method used singly.

The data from phase two of this research are analysed and discussed in two main parts. Part one, in this chapter, contains the qualitative findings from semi-structured interviews with forty Saudi bank clients, divided into twenty users of Internet banking (IB) and twenty non-users.

The chapter is divided into six main sections, addressing successively the interview method and the issues raised in the research questions, specifically, component elements of the Decomposed Theory of Planned Behaviour (DTPB) (Chapters Two and Three). It begins in section 7.2 with a description of interviewees' sample. Section 7.3 presents respondents' views on obstacles and motivators to IB in Saudi society, while 7.4 follows with an examination of client attitudes towards Internet banking. Subjective norms, composed of peers' and superiors' influence, are explained in 7.5. Section 7.6 discusses the issue of behavioural control. In 7.7 drawing on the customer's purchasing decision-making process (DMP), clients' perceptions of system characteristics in relation to each stage of the purchasing DMP model (Chapter Three), are reported. Finally, the chapter is concluded by a brief summary.

7.2 Part One: Interviews with Saudi Clients

The research approach in phase two, part one was to conduct semi-structured interviews in which respondents were able to speak freely on pre-determined topics. This allowed the researcher to seek below Saudi clients' surface knowledge about the perceived elements and consequences of their adoption, or otherwise, of IB.

The sample was designed to include Internet banking users and non-users from many segments of Saudi clients: male and female, young and old, various monthly income groups, educational levels and levels of Internet experience, and a variety of occupations. Sample statistics are summarised in Table 7.1.

Table 7.1 - Description of Demographic Characteristics of Participants

Demographic characteristics		Number	Percentage
IB using	*IB users*	20	50
	IB non-users	20	50
Gender	*Male*	23	57.5
	Female	17	42.5
Age	*18−25 yr*	7	17.5
	26−35 yr	12	30
	36−45 yr	17	42.5
	46−55 yr	3	7.5
	Over 55 yr	1	2.5
Internet Experience	*No Experience*	7	17.5
	Less than 1 yr	2	5
	1>3 yr	7	17.5
	3 >5 yr	9	22.5
	5 >7 yr	6	15
	7 yr or more	9	22.5
Monthly Income	*Less than 4000 SR*	4	10
	4000 >8000 SR	7	17.5
	8000 >12000 SR	10	25
	12000 >16000 SR	13	32.5
	16000 >20000 SR	4	10
	Over 20000 SR	2	5
Educational Level	*Less than High School*	1	2.5
	High School	13	32.5
	Bachelor degree	25	62.5
	Master degree	1	2.5
	Ph D degree	-	-
Occupation	*Student*	4	10
	Housewife/Husband	3	7.5
	Retired/pensioner	-	-
	Self-employed	6	15
	Civil servant	14	35
	Member of the police or armed forces	5	12.5
	Private sector employee	8	20

Of the 40 participants, as the table shows, 57.5% were male and 42.5% were female. Three quarters of the participants were between the ages of 26 and 45. 82.5% had varying levels of experience with the Internet. 65% had at least a bachelor's degree, which indicates well-educated participants. Although the participants were not chosen purposively with this in view, this was important, as such participants would be more likely to have had the opportunity of exposure to computers and the Internet, whether or not they decided to adopt IB. Monthly income levels were, on the whole, in the medium range, as more than half the participants reported income in the range of 8000 to 16000 SR. Apart from a small number of students and housewives (10% and 7.5% respectively), all participants were employed in various occupational categories.

As with the phase one (A) interviews reported in Chapter Six, Nvivo7 software was used to facilitate analysis. Again, data were sorted in different nodes, each reflecting a theme and analysis was extended by using tree nodes as necessary. The qualitative analysis process was completed by interpretation of the gathered data: clarifying meanings, organizing and explaining data, and looking for relationships, to gain an understanding of the various dimensions explored.

7.3 Obstacles to Internet Banking Adoption and Motivating Factors in the Context of KSA

Numerous barriers were reported as inhibiting Saudi people from using IB. An extensive sorting procedure resulted in identification of seven main types of barriers to Internet banking use, which were stated by Saudi clients as being strong impediments to the adoption of online banking services. These are presented in general terms in Table 7.2 and then each of the categories of response is discussed. To avoid repetition, the barriers will be presented according to the frequency with which they were mentioned, beginning with those most frequently stated.

Table 7.2 - Essential Barriers to Saudi Clients' Adoption of Internet Banking Services

Psychological Barriers
Marketing Barriers
Educational Barriers
Technical Barriers
Cultural Barriers
Economic Barriers
Linguistic Barriers

7.3.1 Psychological barriers

Respondents who were deterred from using IB by psychological barriers fell into three main categories: those who perceived that IB was risky, those who saw no need for it, and those who preferred services with a more 'human' face.

a. Perceived risk

The majority of non-users from different categories did not fully trust Internet transactions and perceived an amount of risk if they used IB, especially security risks associated with using the Internet.

Internet surroundings were also considered unsafe by the respondents. Non-user respondents believed their bank accounts might be vulnerable to misuse through the Internet. These respondents were not only afraid of making mistakes or something going wrong but simply felt the channel was by nature highly insecure. One client explained his fear clearly: *"This new technology represents something unknown for us, and those people who invented it, and are professional about it may take great advantage of us" (Interviewee 29).*

The security concern was associated more with female than male respondents and with older than younger ones. Trust in the Internet was gained through long-term Internet usage and this was found to be an important factor in the decision to adopt IB. This finding is consistent with the literature (Bauer 2002; Kim and Prabhakar 2004; Bauer and Hein 2006). Trust, risks, and security will be discussed further in sub-section 7.4.6 later in this chapter.

An official receipt seemed to be another important psychological factor that reflects the purchasing culture for many Saudi clients. Some respondents referred to a "yellow paper", the client's copy of any banking transaction performed through banks' branches, which is not available with Internet banking. For these respondents, a receipt received from a bank branch, or even from an ATM generates the feeling of certainty and security, by providing concrete evidence of a completed transaction. An official receipt was also important for respondents who preferred having control over their expenses or keeping them in a record. One client explained, *"I have to keep a record of the yellow paper receipts as tenants of some of my properties pay their monthly rent and give me these receipts, which I keep in my records, and I do not think this could be done*

in other ways" (Interviewee 20). Absence of such receipts made Internet banking appear a less attractive option for such respondents.

b. No perceived need

Non-user respondents, unlike users, indicated that they did not feel the need to use Internet banking. A large majority of such respondents indicated that they were very satisfied with the way they currently performed their banking transactions. They deemed ATMs and phone banking as simple, fast, and accessible services through which they could easily accomplish their banking needs. It seems that ATMs and phone banking were preferred options. These respondents, in general, did not appreciate newness but preferred existing habits. Some respondents argued that they were comfortable with their routine usage of banking transactions and they did not want to learn new banking methods.

Other non-users, especially older ones, gave other reasons for not being interested in learning this technology. For example, they saw IB as a new technology, which had less than 10 years history in Saudi Arabia. Although they perceived some of its advantages, one commented, *"Being useful for some people does not mean it is surely beneficial for all. I do not think I need it" (Interviewee 4).* They felt that they had passed the age for learning about such technology, as they believed it was only for the younger generation. In addition, it appeared that there was no motivation for them to find out about the Internet.

Among these respondents, resistance to change was high. A minority of non-users said they were not sufficiently motivated to find out what Internet banking offered and what needed to be done to become an Internet banking user. The implication was that these respondents had the skills to find out if they wanted to do so, but they were simply not interested.

Three respondents did not consider themselves to be heavy users of banking services, but said that if they were, they would be IB users, implying that, at present, becoming an Internet banking user held few benefits for them. One explained, *"My banking business is very simple. It doesn't go beyond paying utility bills, withdrawing, and transferring, but if I wanted to participate in SSM and speculation like other people, I think I would have to use Internet banking" (Interviewee 2).*

Accordingly, the degree of involvement in financial transactions seems to influence the adoption of IB over other channels. This is an interesting finding that would be worthy of further investigation in the next stage.

c. Lacking the human touch

Some respondents commented that there was no human interaction when sourcing financial services over the Internet. In other words, a service delivered over the Internet lacked the human touch.

While some IB users were content with the loss of contact with call-centre or branch staff when using Internet banking, some non-users expressed that they would miss the loss of personal relationships with branch personnel if they used IB. This suggests that for some people, the human touch is still important.

This concern was related to feeling unsure of the channel and being afraid of making mistakes. Some respondents were concerned that the Internet might deliver difficult instructions and they felt more anxious about the possibility of making mistakes. In contrast, this was of less concern when using ATMs, because as one client said, *"You can always find someone next to you to ask how to do things when you use ATMs' services" (Interviewee 3).*

7.3.2 Marketing barriers

The second most often cited reason for not using Internet banking was lack of knowledge about the service. Non-users regarded Internet banking as a newly developed channel on which insufficient information was available. They did not feel they had received enough information from the banks to increase their awareness about such services. Some respondents were unaware of what needed to be done to become an Internet banking user. One client said, *"I have heard about it from friends but I do not know how to join this service"(Interviewee 30).*

Others were not aware of what financial services could be sourced over the Internet, and an even smaller number mentioned that they did not know what level of PC skills was needed to operate as an Internet banking client.

Eleven non-users of different types highlighted not having known or thought about Internet banking previously, nor having seen it advertised. Providing a successful service not only depends on facilitating this service for users with the required

efficiency and reliability, but also on its being marketed with extensive and aggressive promotional activities through successive marketing campaigns.

A non-user of IB illuminated this: *"I see some ads about it in newspapers but I know nothing about how to use it or the benefits of using online banking; they are not giving any instructions for it and how to use it" (Interviewee 28).* One non-user mentioned that he had occasionally received SMSs through his mobile from the bank informing him that Internet banking services were available and giving the URL, but nothing else, whereas clients need more persuasive information to encourage them to change their consuming behaviour. Other non-users alluded to the ineffectiveness of Internet banking marketing methods, even if they contain some offers, suggesting the need for banks to motivate interest, perhaps through having training sessions running continuously under banks' supervision. The need for initial encouragement was very clear for some clients who did not have deep knowledge about IB services as an effective channel through which they could perform various financial transactions. Some male clients, who were interested in using IB, commented on the lack of training for Internet banking usage, which left them uncertain about it. One elaborated, *"I wish someone would teach me how to open an online financial wallet and do initial public offerings (IPOs) through it, instead of going to the bank every time I want to do this" (Interviewee 3).* Such clients indicated a possible interest in using IB if they were given some training by the banks, to show them what was available and how to perform IB. One participant asserted that there was a desperate need for such training sessions in some areas, to promote awareness and understanding of IB among potential IB users.

It appears that the marketing of Internet banking has eluded the awareness of some clients who may be potential adopters. Male and female non-user participants remarked that they did not bank via the Internet because they had not attempted it, believing it to be too complicated or of little interest. Importantly, women participants who did not use IB did not appear to have been reached at all by bank marketing and many were unaware of the service. In summary, the results suggest that gaining clients' awareness is influential in the adoption of Internet banking and that this must be achieved before any other factors are considered.

7.3.3 Educational barriers

Unarguably, computer illiteracy is a fundamental reason for non-adoption of IB by Saudi clients as they, simply, either did not use computers at all or only used them

for very simple tasks at work. Six respondents, who tended to be older, female, or less educated people, indicated that their knowledge of computers and the Internet was very limited. Three of these respondents did not have a computer at home. The other three acknowledged that although they had a PC at home for the family, they never used it for access to the Internet. One housewife who had a bachelor's degree said, *"Although we have a computer at home for children to play and learn about it, I don't use it and I don't really understand very much about it. I think I have very limited knowledge about computers as I used to do simple things when I was at university such as typing some letters by using word-processing, but I don't use it anymore" (Interviewee 30).*

The rest of the participants had either a home PC, or a laptop, or a computer at work, and they were able to access the Internet.

It was very clear from clients' interviews that accumulated knowledge leads to adoption of IB, which means using IB comes not only after obtaining a computer and gaining access to the Internet, but also after gaining essential knowledge about handling a computer, accessing the Internet regularly, and having been familiar with this technology for some time.

7.3.4 Technical barriers

Technical barriers relate to inaccessibility, mainly due to respondents being unable to connect to IB. This may have been because they did not own a PC, did not subscribe to an Internet service provider, or because the technical specification of their PCs did not satisfy the requirements of Internet banking. Other respondents, who presumably did not subscribe to DSL services, commented that access would be slow and tedious.

IB users who were using dial-up connection also reported that the difficulty of obtaining DSL Internet connection in some areas in Riyadh or other cities in KSA still represents an obstacle, which reduces the use of IB services. Other users commented on the importance of rapid connection, as the number of DSL was limited, and it was necessary to wait for a long time to get a DSL line. This was considered a major barrier to accepting IB.

Overall, the findings showed perceptions of adequate Internet accessibility to be highly significant. As one client commented, *"Access to the Internet is the issue. We've*

all got computers at home, but we do not have access to the Internet, and do not ask us, ask the communication company." (Interviewee 4).

This comment from a non-user is illustrative of non-users' comments suggesting that missing or inadequate Internet accessibility was a key influence on the adoption decision.

With reference to dial-up connection, both users and non-users of IB mentioned disorder of the line and difficulty in opening the pages, especially those which contain drawings or figures. They argued that this affected their decision to use IB regularly and they found paying bills and performing transactions through ATMs or banking phone quicker.

7.3.5 Cultural barriers

There were some cultural factors that were seen to affect Internet penetration among Saudi people. A small number of Saudi clients, who were conservative people, considered the Internet as a liberal medium that is very difficult to control, which may bring a lot of disorder, distraction and confusion to the home and family. This prevented them from considering subscribing to the Internet from their homes. One non-user commented, *"It would be very difficult to raise my kids rightly according to Islamic values, if I brought the Internet to our home. It has a lot of negative sides" (Interviewee 27)* .To avoid repetition, further explanation related to cultural barriers will be given later on in this chapter, when Saudi clients' attitudes towards Internet banking are discussed in sub-section 7.4. Islamic cultural beliefs, which seem to be very conservative towards using a liberal channel that can be perceived to be manipulating, were expressed by non-users, particularly older ones, and especially women. It was noticed that such factors did affect the penetration of the Internet among some families.

Other non-users considered the Internet as a channel of entertainment more than a business channel. They strongly believed that the Internet was meant to be an enjoyable communication tool for e-mailing, chatting, and searching, but not for performing business.

7.3.6 Economic barriers

Equipment and procedures required to access IB were considered costly by users and non-users alike. Some respondents expressed concern about the need to buy a PC.

Strong concerns about Internet subscription prices were also raised by respondents. They thought that PC, laptop, and Internet connection subscription prices were more expensive compared, for example, with closed markets such as the Gulf Countries, Egypt, and Jordan. Some non-users suggested that these costs were disproportionate to the advantages to be gained and that the capital expenditure could not be justified.

Whilst the above concerns were expressed mainly by non-user clients, users mostly complained about the cost of Internet subscription, as they were currently PC owners and the initial capital outlay on a computer had already been expended. They believed the cost was still high for a sophisticated connection such as DSL, so they were content with Dial-up. For these respondents, economic considerations were, thus, more influential on their adoption decision than convenience.

Whereas these concerns were expressed both by people who had Internet connections and people who did not, they were expressed particularly by younger clients, those on low incomes, and people who did not perform many financial transactions.

7.3.7 Linguistic barriers

A number of Saudi clients perceived difficulty in using either a computer or the Internet because they associated these technologies with the English language. Because they did not know English and were not willing to learn it, they dismissed the idea of using these technologies.

As discussed further, later in this chapter, language barriers were considered a significant obstacle not only for non-users but also for users of IB. One client said, *"When you want to use a computer or the Internet you have to have a minimum degree of knowledge of English language to deal with them with no trouble. Otherwise you will find a lot of vague terms" (Interviewee 34).* Another client added, *"I do not like to surf the Internet because most of the useful, interesting, and constructive websites are in English" (Interviewee 9).*

As the above discussion has shown, there were clearly a number of factors, some general and others more specific to the Saudi environment, which constituted deterrents to use of Internet banking. Nevertheless, not all comments were negative; a few factors

were identified as encouraging factors that encouraged Saudi clients to adopt IB, as the next sub-section indicates.

7.3.8 Encouraging factors

Awareness about this incoming technology has increased considerably because of investment in the Saudi Stock Market (SSM) and the great boom that occurred in 2004 and 2005 (Chapter Four). The economic prosperity experienced by Saudi society since 2004 as a result of increasing international oil prices has directly affected Saudi people, as the Saudi government has increased salaries twice by 30% in the last three years. This was accompanied by extensive media coverage, highlighting the possibility for anyone to participate in the SSM and gain considerable revenue. This development contributed to awareness about IB as Saudi banks were the only places where Saudi people could go to participate in the SSM. Before that, participating in IPOs had become very popular, as they were, and still are, very profitable for investors, as prices could double or treble within a month. However, Saudi banks were not prepared to perform IPOs by using IB until 2005. They required clients to visit a bank branch to fill in the application and pay the money in person. One client explained what encouraged him to use IB: *"Four years ago, you cannot imagine what it was like when six or seven million people went to banks to participate in any IPOs in just one week; long queues and a huge number of people wanted to get this service by visiting bank branches in just a very limited period of time. It was a nightmare for banks and for clients" (Interviewee 12).*

Consequently, investment by Saudi clients in SSM contributed directly to their opening IB accounts, as it was the most efficient, convenient, easiest and most successful method to perform these transactions. In three years, the number of people who entered the stock market rose by 600% (Almalki 2008). In addition, several governmental agencies have asked and encouraged people to use electronic channels to make payments.

Experience of using well-known websites such as Amazon.com encourages people to use IB. These services and others showed the usefulness of online purchasing and the ease of such transactions.

Generally, clients who were younger, more educated, more innovative, less risk averse, perceived IB as being less complex, perceived it as an essential need, and more

compatible with their lifestyle, were likely to be IB users. The latter attitudinal characteristics will be further elaborated in the next section, which probes respondents' beliefs and perceptions towards the concept of IB.

7.4 Saudi Clients' Attitudes towards Internet Banking

The researcher asked clients some questions focusing on their attitudes, beliefs, and behaviour, in order to gain insight to their feeling towards IB, and why it was or was not important to them.

The findings revealed some interesting differences between users' and non-users' attitudes. The majority of Saudi clients who used IB had mainly positive attitudes towards Internet banking. They were very impressed by the ability to perform their banking business at home, valuing the convenience of anytime, anywhere access. They considered IB as a modern method in line with the spirit of the age, and offering great benefits regarding speediness, convenience, avoidance of queues, ability to perform financial business oneself in one's own way, and ability to perform transactions at any time and from any place that has the Internet. Most users revealed that IB had become a vital necessity, especially for those who speculate daily in the Saudi Stock Market, as it is fast, effective, accurate, gives much information, offers more freedom, especially in following up sales and purchases precisely and instantly, and allows users to take decisions in the best way for performing such business. For all these reasons, they suggested that other methods did not compare.

Others, who used the Internet but not Internet banking, had positive attitudes towards Internet usage in various aspects of life in general, but did not have such strong attitudes as the first group had. They thought that IB was a useful idea in harmony with today's life. However, they also had some reservations regarding the simplicity of learning about IB and its performance and a large percentage of them did not see a real need for IB. However, some of them hoped they would have the chance to learn about it and perform some transactions in this way.

The third group was the clients who rarely used the Internet or did not use it at all. Here, the attitudes toward the Internet in general and toward IB in particular were inconsistent. Some respondents had positive attitudes toward the Internet as a new technology that should be learnt and used, although they thought at the same time that it was intended only for certain people such as youth and educated people. Others had

negative attitudes toward the Internet as a permissive libertarian, channel that would or could corrupt the rather conservative Saudi society. These negative attitudes were expressed by older respondents.

Regarding Saudi women who used IB, they had positive attitudes towards IB. They deemed it as an idea which was in harmony with traditional values regarding Saudi women's roles and expected behaviour, for the following reasons.

1. There are no women's bank branches except in the main towns and neither these nor ATMs are available in villages, which makes conducting banking business difficult.
2. Saudi women are not allowed to drive cars, by law. Therefore, going to the few women's bank branches or ATMs can be difficult for them. Also, Saudi women, being conservative, cannot mix with men or stand with them in the same queue in front of an ATM, as to do so would cause great embarrassment, and this adds to the difficulty of performing financial transactions.
3. Some conservative Saudi women are embarrassed even to talk with men on the phone, making it difficult to talk with the bank's officers, who are mostly men.
4. Through IB Saudi women can perform their banking businesses from their homes by themselves without obtaining help from fathers, brothers, husbands, or sons, who usually do such businesses on behalf of Saudi women, because of the constraints on women's movements and social interaction. This enables them to retain their privacy.

This is considered vital information for banks' design-makers as this useful knowledge could change their marketing activities to emphasise these key massages. Regarding others who did not use IB, it was noticed that they had greater fear and less interest in IB services on the whole. It seemed they had busy lives with children, household tasks, or work duties, and did not like the idea of sitting in front of a computer monitor with all their responsibilities around them. For example, one female non-user expressed her concern, saying, *"Why should we put ourselves in a risky situation by using IB while we can do banking by phone banking? It is faster and more convenient" (Interviewee 32).* Another woman said, *"Even if I got trained on IB, I'm afraid I would soon mess it up" (Interviewee 29).* These women had negative attitudes towards IB and preferred to stick with traditional channels. Banks would find it difficult

to convince such clients who showed reluctance to accept this technology because of their strong resistance to change.

Saudi men who were non-users did not express similar strong negative attitudes towards using Internet banking, although this does not necessarily mean that they had none. This was an issue that needed to be investigated further and tested in the next stage of the research.

7.4.1 Perceived Relative Advantage

Some non-users perceived benefits, which they could derive by using IB, such as comfort, performing the process at any time, avoiding crowds and not having to go out at inconvenient times. However, they saw these as minimised or outweighed by other factors. For example, they thought they had little to gain from using IB, as they did not have many banking needs; their banking needs were simple and infrequent. Others were completely satisfied with their current transactions by telephone or ATMs. One non-user said, *"The ATM is on the way to my house so why should I bother myself with IB when I can do all my banking business through it?" (Interviewee2).* Another added, *"I find phone banking easy to use and it can be used anywhere anytime by dialling the free number" (Interviewee 26).*

By contrast, other users saw difficulty in performing their banking business without using IB because they had large transactions with high involvement in banking and financial business and frequent transactions, which required them to use IB daily, especially those who used it as a channel for investment or speculation in the SSM. These clients saw IB as the only effective method for performing and following up their banking business successfully. Selling and purchasing shares through IB had completely superseded other methods such as attendance at share halls, which are normally crowded, or through dealers or phone banking, which were all considered not reliable and fast enough to keep pace with current prices. Nevertheless, appreciation of IB was not confined to investors on SSM. Users also welcomed its convenience for regular domestic transactions. One user admitted, *"I cannot see myself going back to do my banking services as I used to do, since discovering IB." (Interviewee 19).* Another added, *"With all these crowded streets and overcrowded bank branches, IB is extremely useful to pay your bills from your home, as you have to do this at least once every month" (Interviewee 22).*

Convenience, speed, usefulness and ease of access anytime and anywhere were highlighted repeatedly as important advantages that were perceived by users. Although both users and non-users recognized the advantages associated with IB, users saw IB as the best and most effective channel for performing frequent banking business, whereas non-users saw some advantages, but did not see them as pressing needs. They believed they did not require higher levels of convenience, speed, usefulness and accessibility than they already enjoyed. One said, *"If I had to bank through IB, I would use it. But I feel it is not going to change anything for me" (Interviewee 9).*

Interestingly, the results showed that many Saudi people who did not use Internet banking were not only pleased with existing service channels for executing their banking transactions but also perceived relative advantages related to these channels over IB. For example, they saw going out to share halls in banks as an opportunity for beneficial financial consultations, obtaining advice, meeting friends and having social conversations. In regard to phone banking, they referred to the simplicity of using it from any place without needing anything except a telephone; moreover, it is a free channel as they can use the bank's free number.

Prior experience and wide use of Internet banking was found to be extremely influential in relation to perceptions of relative advantage, as these clients were using a broad spectrum of IB products and services, and seeking various benefits from it. The findings also showed that Saudi clients who did not use the Internet channel did not feel there was a need to do so, suggesting a lack of realization of relative advantage, which means that many of them were simply unaware of Internet banking and its benefits.

Convenience was mostly described in terms of lifestyle, access from the workplace or home, not having to go out or stand in queues, saving time, anytime anywhere access, performing one's business by oneself, personal safety, and personal privacy, especially for Saudi women, as discussed earlier.

An interesting finding was that Internet banking users believed Internet banking to be faster than performing transactions by phone, while non-users had exactly the opposite view. Likewise, another interesting finding was that users were content to avoid dealings with bank's officers through using IB; as one female user said, *"The limited number of banking employees at women's branches with quite a large number of female clients, makes dealing with such employees very difficult as they always get*

annoyed easily" (Interviewee 35). However, non-users, on the other hand, expressed a fear of losing the human touch by dealing only with computers if they used IB.

Not surprisingly, users, male, and younger clients commented more on the value of speed in their choice of Internet banking than did others. However, both users and non-users referred to the unpleasantness of waiting in line at bank branches.

7.4.2 Compatibility

Non-users saw the other channels such as ATMs and phone banking as more in harmony with their life style and with their present needs than IB. IB was not suitable, in the view of non-users, for the following reasons:

1. They believed that IB was not suited to them as their banking needs were limited and simple or there was someone else who performed transactions on their behalf. For example, one woman said,*" My husband is in charge of doing all our financial business, so I really do not need this service" (Interviewee 24)*. Some said that they might use IB if their banking transactions increased.
2. They were not only uninterested in IB but they also had a great feeling of inertia. One said, *"Despite having the Internet at home, I do not do banking online. I'm just too lazy to find out what it is about"* (*Interviewee 6).* They simply did not accept the idea of sitting for a long time in front of a computer monitor. This shows that they were not sufficiently motivated to discover what IB is all about.
3. Some of them mentioned that they were not capable of learning IB in their present circumstances; they believed they did not have enough time and desire to learn IB or they believed that they were too old to learn a new technology.
4. There are other better alternatives, as they believed, which are available, handy, and easy to use. The majority of non-users perceived phone banking as more compatible with their lifestyle. According to one participant, *"Nowadays, everyone has a mobile phone and can call the bank anytime, anywhere, compared with the limitation of IB, which requires a computer and Internet subscription to obtain access" (Interviewee26).*
5. A number of Saudi women, who did not use IB, although they realized its compatibility with their traditional social life, gave the following reasons:

   - Using telephone banking is much easier from any place, at any time.

- They thought it would be difficult to learn IB and perform transactions through the Internet.
- They feared that IB posed great risk and was not trustworthy enough.

Surprisingly, users had exactly the opposite views. They perceived IB as totally compatible with their lives and in line with many of their needs in terms of speed in performance, accuracy and flexibility. Some mentioned that they performed personal transactions, or bought and sold shares from their offices while they were at work, through IB. One client declared, *"As a working man, I really need a service like IB where I can do all my financial business without leaving my workplace" (Interviewee13).* Another client added, *"All bank branches open at the same time as the working time of Saudi employees, which makes it very difficult to go to the bank if you want to perform something" (Interviewee 11).* One said he carried his mobile to the workplace to follow up the stock share prices, as he could access internet through a WAP phone and he did not have Internet access at his workplace.

Those who travelled outside the country felt that nothing would be more suitable than IB, in view of the difficulty of phone banking abroad, as the bank's free number could be called only nationally and other numbers were costly. One user declared that free numbers could not be called on one's mobile phone and public or hotel phones are not secure enough to bank from. Also, phone banking is rather confusing as it involves a menu of choices and it is necessary to listen carefully to every choice. One client said, *"I could use IB overseas when I studied abroad, as I was able to pay my bills, buy, and sell shares in SSM through the Internet easily with total convenience" (Interviewee 22).*

Another user mentioned the importance of IB in following up one's business; he had a small shop and accessed IB every day to pay bills, make transfers, and monitor his banking transactions. He thought that no-one who had a very small business could administer his work efficiently without using IB.

7.4.3 Perceived Ease of Use

"Ease of use" was frequently cited and found to be closely linked to individual perceptions of complexity. It was clear that some non-users had developed strong beliefs about the complexity of IB without even having seen it.

It was evident that ATMs were preferable to non-users, because they were afraid of using IB and making mistakes. They considered IB both inconvenient and not so easy

to use compared to ATMs or phone banking. They added that ATMs and phone banking instructions are clear and easy to follow, even without any experience, as they give the user a number of choices in a conversational style, asking what he/she intends to do and taking them through the process step by step, giving alternative answers.

Several users mentioned that their first impression of IB was a mixture of fear, confusion and doubt that they would be able to perform it easily. Regarding IB users, difficulties were centred on registering and setting up an account on IB, and especially the first few transactions. One said, *"I was worried in the beginning that without help I could not understand it, ever" (Interviewee 20).*

Slowness of downloading was also mentioned. In several cases, users indicated some aspects of complexity regarding design issues. They commented on difficulty in understanding some aspects of banking websites, which deterred them from using some of these elements, such as use of some advanced technical language, which they did not understand (more explanation regarding this point will be given in the sub-section 7.7, perceptions of banking website characteristics).

Other concerns pointed towards information overload, which resulted in difficulty understanding the information provided and reaching the desired function. One respondent commented, *"Why do they have to compress everything in the banking website when most clients want to do only a couple of simple things?" (Interviewee 39).*

The non-users saw some difficulty as not related to IB itself, but to computer knowledge. Some of them faced barriers to using computers easily and still had difficulties in handling them properly. Two respondents referred to difficulties related to Internet usage in terms of preparation for connection and understanding its functionality.

Not surprisingly, therefore, IB was seen as easy to use, only if one had considerable previous experience and familiarity with both computers and the Internet, and users who had long experience of using computers and the Internet were more inclined to perceive the IB system as simple and clear.

Notwithstanding these reservations, several ideas were offered by participants as to how IB might be made much easier for users.

1. Banks could distribute simple leaflets to clients to explain the process, simply and systematically.

2. The main list could appear consistently on all pages in a fixed order, so one could easily choose anything through any page instead of going back to the main page every time.
3. It might be possible to save some transaction procedures so clients do not have to repeat these procedures every time.
4. Some clients referred to the importance of harmonizing terminology between Saudi banks, as they found some terms used in IB differed from one bank to another, which made them confused. SAMA could take action on such concerns by unifying all terms among all Saudi banks' IB channels.

7.4.4 Trialability

The majority of respondents, whether they were users or non-users, saw the importance of giving the opportunity for the client to experience the system and become familiar with it before starting to use it.

The non- users expressed a great need to experience IB and it was suggested that certain banks should take the initiative to hold some training sessions in which bank officers could give basic training to people who wish to learn more about this service. In such sessions, the bank officer could start to set up an online account for the client and explain the most important characteristics of IB and the processes that can be performed through it. The client would then have the chance to ask questions and receive answers from the officer.

Despite the potential benefit from such activity, it does not seem to have been considered by Saudi banks; a great percentage of IB users had learned to use it through a friend, or family member who trained them at the beginning. Users were enthusiastic about the idea of obtaining additional training to learn more about IB. They asked banks to offer optional training courses for those who wanted to learn to navigate the banking website. They also asked banks to provide simple definition leaflets to provide up-to-date system information.

Several comments made by users about the importance of trying the system out centred on setting up an online account in a bank branch under specialised supervision, obtaining introductory sessions, and providing a telephone help-line for answering questions instantly. One said, *"When you call the bank via the free number to report a problem about your IB, you would be surprised to find the bank's employee does not*

know that much about the services" (Interviewee 16). Setting-up and learning procedures were major impediments for many respondents, both users and non-users. One user argued, *"I think once you try it out, you will find it is very simple, I think starting IB and trying it out are the biggest keys for accepting it" (Interviewee 21).*

Some users referred to the case of Al-Rajhi, which in 2007 launched a new investment website system; it was introduced beforehand across some Internet forums and this contributed in familiarizing potential clients with the system, even before it was introduced.

Some users felt a need to understand the system completely, whereas some indicated that they only knew how to do the basic functions, but still did not know everything about the site and were unclear about some functions, as they used it only in a simple way.

The free trial presented in some IB sites did not meet with much approval from the clients as a technique for learning and having a simulated experience. A lot of them did not know about it or in any case thought it would be preferable to have direct supervision by an expert who would answer their questions.

7.4.5 Perceived Image

In general, there was a noticeable disparity of views as to whether using IB would elevate a person's image socially and whether or not this would affect adoption of this technology. A small proportion of non-users believed that people who used IB were more educated, more cultured and of a higher social class, because they at least had a computer and had a connection with the Internet, which were not available for members of the lower classes. Another group did not see any social advantage for those who used IB, or had computers and the Internet. They perceived them generally as more educated or young people who usually liked to use modern technology. However, these attributes did not confer any special social status on IB users, in the view of most non-users. One client commented, *" Using IB emerges from personal needs and it doesn't reflect any superior image of users, as many people are very educated without using IB, and not all users of IB are educated" (Interviewee 20).*

Most users and non-users, irrespective of their personal characteristics, expressed the view that social image was not affected by adoption of IB, as it is performed in private and not evident to others, except in very limited situations. In addition, this

technology is not an exclusive technology that is only available to elite people. It is a widely-used and prominent technology. However, this again needed to be taken to the next stage of the research for additional investigation.

For these reasons, the advantage of using this technology to form a desirable social image does not appear to apply in relation to IB. However, it was noticeable that using IB affected a person's image about him/her self more than his or her social image among family members and close friends.

7.4.6 Trust: Risks, Security and Privacy

Questions about how respondents perceived potential risks associated with IB transactions, trust in IB information and transactions, security of IB transactions, and information privacy, and how this could affect their decision to adopt IB, led to extensive discussion and also revealed some confusion about these terms. Participants' interpretations strayed outside the right definitions. However, this is taken into account in the following discussion.

The non-users were not confident, generally, in any processes performed on the Internet and they believed that they contained high risk. They considered the Internet to be quite a risky way to make financial transactions. Despite this, a number of them admitted that was not their real reason for not using IB and it would not inhibit them from using it in the future.

In terms of IB users, risk concern seemed to be ignored in favour of the advantages that can be achieved through using IB. Many users said they knew there was a degree of risk associated with using IB but they totally accepted it. Findings showed that Saudi clients seem to have adjusted to the presence of Internet-based risks and were increasingly prepared to understand, deal with, and accept online risks.

They took the view that although risk was present and could not be entirely separated from IB transactions, it could be managed. To some extent, users believed that the banks were capable of providing a secure system that could protect their clients and indemnify them against any fraud that might occur as a result of system failure.

Users had generally built up a certain risk tolerance. Interestingly, users who had more technical experience had lower levels of confidence in Internet security than

others. They referred to fraud attempts aimed at SAAB bank clients by faking a website, which had been reported in some newspapers.

Some users mentioned their faith in banks having strong security measures, virus checkers and backup systems to allow recovery from any system failure. Distrust of technology did not play a big role in Internet banking adoption for most participants, compared with other factors. Users trusted their banks to back them up if something went wrong. Nevertheless, many users mentioned taking their own steps by checking regularly the balances and transactions of their IB accounts, reporting any doubtful transactions, and saving copies of transaction receipts in their computers as evidence.

Surprisingly, several users were concerned about the method of access and mentioned that they were annoyed by some procedures, which have been introduced by some banks in order to ensure a high level of client safety. They mentioned, for example:

1. the bank choosing user names which are long and unchangeable;
2. the length of the required password, which must be at least eight characters and contain a mixture of letters and numbers;
3. the fast automatic logging out from the site after only a short period of inactivity;
4. having to enter the user name and the password several times during one session;
5. having to enter an additional secret number (token number) in order to carry out particular transactions.

Regarding users' trust, in general they seemed to rely upon banking transactions that were carried out through IB and have faith in them. Nevertheless, some mentioned that they preferred to use the traditional channels for important transactions by going to the bank branches, for example, for paying governmental fines, government fees, or performing large currency transfers, because getting proof of such transactions was important. However, various comments about security showed that this issue was a source of concern, as some users had some fears in regard to viruses, fraudulent hacking, system failure, or system crash. Nevertheless, many users stated that the advantages that IB gives outweigh all of these fears; the findings suggested that security mattered less to Internet banking users than other factors, particularly convenience.

Some clients mentioned that they did not read the security warnings shown in IB or if they did, they did not find them understandable. Surprisingly, a number of users did not attach any importance to this issue. They did not even follow banks' advice in regard to setting up protection programs and fire walls, or changing computers and browsers to enhance the security level of their devices.

Unsurprisingly, non-users were more concerned about the security of IB. Although they did not use IB, they had formed their opinions based on the influence of reference groups and the media. For example, non-users cited friends who had talked about the possibility of IB accounts being misused. Others mentioned the influential role of media reports in spreading security concerns about Internet banking.

Regarding privacy concerns, both confidentiality and privacy were perceived by participants as the protection of personal and financial information so it was not disclosed to or used by others. Interview findings revealed that participants, generally, did not have much concern about privacy issues, compared to the previously-mentioned risk factors. Rather, participants seemed to accept such factors as a normal aspect of dealing with IB. In this respect, they were influenced by their experience of risk with other channels. For example, the Saudi postal system is not one where letters are delivered to one's home; individuals have to arrange a way to receive their letters through renting a post box or via their work address. Some participants did not see such a postal system as reliable in guaranteeing their confidentiality and privacy. Accordingly, they were accustomed to a degree of risk in this area, and saw IB as posing no greater concern.

Saudi women, in contrast, saw using IB as a way to secure a higher level of confidentiality and privacy, as discussed earlier in this chapter.

7.5 Subjective Norms

It was very clear that subjective norms had a tremendous impact on accepting the idea of IB. Consistently throughout interviews with Saudi clients, the influence of personal recommendations emerged as a very important factor that contributed to IB adoption. Most users mentioned that they had been influenced by either friends or relatives who had greater knowledge of IB. This confirms that the reference group played a huge role in convincing Saudi clients to use IB.

Saudi society is characterized by large family size and strength of family relationships, even between individuals in the extended family. As an Islamic society,

Saudi people have a great respect for family relationships, which gives family members considerable influence.

Regarding family influence, the social impact was clear in transmission of experience from husbands to wives, brothers to sisters, and sons to fathers. Many husbands who used the Internet had tried to extend the experiment to their wives, if they were working women or had bank accounts. Also, brothers tried to persuade their sisters to conduct transactions through IB to save having to transport them to women's branches or, if no such branches were available close by, performing banking transactions on their sisters' behalf. Sons tried to convince their fathers of the advantage and ease of IB. In cases where older people had difficulty in using modern technology, sons established online bank accounts for fathers and performed many processes on their fathers' behalf, such as paying utility bills or performing IPO transactions with their fathers' permission. Many respondents referred to such experiences.

Friends' influence, too, seemed to have significant impact on use of IB; most users first came across IB through their friends. As they gained sufficient knowledge about it, they were willing to pass on their knowledge to friends who did not use it as well. One client said, *"My friends have played a great role, either by taking experiences from them or giving them experiences that I have. We always exchange website information and ask each other how to do a specific thing that we want to learn about" (Interviewee 13).* Personal relationships had a strong impact on adoption of IB, because people try to surround themselves with people and things that are consistent with their own identities.

The findings revealed a high level of trust among friends. For example, one client said, *"Some of my friends give me an amount of money sometimes and ask me to pay their bills or some government payments on their behalf to save them from going to the bank, as they know I can do that online" (Interviewee 22).* An astonishing finding was that trust between friends extended not only to establishing bank accounts for each other but even knowing friends' secret numbers and performing transactions on their behalf, through different IB accounts owned by several friends, especially in transactions such as IPO done through other wallets (accounts) in their names.

The strong social relationships that characterize Saudi society played a significant role in the spread of IB. The noticeable kindness and the tendency to trust in others that Saudi people have, has a considerable social effect in acceptance of such services.

The findings showed clearly that in Saudi culture, socialization and collectivism are crucial and can easily encourage or discourage the move toward online banking services. The banks should realize that and seek to take advantage of it. For example, they could also encourage users to introduce nonusers among their family and friends by providing some promotional offers.

7.6 Behavioural Control

A further component of the DTPB explored in the interviews was the role of self-efficacy and resource facilitating conditions as influences on IB adoption. The findings are discussed in the following sub-section.

7.6.1 Self-efficacy

Evidence showed that self-efficacy with Internet banking was motivational for some users and, in contrast, inhibitive for non-users. An IB user said, *"I have found IB quite easy, and it would be familiar to anyone used to surfing the Internet" (Interviewee 13).* In a similar way, several comments suggested that a person's Internet self-efficacy affects the decision whether or not to adopt Internet banking. IB users in general showed confidence in their aptitude to use the Internet efficiently, as most of them indicated that they had confidence and sufficient knowledge, which allowed them to make use of computers and the Internet. The confidence was acquired from long use and positive experiences with the Internet.

By contrast, a few non-users suggested lack of familiarity with the application and assumed that special skill was required to use IB, as rational causes for non-adoption. A number of non-users pointed to their lack of confidence in Internet usage as a reason for non-adoption. The foremost explanations cited for low Internet self-efficacy were having a fear of new technology, difficulties in gaining access, lack of experience, and the perception that the Internet was unnecessary to their lives.

The required abilities to use IB were easily gained by some Saudi users. They even said they had had high self-efficacy before they used IB. Other users mentioned that they had faced some difficulties at the beginning, but with the passage of time, they were able to gain the required skills for using IB. A third group mentioned that they still perceived difficulties in using IB and they did not have enough knowledge about IB. This restricted their use to basic transactions such as checking accounts and paying utility bills.

Nevertheless, a number of non-users had sufficient computer and Internet knowledge to use IB but still did not do so, suggesting other reasons were more influential than self-efficacy on adoption of IB. Such factors are examined next.

7.6.2 Resource facilitating conditions

Self-efficacy was considered as an internal factor that influenced clients' perceptions of whether they would be able to operate IB. Resource facilitating conditions, in contrast, are external factors that may assist or impede clients in using IB; the term refers to the ability to have adequate resources to use IB.

Availability of computers, Internet connection, money and time were the most important resources that clients considered to be involved in IB services. It was seen that people were likely to engage in IB when they believed they had the required resources. All users had these resources either at home or work, and usually both.

The most significant impediments related to this concept included factors such as inappropriate technological infrastructure and limited Internet connections for IB to function properly. Several interviewees pointed out that the inability to obtain DSL in some areas was likely to impede the adoption of Internet banking. Prices of both computers and Internet connections were also cited as impediments to adopting IB. These elements were discussed in relation to barriers to use IB, earlier in this chapter. However, non-users either had fewer Internet access opportunities than the users of Internet banking or expressed various concerns about technological problems such as connection infrastructure, dial-up slowness, or prices of Internet subscription.

Some users, especially men, used IB at work, citing convenience in terms of speed due to high speed dedicated access and having easy access to the Internet through normal work activities.

Adequate existing alternative modes of transacting banking business, such as ATM and telephone banking, may currently fulfil a client's need, which may make them reluctant to change and take the risk of incurring unnecessary expense. However, some non-users alluded to an urgent need for basic knowledge about the Internet and computers and complained of inadequate access, which made them unable to operate IB.

7.7 System Characteristics

A number of comments concerned Internet banking system characteristics; for example,

> *"The banks and financial institutions want everyone to go online, but they haven't actually set up their system so that people can actually use it"* (*Interviewee 17).*
>
> *"What really bothers me in bank websites are things like download problems, slowness, cutting out, this page cannot be displayed" (Interviewee 37).*
>
> *"Understanding of the contents and procedures, easiness, clearness, and even the enjoyment when you perform your transactions are very important things, and I really advise banks to get some support in this matter because the more you consider such issues, the more you will encourage people to use IB and get benefits from it" (Interviewee 40).*
>
> *"Although I use online banking sometimes, I have found phone banking is easiest and fastest. IB is still a bit complicated and overwhelms you with a lot of things you don't need" (Interviewee 14).*

Such comments highlight the importance of system characteristics to bank clients considering or attempting to use Internet banking. The quotations show easily newcomers to Internet banking could be deterred by features that hindered the smoothness and enjoyment of their transactions, such as confusing or excessive information, uncertainty as to how to proceed, and delay in downloading.

In addition to the previous quotations, participants cited problems such as pages that did not load properly and temporary maintenance faults, when they were told to try again later.

Simplicity, functionality, attractiveness, first impression, friendliness and aesthetics of the website site were very clear elements that greatly affected IB users, especially those who had IB experience with different banks.

Using simple understandable language, personal greeting when signing in, writing the client's name, welcoming phrases, and presenting warm congratulation on Ramadan and other happy occasions seemed to be considered as friendly signs.

Most users concentrated on efficiency, simplicity of the design, and functionality of the performance of the website as important components of the site's attraction and making it more acceptable. However, others highlighted the importance of design elements such as the speed in finding the required elements, layout, colour, writing style and clarity.

Appearance of the main list at all times without having to return to the main page and the ease of use that comes from logical presentation of functions were mentioned as examples of simplicity. In addition, suggestions were given about showing an explanation of website items when the computer mouse stops on them, as happens when it stops on icons. However, many participants complained of inactivity of some elements, necessitating a visit to the bank's branches to complete some transactions, for example adding a beneficiary to a transfer list or paying a bill for the first time.

Clients were able to perceive and recall some security measures, such as use of the padlock symbol to indicate a safe website and secure browsing, not showing the password, entering the username and password through a special technique depending on the mouse instead of using the regular key board, not being able to go back through browsing IB, and signing out automatically in case of inactivity for some time. All these elements had a positive effect on users' feeling except the last one, as they said that they had to enter their username and passwords several times in one session and they wished they could control or specify the period of inactivity that must elapse before the automatic log-out was invoked.

Fear of making mistakes when they started using IB, not being given enough instructions, hesitation, lack of reliability, and not knowing what to do if something went wrong formed big obstacles at the beginning for a lot of users, causing them to delay using IB for some time.

Some participants complained that often bank personnel knew very little about their bank's website design and, moreover, did not understand how it worked. In particular, personnel in branches did not appear to have this understanding and this was taken as a discouraging sign of poor levels of website design.

Despite the effort of Saudi banks to present a suitable website by offering bilingual English-Arabic websites with the same properties and functions, Saudi clients still had some obstacles in regard to English language. The reason for the use of English language on the sites is that some functions do not support Arabic, so English is needed for backup.

The formulation and the translation of the terminology used caused confusion to some users, so these terms should be considered. For example, the "hard disk" may be called "the memory". Some terms may be ambiguous to some users, even after

translation. Such ambiguity may be caused as a result of the weak background about the Internet, or verbatim translation.

Some users mentioned that they sometimes faced problems because of the use of hard-to-understand, unclear technical language. In addition, some terms were written in English, such as the advice on preparation and setting up clients' browsers and PCs properly. Another example was regular updates on computer viruses, which appeared in English, which could cause misunderstanding. Such messages do not translate because they contain scientific terminology and also, as the content is dynamic, they have to be updated daily. Not only did clients who used the Arabic front-page not receive these messages clearly, but also they perceived that the use of IB was not as easy as they had thought. Considering that more than 95% online clients were using the Arabic front page, as shown from the result of IB managers' interviews, conducted in the first phase of this research, this may have a great influence in regard to IB adoption by Saudi clients.

The users also mentioned that they preferred sites to reflect local cultural values, for example, to be greeted with the Saudi Islamic salutation. Some clients wanted sites to reflect their personal preferences. Women and younger participants were more interested in website aesthetics, for example, control of background colours, organisation of website features as they preferred, and managing the different attributes of the banking website.

7.7.1 Elements Related to Need Recognition Stage

Related to this stage, the aim was to discover to what extent some IB characteristics that could be perceived by clients, such as advertisements, appetizers, and incentives had an influence on users' adoption of IB. The interview findings showed interesting results, as follows:

Some users were amazed by IB's ability to display banking products, services, and information with all the aesthetic features, organisation, and speed that characterize IB, suggesting that IB products, services and information can easily attract clients' attention. Some IB characteristics had a strong impact on users. Others had less influence or did not seem to have the impact that bankers would like, for attracting clients and promoting products and services.

Clients said that banner ads were very noticeable and they would be attracted to these ads if they were related to something of interest to clients. Other clients said they were continuously aware of these ads, which captured their attention, but most clients did not go further to read more, unless the ads concerned an issue important to them. A number of clients were able to recall some banner ads about banking loans and product discounts.

"What's New" flashing icons were the most noticeable element that seemed to attract attention from clients, as the majority of the participants mentioned that they were always attracted to this type of information, which they perceived as a message from the bank to inform them of their latest products and services that bank has. Users usually expressed strong attraction to "What's New" flashing icons. For example one participant said, *"They always catch my sight and I open them to know what's the latest from them" (Interviewee 22).* Another client suggested that these icons should cease flashing once they had been opened.

Regarding pop–up ads, the clients mentioned that they mostly read them, because they felt that they might carry something important, but they found them annoying. One client commented, *"Pop-ups are annoying in the way they keep coming all the time" (Interviewee 18).* Another client suggested that pop-up ads should be shown a few times and after that the system should recognize which of them had been read and stop showing them, because the message had reached the client, so there was no need to trouble clients with them repeatedly. An important issue here is that some firewalls prevent pop–up ads from rising, as do some protection programs and filters, which means that the messages carried through this type of ad may not reach the clients.

The users mentioned that they were very interested in promotional offers, which were shown to them over IB, such as discounts and free offers, but they mentioned that these were very limited. They mentioned that newsletters arrived from the bank to clients' E-mail address and they contained various economic information; however, most clients did not seem to pay these letters significant attention; indeed, they asserted that mostly they did not read them.

Saudi banks will be interested to know that their clients were looking for incentives through IB, especially those entitling them to instant rewards, such as a 50% discount when making transfers through the Internet. Others found free offers of more

interest to them, for example, *"Do your financial transactions online for free for the first three months" (Interviewee 12).* Clients saw these incentives as more profitable to them and working out better than other incentives. Surprisingly, three banks who were using loyalty points collection schemes may be disappointed to know that such schemes were not generally favoured by Saudi clients, who preferred instantaneous benefits.

Some clients found IB useful for providing reminders of utility bills that needed to be paid when they logged in. One client commented on this by saying, *"It is great to be reminded by IB about your bills, as this gives you the chance to pay them off while you're online. Although you sometimes get reminded by SMS about these bills, you forget them as time passes" (Interviewee 19).* In addition, some clients pointed out that IB gives an advantage over other channels, as through IB bills can be paid by instalments, which is not the case through other channels.

7.7.2 Elements Related to Information Search Stage

It appeared that clients did not rely on IB for direct or fast information. Although some clients believed that IB offers a large amount of information, they found it was not designed so that clients could reach the desired information quickly and easily, which made other channels more attractive for this purpose. One client admitted, *"I think clearness and ease of reaching the desired information are very important, as I believe that the bank website is a place that cannot bear a lot of information to be included; also the sequence of information should be understandable and easy to follow"(Interviewee13).*

The majority of clients, both users and non-users, depended mainly on their reference group for information they wanted. Others made general enquiries by phone. A few users used IB tools to obtain the information they wanted. Those users believed that IB contains most of the bank information that clients may look for. The problem was with the clients who did not know how to reach this information. Sometimes this could be related to the design of website itself and the efficiency of IB search tools.

Concerning the tools and methods available in the IB for accessing information, the clients mentioned that they did not know how to use these means to reach the information they wanted. They mentioned the availability of search engine indicators and website maps, but they said that these caused a lot of confusion and sometimes did

not guide them to the information they wanted to reach. As a result, they rarely used search engines and FAQ, for the following reasons:

1. lack of knowledge about these tools, due to Internet illiteracy or not knowing how these tools work or these tools not being available in the first place;
2. not recognizing the functionality of these tools in shortening the time for searching inside the site;
3. the differences in terminology from bank to bank, or clients' lack of recognition of terminology, which made it difficult for clients to find what they wanted.

Clients found that interaction with the banks was very poor when they used the online help desk to make inquiries or obtain information, as it took about five working days to obtain a reply. What was worse from clients' point of view was that some replies asked the client to call the bank's call centre via a free bank number, which gave the impression that the help service was nominal rather than functional.

In addition, some users mentioned that even bank employees did not have enough knowledge about their IB, and had difficulty in understanding client problems. They never provided technical support, but only recorded clients' complaints, then gave a reference number to the client to call back after five working days for an answer, if the bank had not contacted them during this period. One client commented on this, *"To help us, banks should provide technical support through a call centre to answer clients' questions directly" (Interviewee 23).*

Some clients found from their experience that IB, instead of contributing to reducing time to obtain information, made it more time consuming and complicated. Banks need to be aware of this, not only by training employees to answer any questions easily, but also by encouraging clients to go online and obtain intensive information from IB where information would be shown in a better form and more convenient way, that other channels could not deliver so efficiently.

Clients were desperately in need of a bank officer who could be reached easily through a call centre to direct them with basic support and simple explanations about how to obtain information through IB. The banks could obtain significant benefits from this for the following reasons:

1. They could ensure the quality of the information provided; through surfing the IB website, clients may find comprehensive and detailed information that a bank

officer may not be able to deliver to the client by the phone or even face to face at a bank branch.

2. This technique would increase clients' information about other additional information, products and services displayed on IB.
3. It would encourage clients to continue to use the IB site in future, when they want information, and this would bring income to the bank.
4. It would save the time of officers who are in charge of answering the bank telephone for other banking enquiries.

Many users confirmed that information on IB should be comprehensive, covering everything related to the bank, and the bank should pay attention to simplicity of design and organisation of the site, as they found the information displayed on the IB was sometimes confusing.

7.7.3 Elements Related to Information Evaluation Stage

Participants' impatience about obtaining straightforward assistance, together with their lack of confidence in respect of locating the information they needed quickly from IB, was general evidence of the weakness of evaluation tools as perceived by clients.

Saudi clients differed in the extent to which they depended on IB information and how they evaluated it. IB information was divided by Saudi clients into two groups, each of which was viewed differently. The first one was related to the Saudi Stock Market (SSM); and the second was related to the bank itself. Concerning information about the investment channels in SSM, the clients indicated that they saw this information as correct, reliable and trustworthy, because it was not only from external reliable sources but also banks were accountable to the Capital Market Authority (CMA) for the accuracy of the information they displayed. Besides this, banks normally are under the Saudi Arabian Monetary Agency's (SAMA) supervision in this matter.

However, Saudi clients who used IB for speculation on SSM believed this historical information was no more than was already available from various other sources. They wanted Saudi banks to offer added value in the form of more specialized analytical reports about SSM and to provide advice concerning investment techniques, because of the bank's name and experience in this field. Such information, in their view, would support their dependence, as well as increasing their loyalty to the bank.

A few users mentioned that they wished the banks would provide some simple tools in IB that would help them with financial calculations, for example, the percentage of long loans in counting the total payment, the financial transfers from one currency to another, and some special tools that could present daily evaluation information related to Saudi companies' shares, such as Profit Earnings Ratio (PER), Book Value, and Price Book Value Ratio.

Updating such information daily or at least weekly would be very useful, in the view of some clients, who used such information to make financial decisions. One user commented, *"In respect to the Saudi Share Market, I have found the IB website weak compared to other specialized websites that can give a lot of visual analysis which helps investors to buy certain stocks or shares" (Interviewee 19).* The quality of these tools appeared to affect the usefulness of the information that could be gained via IB and as a result contribute to greater adoption of IB amongst Saudi clients. Some clients regretted that such useful tools were noticeably neglected by Saudi banks. Consequently, they evaluated information with the aid of external sources such as experienced relatives or friends, specialized financial websites and TV programmes, and expert newspaper writers.

One client said, *"Why can't a Saudi bank provide on its own website some program such as Al-Mobasher which could give complete analysis of any share in different professional forms?"(Interviewee 22).* Another commented, *"I have been dealing with some Western banks and they show a tool bar which contains some useful simple tools that can help clients to take the right decisions" (Interviewee 19).* Another client highlighted integratability as an important issue, referring to the Samba bank website, which provides special links to some professional programs that present significant analytical information about SSM.

It has to be said that Saudi clients who used IB for speculation in SSM were eager to have some advanced services that could help them as investors and they were voluble in their calls for assistance in evaluating their decisions according to precise information, to help them in this stage.

Regarding information on the bank's products and its services, the clients considered that banks had a right to present any promotional information they wished to distribute to the public and to benefit from presenting these services and products

through this channel. Whilst some IB users did not depend on such information, due to difficulty in reaching the needed information easily and quickly, they said they might read IB information and find it informative; a few clients said they sometimes used IB information to increase their knowledge and evaluate the bank's services and products compared with those of other banks, especially in regard to financial loans, credit cards, promotions of products and services, and banks' conditional offers on some financial products.

For making enquiries, the majority of IB users strongly preferred to ask their reference group (their family and friends) about general matters, considering this the most trustworthy source of advice or information. They also preferred to phone the bank directly using the free number to ask for information, instead of using IB to look for information, which they might or might not find. Some clients went beyond this as they considered phone banking faster than IB and they appreciated being able to talk to somebody to gain precise answers and have particular information from a human, not from a computer.

7.7.4 Elements Related to Purchasing Decision Stage

It emerged in interviews with Saudi clients that use of IB as a medium for performing financial transactions depended on perceptions of the suitability of IB for purchasing banking products and services. It was clear that the nature of financial products and services influenced the decision to adopt IB or not. In this respect, some important elements that determined whether clients would adopt IB or not were as follows.

Firstly, Saudi clients tended to use IB for financial products that had these features:

1. Products and services that were used frequently, such as regular current account checking, paying bills, and reviewing some transactions. The reasons why these types of banking products and services were preferable were that they entailed low involvement of interaction between client and the bank, high certainty of outcomes, and a small number of processes which were easy to follow and understand.
2. Transactions that could not to be performed sufficiently quickly and effectively, except by IB, for example, speculation on the SSM. Alternative channels, such as phone banking, and visits to specialized halls in some bank branches where clients could monitor share prices then speculate through the banks' dealers, were

inefficient in comparison with IB, which was thought to offer fast services, current prices, instant execution, high control, and greater convenience.

Secondly, for products and services in which a high level of interaction between clients and bank were required, some clients did not prefer to perform them online, even though they were available through the bank website. The financial products and services mentioned were counselling, long investment services, financial loans, stock funds, bonds, pensions, and long-term money lending such as mortgages.

Thirdly, taking the period of using IB into consideration, the respondents who had been using IB for some time seemed, generally, to be positive and trusting towards IB. They had fewer concerns about some important issues such as security, trust, and privacy. They did not worry about lack of face-to-face interaction, receipts, or the possibility something might go wrong. Others had suspicious feelings toward these elements.

Interview findings showed that clients who had been using IB for some time were willing to go further in performing all transactions online. Banks would find these clients easier to persuade than other clients. One client said she would welcome any additional services provided by the bank. She said, *"If there were more services that we could do through IB I would start doing them without hesitation" (Interviewee 38).* One user went beyond this by demanding advanced services; *"Banks need to increase interactive services such as buying and selling from other partners outlets' websites and paying through the bank's website, as well as introducing some electronic cheques services. It's necessary to link the site's services to other interactive websites"(Interviewee 19).*

Fourthly, some respondents criticized banks for not informing them about what they could do through IB apart from what they currently performed, while others perceived that the range of products and services offered over the Internet was much narrower than the range which could be sourced in traditional ways - in other words, IB was perceived to be limited in the services offered. In this respect, one user commented, *"I was ready to use IB a long time ago. It was the bank's fault, not my fault. Let's say, for example, applying for credit card or loan through IB. What's delayed banks from providing this online until now?" (Interviewee 16).*

7.7.5 Elements Related to Post-Purchasing Stage

Saudi bank websites employed various means to reduce post-purchasing doubt, including giving a transaction reference number, showing a confirmation page, and allowing the printing out of transaction details. However, Saudi clients were not free from such doubts, because they perceived these elements as features of the system, which were shown automatically as part of the process, rather than evidence of the transaction's success. They did not convince Saudi clients and as a result did not reduce the feeling of post-transaction doubt. This finding may surprise all Saudi banks that use IB, as they were all using at least two of the aforementioned elements. This continued doubt, as appeared from clients' interviews, was because of the following reasons: the lack of trust in the whole system, some clients' lack of knowledge about the meaning and the significance of such elements, and some clients not knowing what to do if something went wrong with their transactions.

Clients' post-transaction doubt was stronger where transactions involved a third party, for example paying utility bills and governmental fees. This doubt also increased when the transaction required some time to be completed, such as international transferring. Some clients liked to use other supporting channels for confirmation, for example using SMS or having a confirmation message sent to their e-mail. Some clients mentioned receiving such confirmation messages from Saudi Communications Company, which gave them the assurance they needed.

Interview findings showed post-purchasing doubt and cognitive dissonance were at a high level during the first few times of performing banking transactions through IB, but reduced when clients had more experience.

One client said, *"It would help if we can receive a notification message from the bank through SMS that tells us that the beneficiary has received the amount, especially in governmental dealings, as these transactions have to be received within a specified time" (Interviewee 11)*. Another added, "*I've sometimes seen confirmation messages presented, but I am not sure about them as they do not reflect that the other party has received the amount which has been transferred" (Interviewee 14*). Therefore, the banks need to think about finding additional mechanisms to reduce disagreement and suspicion, which the client may feel after carrying out transactions through IB, especially for those who are new to IB.

In investment transactions related to speculation in SSM, the clients mentioned that they sometimes did not know whether the process of purchasing certain shares had been completed or not, because sometimes there were technical problems, which stopped an order being processed successfully. There was no clear message as to whether the order had been carried out or not, and they did not usually know what had happened until the next day.

Regarding clients' level of satisfaction with the present service of IB, there were three clients who had previously used IB for some transactions then abandoned it because they were not satisfied. However, this does not mean that the clients who were still using it were fully satisfied, as criticisms were made on several points, as discussed earlier. However, clients who had decided to stop using IB after using it should be considered carefully. The first reason given was a hindrance of communication, especially for clients who did not have DSL connection, as dial-up is very slow in some areas. One client added that she did not find IB useful as she always forgot the client user name issued by the bank and had to keep visiting the bank branch to reactivate her online account, until she gave it up. Other reasons mentioned were not understanding and facing difficulties with IB use. Clients also mentioned the need for help to facilitate use of IB, but not through the website itself. They thought simple written leaflets and brochures, distributed to banks' clients by post or through branches, were preferable.

Therefore, the banks need to consider the experiences of clients who have had IB accounts, but stopped using them. They could try to contact them by telephone to find out the actual reasons that made them stop using IB and try to address the obstacles that hindered them. Attracting and returning those users would be easier than persuading new non-users, who have no past experience. Resolving problems and helping clients to overcome their difficulties would be the best way to bring those clients back to IB.

7.8 Summary

This chapter on Phase Two (A) of the research has complemented the findings from Phase One, by exploring the perceptions of bank clients towards IB, whether or not they actually used this.

Interviewees' comments confirmed that a number of client, system and environmental factors could pose barriers to their use of IB, including perception of

risk, limited banking needs, preference for the human touch, ineffective marketing, lack of familiarity with computers and the Internet, cultural resistance, technical difficulties, the costs involved, and difficulty understanding material presented in English.

However, many clients, especially IB users, were able to overcome such obstacles, and had favourable attitudes to IB. Positive attitudes were associated with feelings that IB offered relative advantage such as speed, convenience and, for women, freedom from the difficulty of finding and travelling to women's branches, or relying on male intermediaries. Perceived compatibility with lifestyle, perceived ease of use, and opportunities to try IB also contributed to favourable attitudes; perceived image was less influential. Issues of risk, security and privacy evoked mixed responses, being accepted by some as reasonable in relation to the benefits gained, but a source of concern to others, especially IB non-users.

Consistent with the Decomposed Theory of Planned Behaviour (DTPB), subjective norms were confirmed as strongly influential, particularly in view of the strong social relations and family ties characteristic of Saudis, and had helped in the spread of IB. Behavioural control (self-efficacy and resource facilitating conditions) was also considered.

As for system characteristics, in relation to every stage of the client purchasing behaviour process, there were website features which clients perceived favourably, and others which were criticised as annoying, inadequate, or difficult to use and understand.

Although many of the research questions were answered through this extensive analysis of interview findings, there are still some relations between variables that need to be tested statistically. Quantitative investigation is required to complete the picture and to give a full understanding of the studied phenomenon. Hypotheses will be examined statistically, based on a quantitative investigation, in the next chapter.

CHAPTER EIGHT

THE SECOND PHASE DATA ANALYSIS: PART TWO

Figure 8.1 - Following the Research Stages

Chapter Two: Theories applied to new technology adoption and Internet banking acceptance
Chapter Three: Theoretical framework and presenting the research model
Chapter Four: The situation in the KSA, financial sector and Internet banking services
Chapter Five : Research methodology and data collection design
Chapter Six: Outcomes of IB managers interviews and content analysis of banks' website
Chapter Seven: Outcomes of the interviews with Saudi clients (IB users and non-users)
Chapter Eight: Findings of online and offline questionnaires of Saudi banks' clients
Chapter Nine: Interpretation and discussion of the findings
Chapter Ten: Summary and conclusion

8.1 Introduction

This chapter includes an analysis of the quantitative data from phase two, part B. As outlined in Chapter Five, this entailed distribution of a survey questionnaire for both Internet Banking (IB) users and non-users in order to investigate their perceptions of influential factors that could affect their intention to adopt Internet banking services.

First of all, the discussion begins with an explanation of the data preparation procedures and a description of the sample characteristics. This is followed by an appraisal of reliability and validity of the instrument, prior to reporting of the inferential statistical analysis. Confirmatory factor analysis is carried out to examine the underlying of the data. This analysis confirms the reliability constructs of the research model regarding factors potentially influencing intention to use/continue using IB. 11 hypotheses are then tested concerned with the impact of these factors. Another exploratory factor analysis is reported for 20 items related to website features, in order to determine whether they fall into clear groups, which may be related to particular aspects of decision-making. Then a further set of hypotheses is tested, concerning relationships between perceptions of website features related to the stages of the purchasing decision-making process PDMP, and intention to continue with IB.

The final section of this chapter presents further analysis of the data in order to answer other research questions, regarding obstacles to IB adoption, and the relative importance of different website characteristics, as perceived by IB users.

8.2 Descriptive Analysis

This section explains how the data were prepared for analysis, following which the demographics of the sample are analysed.

8.2 .1 Data Preparation

Data preparation is an important part of any survey as it can tremendously influence the quality of the data produced (Tabachnick and Fidell 2007). The data preparation involved reviewing, coding and transferring data to a computer file of SPSS software (Statistical Package for the Social Sciences) version 15. This was accomplished in two parts, the first one in regard to the IB users' sample. As the data was imported (downloaded) in CSV format from (www.smart-survey.co.uk), it was an easy task afterwards to transfer imported data to XLS format then export it to SPSS software. The researcher completed this process personally. In regard to the non-users sample, transferring data from collected questionnaires was achieved in cooperation with a specialist research centre at King Saud University in Riyadh (Appendix I, letter 3).

Accuracy of data entry was checked by examining the frequency of out-of-range coded responses on all survey items and by comparing the coded responses of forty randomly selected questionnaires against the original responses. This revealed a very low error frequency ranging from 0-0.05%.

As Pallant (2005) recommended, negative items were changed during this early stage to make all items in both questionnaires consistent. There were 10 such items.

8.2.2 Sample profile

Descriptive statistics is the branch of statistics which deals with ways of organising, summarising and presenting collected data in order to highlight meaningful values that summarise systematically the major characteristics of the data (Frankfort-Nachmias and Nachmias 2007). Descriptive analysis of data for both IB users and non-users was used to summarise the basic statistics for both groups, and construct a demographic profile. Averages and percentages were used for the purpose of reporting the characteristics of the surveyed clients and simultaneously providing adequate statistical support to the findings. Figures are used to illustrate the findings and facilitate

comparison, while numerical summaries of specific aspects of the data are provided for more complete descriptions.

As the survey was targeted towards two kinds of bank clients (those who used IB and those who did not), the research is based on the results from two samples. Table 8.1 shows numbers and percentages related to gender, age, monthly income, qualification, occupation and Internet experience, for each group. The following paragraphs highlight some key points from these findings:

Table 8.1- Demographic Description of IB Users and Non-Users

Demographic Variable		***IB Non-Users N = 409***		***IB Users N = 651***	
		Number	%	Number	%
Gender	Male	294	71.9	603	92.6
	Female	115	28.1	48	7.4
Age	18 to less than 25 years	95	23.2	31	4.8
	25 to less than 35 years	156	38.1	213	32.7
	35 to less than 45 years	114	27.9	219	33.6
	45 to less than 55 years	38	9.3	164	25.2
	Above 55 years	6	1.5	24	3.7
Monthly income (SR)	Less than 4000	104	25.4	34	5.2
	4000 to less than 8000	154	37.7	96	14.7
	8000 to less than 12000	89	21.8	152	23.3
	12000 to less than 16000	30	7.3	116	17.8
	16000 to less than 20000	13	3.2	85	13.1
	20000 or more	19	4.6	168	25.8
Qualification	Less than High School	70	17.1	32	4.9
	High School	175	42.8	149	22.9
	Bachelor degree	152	37.2	371	57
	Master degree or above	12	2.9	99	15.2
Occupation	Student	52	12.7	19	2.9
	Private sector employee	132	32.3	392	60.2
	Government sector employee	168	41.1	174	26.7
	Self-employed	28	6.8	41	6.3
	Retired	9	2.2	19	2.9
	Jobless	4	1.0	3	.5
	Housewife/Husband	16	3.9	3	.5
Internet Experience	No experience	66	16.1	-	-
	Less than 1 year	82	20	9	1.4
	1 year to less than 3 years	94	23	33	5.1
	3 years to less than 5 years	66	16.1	39	6
	5 years to less than 7 years	48	11.7	131	20.1
	7 years or more	53	13	439	67.4

Gender: According to the survey results, the majority of both samples were male, 71.9% of IB non-users and 92.6% of IB users. Although the gender composition was heavily weighted towards male respondents in both samples, this finding was anticipated, since this result reflects to a great extent the real populations of both samples of the Riyad bank. Female clients represent less than 25% of all clients, and

female online banking clients represent less than 5% of all online banking clients. This does not come as a surprise, as men in Saudi Arabia still dominate many aspects of life, and in particular, men have the main responsibility in regard to all family financial affairs.

Age: Respondent characteristics were varied, with concentrations in two groups for both samples. The primary age concentrations were in the range 25-35 (38.1%), followed by 35-45 (27.9%) for the non-users, and in the range 35-45 (33.6%), followed by 25-35 (32.7%) for the users.

Visual inspection shows the majority of respondents for both samples were concentrated in the middle groups, as 66% of IB users and non-users were aged between 25-45 years. What is interesting also is that a considerable percentage (23%) of IB non-users were under the age of 25. This is not consistent with the previous anticipation about the spread of adoption of IB amongst young people as a result of their closer relationship with the technology. Similarly 29% of IB users were above 45 years. This result would surprise some banks' managers, who admitted that their marketing of electronic channels was designed to target young clients, as they are much easier to be convinced than older clients.

Income: In relation to participants' income, a clearly significant difference was observed between the two samples. Visual examination revealed that the income of IB users was noticeably higher than non-users' income. More than a quarter of IB users earned more than 20000 SR (5333 USD) a month, compared to 4.6% of non-users. Conversely, more than a quarter of non-users earned less than 4000 SR (1066 USD), against only 5.2% of IB users.

Qualification: A similar situation was found for qualifications, where 72% of IB users held a bachelor degree or above, against 40% amongst non-users. In general the education levels of respondents were quite different between IB users and non-users. For example, 59.9% of non-users were not educated above High school certificate, where the corresponding percentage for IB users was 27.8%. It seems that the IB users population was slightly better educated than the IB non-users population.

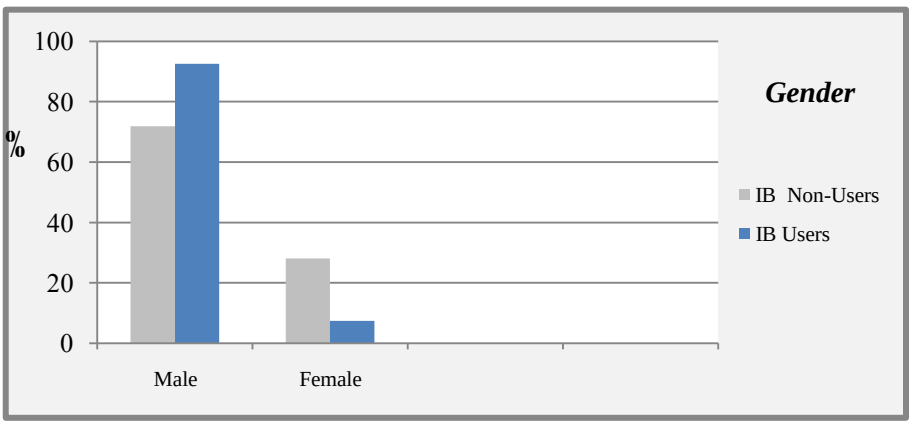
Occupation: Comparing participants' occupations between the two samples shows that the majority of IB users (60%) were private sector employees, followed by government sector employees (26%), whereas the majority of non-users (41%) were government

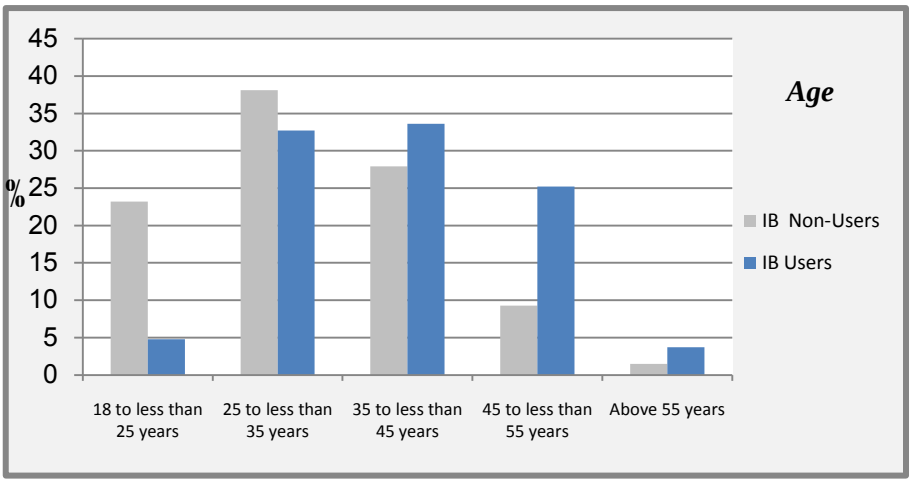
sector employees, followed by 32% in the private sector . A reasonable explanation of this variation is not only because the private sector in Saudi Arabia focuses on employing qualified, skilled people who can use technology easily, but also because the private sector has outdistanced the government sector in using technology in general and specifically Internet applications. The majority of private sector companies in Saudi Arabia make Internet access available to their employees, but this does not apply to the government sector. Another relevant factor is that working hours in the private sector are the same as banks' working hours from morning to evening, which means these employees may be forced to use electronic banking channels including IB to handle their own financial affairs.

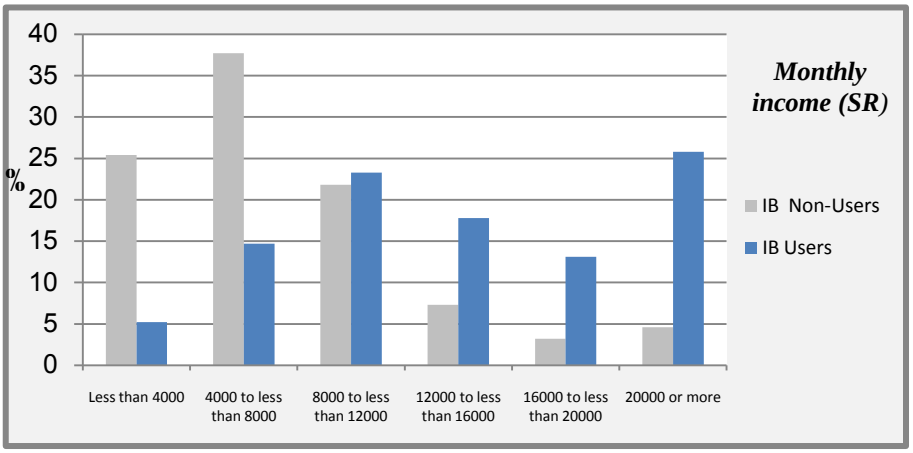
Internet Experience: Regarding respondents' Internet experience, there was a strong weighting of Internet experience towards IB users, as 87.5% of them had had more than five years Internet experience, and only 6.5% had such experience for less than three years. In the non-users sample 24.7% had been using the Internet for more than five years. However 20% of non-users were new users of the Internet, with less than one year experience and 16.1% had never used the Internet. What was interesting here is that 84.9% of non-users were not computer or Internet illiterate; they had at least some experience of the Internet. Indeed, 40.8% of non-users could be considered to have a great deal of computer and Internet experience, having used it for more than three years. Proficiency at computing and the Internet seems to be positively correlated with Internet banking using, as was found by a recent study (Katuri and Lam 2007)

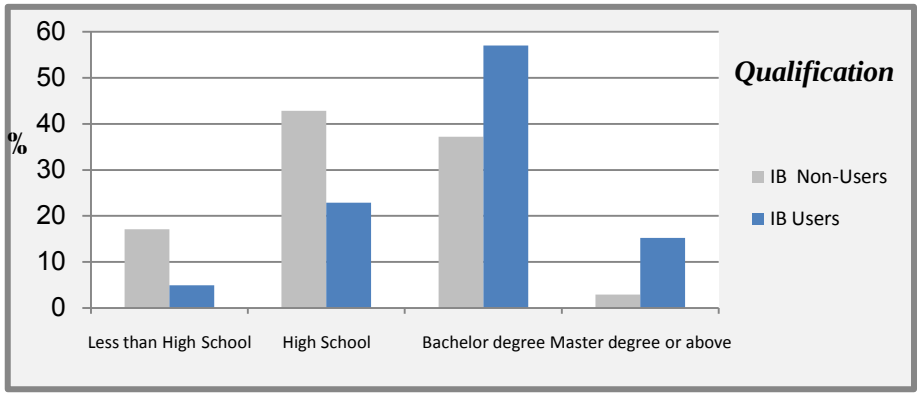
Figure 8.2 presents summary graphs, detailing gender, age, monthly income, qualification, occupation, and Internet experience of respondents in comparative form for both samples.

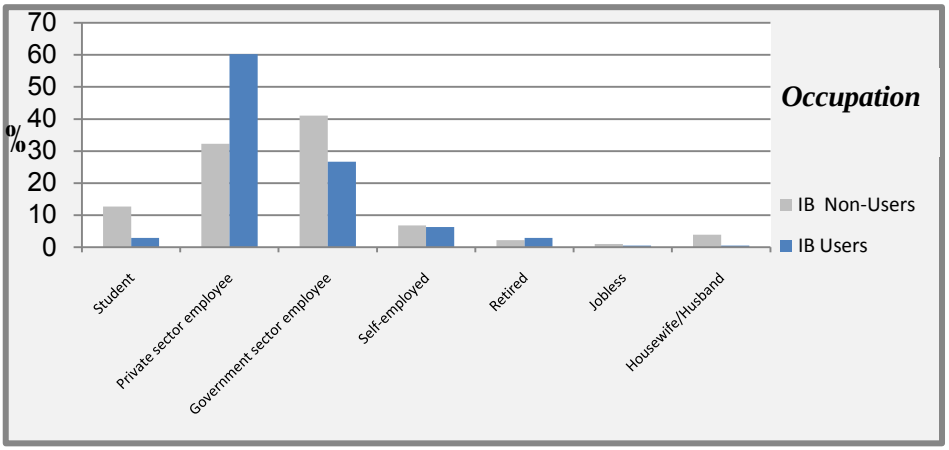
Figure 8.2- Demographic Data of IB Users and Non-Users

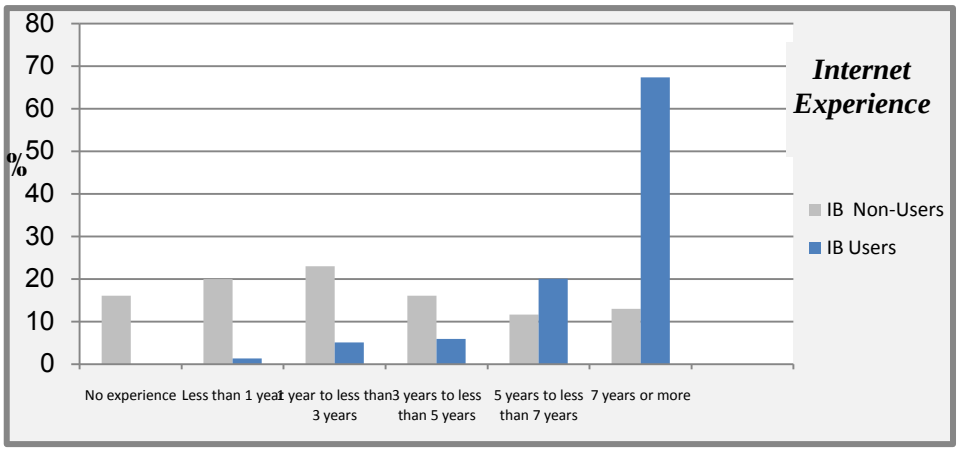



Age
%
45
40
35
30
25
20
15
10
5
0
18 to less than 25 years
25 to less than 35 years
35 to less than 45 years
45 to less than 55 years
Above 55 years
IB Non-Users
IB Users


Monthly income (SR)
%
40
35
30
25
20
15
10
5
0
Less than 4000
4000 to less than 8000
8000 to less than 12000
12000 to less than 16000
16000 to less than 20000
20000 or more
IB Non-Users
IB Users


Qualification
%
60
50
40
30
20
10
0
Less than High School
High School
Bachelor degree
Master degree or above
IB Non-Users
IB Users


Occupation
%
70
60
50
40
30
20
10
0
Student
Private sector employee
Government sector employee
Self-employed
Retired
Jobless
Housewife/husband
IB Non-Users
IB Users



8.3 Reliability and Validity of Measures

Although this study was developed from a rigorous literature review and its research model was carefully formed and tested in a pilot study and through different phases of this research, it is important to determine whether or not this study was investigating the intended phenomenon by using the right questions. Test instrument variables are deemed reliable when they engender the same stable and reliable responses even when the test is administered repeatedly (Brace 2008). Although this research has applied strict procedures to gain confidence that the design of the questionnaires was reliable (as discussed in Chapter Five, 5.5.7), a statistical test was carried out to give more confidence in the reliability of the questions.

8 3.1 Coefficient alpha

The Cronbach's alpha (also known as coefficient alpha) is recommended as the first test of internal consistency in assessing the reliability of a multiple-item variable (Saris and Gallhofer 2007). Hence, Cronbach's alpha was calculated as an indicator of the reliability of the scales. Coefficient alpha can be viewed as the average of the correlations of all of the items on a test with each other. If the coefficient alpha is low and the pool of items is sufficiently large, this indicates that some items do not share equally in the common core and should be eliminated (Hair et al. 2005). A Cronbach's alpha value of .70 is considered acceptable. A high alpha (e.g. greater than .90) may indicate that items are repetitious or that more items than are necessary have been included in the scale (Leech et al. 2008).

Table 8.2 shows that the Cronbach's alpha is in the acceptable range, as the alphas for all variables are above .70. Thus, it appears that all fifteen independent variables in this study met the minimum requirement.

Table 8.2- Cronbach's Alpha to Measure Internal Consistency of Constructs of both Questionnaires

Constructs	**IB Non-Users**		**IB Users**	
	Number of Items	Cronbach 's Alpha	Number of Items	Cronbach 's Alpha
Perceived Relative Advantage	2	.820	2	.801
Perceived Compatibility	2	.773	2	.814
Perceived Ease of use	2	.831	2	.844
Trialability	2	.786	2	.764
Perceived Image	2	.830	2	.899
Trust	4	.888	4	.837
Family	2	.823	2	.877
Friends	2	.857	2	.917
Self-efficacy	2	.715	2	.763
Resource Facilitating Conditions	2	.812	2	.785
Perceived Website Characteristics	-	-	4	.854
Perceived elements related to need recognition	-	-	4	.855
Perceived elements related to information search	-	-	4	.822
Perceived elements related to information evaluation	-	-	4	.899
Perceived elements related to decision-taking	-	-	4	.802
Perceived elements related to post-purchase	-	-	4	.839

8.3.2. Validity

Validity can be regarded as the extent to which differences found with a measuring tool reflect true differences among respondents being tested (Oppenheim 2001). Construct validity is normally evaluated using three forms of validity: content, convergent and discriminant validity (Saris and Gallhofer 2007).

8.3.2.1 Content validity

The content validity of a survey instrument is based on the extent to which it reflects the specific intended domain of content (Brace 2004)

The content validity of both questionnaires was objectively obtained as a result of a wide literature review in the first stage, then by assessment of the instrument's items by qualified individuals who are experts in this field in the second stage. Expert researchers in Hull and King Khalid Universities made their judgments about the relevance of the items and about the clarity of their formulation.

8.3.2.2 Convergent validity and discriminant validity

Convergent validity is the extent to which varying approaches to construct measurements yield the same results. It assesses the extent to which indicator items measuring a construct converge together and measure a single construct and is also referred to as uni-dimensionality (Saris and Gallhofer 2007).

A scale exhibits discriminant validity if its constituent items estimate only one construct (Litwin 1995). Discriminant validity is the degree to which items of theoretically distinct concepts are unique from each other (Tabachnick and Fidell 2007). Hair and others also stated that discriminant validity is normally established through factor analysis (Hair et al. 2005). Principal component factor analysis was used in this study to test validity.

Convergent validity was evaluated by examining whether the theorised items converge together on the appropriate constructs and discriminant validity was evaluated by examining the cross-loading of items on multiple factors (Tabachnick and Fidell 2007). This will be detailed when factor analysis tests are presented, later on in this chapter.

8.4 Testing Research Hypotheses

Before testing the hypotheses a number of procedures had to be undertaken. Some of these were general multivariate analysis requirements such as screening and preparation of data, including the treatment of missing data, detection of outliers, and testing for normality. Others were related to this research specifically, such as performing t-tests between the IB users sample and IB non-users sample to examine the differences in their means and to see if there was any statistical significance in such differences. Then, multiple regression tests could be conducted to reject or support the research hypotheses.

In this section, the development of scales and testing of the study variables is reported with reference to four main processes: (1) data preparation and screening; (2) t-test for independent samples to compare between IB users and non-users samples; (3) exploratory factor analysis for testing the validity of the constructs; (4) multiple linear regression for testing the 16 hypotheses. Analyses were carried out using the Statistical Package for Social Science (SPSS) for Windows, version 15. The following sections describe the results of each analysis in detail.

8.4.1 Data Preparation and Screening

Multivariate analysis techniques, such as multiple regression, have a tremendous analytical power to assist researchers in testing their hypotheses (Pallant 2005), although they are not without limitations (Hair et al. 2005). Data preparation and screening is a crucial consideration for multivariate analysis. It can be time consuming, but avoiding it can lead to failure of model estimation and can result in inaccurate findings (Pallant 2005). This section explains the issues of missing data, outliers, and normality.

8.4.1.1 Missing data

Missing data is "*one of the most pervasive problems in data analysis"* (Tabachnick and Fidell 2007:62). Missing data can cause two problems: reducing the ability of a statistical test to imply a relationship in the dataset, and making biased parameter estimates (Hair et al. 2005). Tabachnick and Fidell (2007) comment that the significance of missing data depends on the pattern of missing observations, frequency of occurrence, and the reasons behind the missing value.

In this research two types of questionnaire were administered. An online questionnaire sent to bank clients over their e-mails did not produce any missing data, as the system for submission of those questionnaires to the database was designed such that only complete questionnaires were submitted. The system also had the ability to remind respondents about forgotten questions that needed to be answered before submission. Thus, there was no problem of missing data in the first group of collected data. The second questionnaire, which was distributed through bank branches, produced some missing data. However, the researcher reviewed the missing data to make sure there was no systematic pattern. Had such a pattern emerged, this could have indicated a problem with one or more questions, or probably with the sample itself, leading to bias in the data. The absence of such a pattern indicates that the omission (deliberate or otherwise) of data in some responses can be attributed to chance or individual difference. These omissions, therefore, are not cause for concern. As a safeguard, however, the researcher excluded any questionnaire that contained more than 5% missing data. Some researchers suggest 5% or even 10% missing data on a particular variable is not large (Tabachnick and Fidell 2007). Others suggest the problem could be considered as less serious and any treatment may yield similar results (Hair et al. 2005).

After this, any missing data was treated by giving the value of the mean of all answers on this item, a technique which Tabachnick and Fidell (2007) assumed to generate acceptable results.

8.4.1.2 Outliers

Outliers are cases with scores that are distinctly different from other observations (Kline 2005). Univariate outliers were not identified for the present study, as it utilized a five-point Likert scale and plausibly the response options could become outliers as they are the extreme points of the scale.

Multivariate outliers were diagnosed by exploring data with the SPSS software package, which can give ID cases of outliers to estimate the position of each observation in comparison with all observations. The new means of the variables after excluding outliers did not present any significance. Therefore, it was decided to keep all the cases, as there was insufficient proof that these outliers were not part of the population. Some respondents might have different opinions about Internet banking from the majority of the sample, but without doubt they belong to the target population. Additionally, Kline (2005) indicates that the presence of a few outliers within a large sample should be of little concern. Finally, this decision is in line with Hair et al.'s (2005) suggestion that the elimination of outliers might improve the multivariate analysis but at the risk of limiting generalisability.

8.4.1.3 Normality

The last assumption underlying multivariate analysis is the assessment of normality of the distribution. Normality is the "*shape of the data distribution or an individual metric variable and its correspondence to the normal distribution, which is the benchmark for statistical methods*" (Hair et al. 2005: 79).

Normality can be shown at univariate (distribution of individual variables) and multivariate level (combination of two or more variables) (Kline 2005). The violation of normality assumptions may affect the estimation process or the interpretation of results. For example, non-normality can cause underestimation of fit indices and standard errors of parameter estimates (Hair et al. 2005).

Normality can be ensured by graphical analyses such as the histogram and normal probability plot, which compares the actual cumulative data scores against a normal cumulative distribution. If data is normally distributed, the line representing the actual data will closely follow the diagonal lines (Hair et al. 2005). In this research, histograms and normal probability plots will be presented where necessary to check normality.

8.4.2 T-Test for Independent Samples

The t-test is a well-known statistical procedure that assesses whether the means of two groups are statistically different from each other (Fadem 2008). This analysis seems to be appropriate in this research, since it concerns two independent groups, IB users and IB non-users.

The aim here was to identify whether there were statistically significant differences between those two groups. This was very important, as the answer would determine the rest of the statistical analysis. The result is shown in Tables 8.3 and 8.4

Table 8.3 - Two Groups Statistics (IB Users and Non-Users)

	IB using	N	Mean	Std. Deviation	Std. Error Mean
Perceived Relative Advantage (PRA)	**Users**	651	4.7995	.47812	.01874
	Non-users	409	4.0000	1.02302	.05059
Perceived Compatibility (PC)	**Users**	651	4.6167	.64406	.02524
	Non-users	409	3.7042	1.06378	.05260
Perceived Ease of use (PE)	**Users**	651	4.4731	.75272	.02950
	Non-users	409	3.7494	1.08811	.05380
Perceived Image (PI)	**Users**	651	3.8257	1.15689	.04534
	Non-users	409	3.6027	1.11440	.05510
Perceived Trust (PT)	**Users**	651	4.1094	.77025	.03019
	Non-users	409	3.4578	1.11511	.05514
Perceived Trialability (PTr)	**Users**	651	3.8587	1.08628	.04257
	Non-users	409	4.2359	.90611	.04480
Subjective Norms, Friends (SN.fr)	**Users**	651	3.6759	1.19558	.04686
	Non-users	409	3.6748	1.09057	.05393
Subjective Norms, Family (SN.fa)	**Users**	651	3.4708	1.21652	.04768
	Non-users	409	3.6577	1.06938	.05288
Self-Efficacy (SE)	**Users**	651	4.5783	.63670	.02495
	Non-users	409	3.6076	1.03228	.05104
Resource Facilitating Conditions (RFC)	**Users**	651	4.6797	.59481	.02331
	Non-users	409	3.9841	1.06371	.05260
Intention (Int)	**Users**	651	4.5837	.72291	.02833
	Non-users	409	3.2604	1.08693	.05375

To determine whether t-value is large enough to be significant, it was necessary to examine the difference between the means of two groups. If the t-value is positive, then the first mean is larger than the second, and if negative, then the second is larger. T-values were computed then presented in a table of significance (Table 8.4) to test whether the ratio is large enough to say that the difference between the groups is not likely to have been a chance finding.

Table 8.4 - Independent Samples T-Test between IB Users and Non-Users

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Upper	Lower
PRA	Equal variances assumed	262.847	.000	17.180	1058	.000	.79954	.04654	.70822	.89086
	Equal variances not assumed			14.822	521.499	.000	.79954	.05394	.69356	.90551
PC	Equal variances assumed	159.255	.000	17.396	1058	.000	.91259	.05246	.80965	1.01552
	Equal variances not assumed			15.642	597.666	.000	.91259	.05834	.79800	1.02717
PE	Equal variances assumed	115.393	.000	12.787	1058	.000	.72373	.05660	.61267	.83479
	Equal variances not assumed			11.795	653.153	.000	.72373	.06136	.60324	.84422
PI	Equal variances assumed	.088	.767	3.098	1058	.002	.22296	.07197	.08174	.36419
	Equal variances not assumed			3.124	891.122	.002	.22296	.07136	.08291	.36302
PT	Equal variances assumed	91.978	.000	11.241	1058	.000	.65162	.05797	.53788	.76537
	Equal variances not assumed			10.366	652.466	.000	.65162	.06286	.52819	.77506
PTr	Equal variances assumed	13.971	.000	-5.859	1058	.000	-.37726	.06439	-.50362	-.25091
	Equal variances not assumed			-6.104	977.303	.000	-.37726	.06181	-.49855	-.25597
SN.fr	Equal variances assumed	5.085	.024	.015	1058	**.988**	.00107	.07295	-.14208	.14421
	Equal variances not assumed			.015	925.536	**.988**	.00107	.07144	-.13914	.14127
SN.fa	Equal variances assumed	13.581	.000	-2.549	1058	.011	-.18689	.07332	-.33075	-.04303
	Equal variances not assumed			-2.625	947.856	.009	-.18689	.07120	-.32661	-.04716
SE	Equal variances assumed	132.830	.000	18.938	1058	.000	.97076	.05126	.87018	1.07134
	Equal variances not assumed			17.086	604.660	.000	.97076	.05682	.85918	1.08234
RFC	Equal variances assumed	180.969	.000	13.636	1058	.000	.69562	.05101	.59552	.79572
	Equal variances not assumed			12.091	570.237	.000	.69562	.05753	.58262	.80862
Int	Equal variances assumed	107.390	.000	23.799	1058	.000	1.32333	.05561	1.21422	1.43244
	Equal variances not assumed			21.781	635.479	.000	1.32333	.06076	1.20402	1.44263

The table above shows significant differences between users and non-users with respect to all variables, except for Subjective Norms: friends (SN.fr). IB users had stronger perceptions than non-users towards these factors: relative advantage, compatibility, ease of use, image, trust, self-efficacy, resource facilitating conditions and intention to adopt Internet banking services, whereas IB non-users had stronger perceptions in connection with Subjective Norms: family (SN.fa) and trialability.

This has implications for presenting and testing the research hypotheses, as each sample has to be considered separately. It can also present important findings in terms of comparing IB users to non-users. The issue of including current users and their perceptions regarding Internet banking adoption is a debated one. Users may have different perceptions from non-users, as user adoption means sustaining the intention to continue using IB, whereas non-users' adoption means the intention to start using IB in

the near future. Therefore, this could influence the effect of variables on intention to use IB. The results of the comparisons will be shown in the next examinations, factor analysis and multiple regression.

8.4.3 Factor analysis

Factor analysis is a statistical method to enable the underlying dimensions of a questionnaire to be determined (Kline 2005). It is helpful for studying the correlations among a large number of interrelated quantitative variables and combining them into a few more meaningful factors. Those few factors then become input variables and become interpretable (Kline 2005). Some dimensions within variables cannot be observed easily and are known as latent variables. The researcher manages by taking measurements on observable items instead, and analyses the data with the hope of exposing factors (Hair et al. 2005). The analysis examines the pattern of correlations among the observable items, looking for logical subsets that can be distinguished from each other.

The main aim in undertaking factor analysis was to replace the set of observed variables with a smaller set of derived variables and provide operational definitions for underlying processes by investigating the variables that the factors comprise (Hair et al. 2005). An additional purpose was to reconsider or delete items that did not load significantly on the intended variable.

The factor extraction method used throughout this research is principal components analysis. The factor extraction technique of principal components analysis estimates communalities in order to eliminate error and any unique variances from factors (Hair et al. 2005). Thus, this procedure can be classified as a factor analytic model and it is widely used by researchers (Tabachnick and Fidell 2007). Implementing the factor analysis involved several steps. For example, based on the correlation matrix for all variables, the appropriateness of the factor model was evaluated. Secondly, it was necessary to decide which factor model should be used, and the number of factors that should be extracted, as well as assess how well the model fits the original data. Thirdly, the choice of the rotation method to make factors more interpretable was revised. Finally, new factor scores were computed to be used in multiple regression.

Based on the principal components method with Oblimin rotation, factor analysis was conducted to detect the factor structure in the observed variables. The data reduction process reduced the number of predictor variables (the independent variables) within this research by two dimensions in the areas relevant to the theoretical model, as a result of combining, in two instances, two dimensions into one. The details will be shown later in this section.

However, correlation analysis was conducted first in order to analyse the relationship between independent variables. The Pearson's correlation matrix (Appendix X) demonstrates the correlation between the independent variables as being either low or moderate, which suggests the absence of multicollinearity between independent variables. As suggested by Hair et al. (2005) correlation between each pair of independent variables should not exceed 0.80; independent variables with a coefficient in excess of 0.80 may be suspected of exhibiting multicollinearity. Multicollinearity (explained later) is usually regarded as a problem, because it means that regression coefficients may be unsecured (Field 2003).

The total sample size used for factor analysis was 1060 cases: 651 IB users and 409 non-users. Hair et al. (2005) recommends a ratio of 1-to-10 between the items to be factored and the number of cases used, with a minimum of 1-to-5. Considering that, factor analysis was conducted on 26 items (for IB users) and 24 items (for non-users). This made the ratio 1-to-25 for IB users and 1-to-17 for non-users.

After running the factor analysis, preliminary checks on the results indicated the overall suitability of factor analysis based on Bartlett's test of Sphericity which reached statistical significance, supporting the factorability of the correlation matrix. The Kaiser-Myer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity (Field 2003) are considered as among the best measures for determining the suitability of a set of data for subsequent analysis (Field 2003). According to Field (2003) and Pallant (2005) the value of KMO should be 0.5 or greater.

The Kaiser-Meyer Olkin (KMO) showed a value equal to .864 for IB users and .885 for non-users. This indicates that correlations were adequate to conduct factor analysis.

Table 8.5 - KMO and Bartlett's Test

IB users

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.864
Bartlett's Test of Sphericity	Approx. Chi-Square	10313.877
	df	325
	Sig.	.000

IB non-users

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.885
Bartlett's Test of Sphericity	Approx. Chi-Square	6403.632
	df	276
	Sig.	.000

One aspect of the factor analysis is the ability to limit the number of factors to be extracted. In this research, based on Jolliffe and Field's recommendations (Jolliffe 2002; Field 2003) the eigenvalue was 0.7. The result of this extraction was supported by the proposed model and literature review. Initial findings generated, as shown in Table 8.6 and Table 8.7, ten factors in regard to IB users and nine factors in regard to non-users, which accounted for 80.445 %, and 80.957% of variance in intention to use IB, respectively. From another perspective, Pallant (2005) stated that "*it is up to the researcher to determine the number of factors that he/she considers best describe the underlying relationship among the variables"* (Pallant 2005:175). Tabachnich and Fidell (2007) supported this procedure and recommended that researchers adopt an exploratory approach, experimenting with different numbers of factors until the factors retained map perfectly onto the original variables, or until a satisfactory solution is found.

From this analysis, it could be concluded that the revised item scales measuring adoption factors for IB users and non-users were uni-dimensional and represented ten concepts in relation to IB users and nine concepts for non-users.

The eigenvalue and the scree plot were also investigated to determine the number of factors. The scree plot test, according to Hair et al. (2005), is another valid method to determine the number of factors to extract. The scree plot test plots the latent roots against the number of factors. The number of factors to be extracted is determined by establishing a cut point at the “knee,” or point at which the curve begins to flatten out. The results supported the previous findings, detailed in Table 8.6 and Table 8.7.

Table 8.6 - Total Variance Explained for IB Users

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings(a)
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	8.251	31.736	31.736	8.251	31.736	31.736	4.714
2	3.094	11.899	43.635	3.094	11.899	43.635	4.542
3	1.746	6.716	50.351	1.746	6.716	50.351	4.586
4	1.520	5.847	56.198	1.520	5.847	56.198	3.580
5	1.462	5.623	61.821	1.462	5.623	61.821	3.701
6	1.132	4.355	66.176	1.132	4.355	66.176	2.215
7	1.068	4.108	70.284	1.068	4.108	70.284	3.464
8	.984	3.785	74.069	.984	3.785	74.069	1.900
9	.905	3.481	77.550	.905	3.481	77.550	3.297
10	.753	2.895	80.445	.753	2.895	80.445	3.994
11	.676	2.599	83.044				
12	.592	2.276	85.319				
13	.446	1.715	87.035				
14	.394	1.517	88.552				
15	.383	1.474	90.026				
16	.347	1.334	91.359				
17	.322	1.239	92.598				
18	.310	1.191	93.789				
19	.298	1.145	94.933				
20	.279	1.074	96.007				
21	.250	.962	96.969				
22	.236	.907	97.876				
23	.190	.732	98.609				
24	.167	.643	99.251				
25	.125	.481	99.733				
26	.070	.267	100.000				

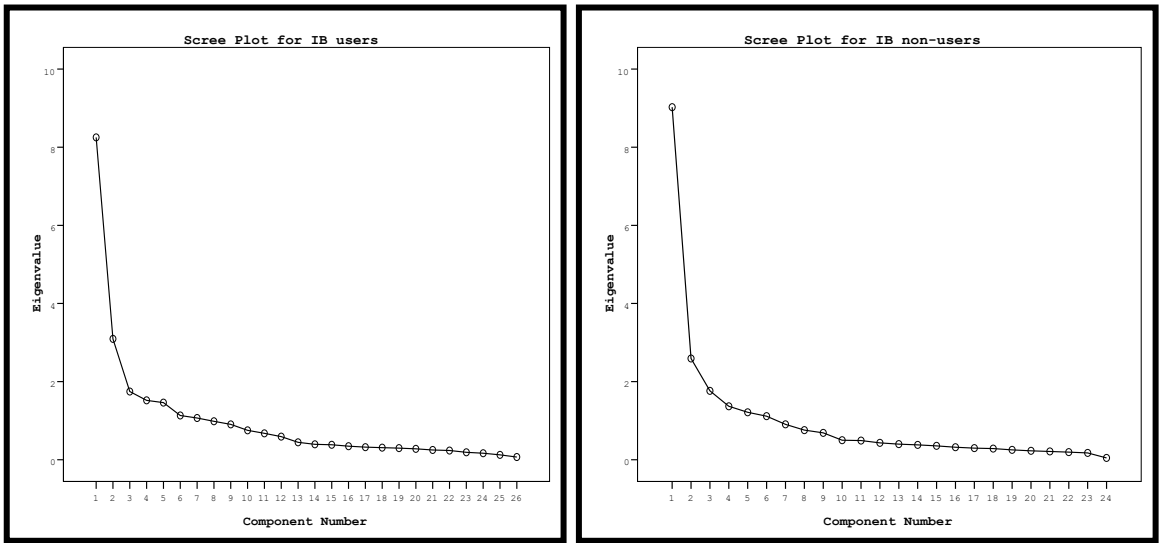
Extraction Method: Principal Component Analysis.
a When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Table 8.7 - Total Variance Explained for IB Non-Users

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings(a)
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.025	37.604	37.604	9.025	37.604	37.604	5.902
2	2.592	10.798	48.403	2.592	10.798	48.403	3.661
3	1.764	7.349	55.751	1.764	7.349	55.751	2.873
4	1.368	5.701	61.452	1.368	5.701	61.452	3.288
5	1.214	5.060	66.512	1.214	5.060	66.512	4.512
6	1.115	4.646	71.157	1.115	4.646	71.157	5.673
7	.906	3.774	74.931	.906	3.774	74.931	4.096
8	.758	3.159	78.091	.758	3.159	78.091	4.785
9	.688	2.867	80.957	.688	2.867	80.957	4.196
10	.500	2.083	83.040				
11	.491	2.046	85.086				
12	.432	1.802	86.888				
13	.400	1.666	88.554				
14	.380	1.584	90.138				
15	.355	1.479	91.617				
16	.320	1.335	92.952				
17	.297	1.237	94.189				
18	.286	1.191	95.380				
19	.253	1.054	96.435				
20	.229	.952	97.387				
21	.212	.883	98.270				
22	.195	.812	99.082				
23	.174	.726	99.808				
24	.046	.192	100.000				

Extraction Method: Principal Component Analysis.
a When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Figure 8.3 - The Scree Plot Test for IB Users and Non-Users



After that, communalities for all the items were tested. Then, principal components factor analysis (PCFA) procedures with Oblimin rotation were used to create the structure needed for interpretation (Field 2003).

Factor analysis was run a number of times using an oblique rotation and using only the items that loaded previously to determine the minimum loading necessary to include an item in its respective construct. Field (2003) suggested that loadings of an absolute value of more than 0.3 are important. Stevens (2001) commented that the significance of a factor loading depends on the sample size and said that *"for a sample size of 300, a loading of 0.298 can be considered significant and for 600 it should be greater than 0.21"* (Stevens 2001:382).The communalities for all items were 0.435 and higher, regarded as a very satisfactory outcome. The findings indicated that a factor analysis of the scale items would be appropriate. Factor loadings ranged from .470 to .942, for IB users as shown in Table 8.8, and .435 to .942 for non-users as shown in Table 8.9. The next tables show the new pattern matrix and the final factor loadings for both samples.

Table 8.8 - Pattern Matrix[(a)] for IB USERS

Variables	Component									
	PRA+C	SN	PT	Int	PI	PTr	RFC	PWC	PE	SE
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10
PC1	.861									
PC2	.780									
PRA2	.704									
PRA1	.659									
SN.fr1		.861								
SN.fa2		.780								
SN.fr2		.704								
SN.fa1		.659								
PT2			-.884							
PT1			-.821							
PT3			-.781							
PT4	.396		-.470							
Int2				-.884						
Int1				-.821						
PI2					.942					
PI1					.927					
PTr2						.907				
PTr1						.888				
RFC2							-.894			
RFC1							-.798			
PWC2								.895		
PWC1								.638		
PE1									-.849	
PE2									-.823	
SE2										-.863
SE1										-.824

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a Rotation converged in 13 iterations.

Table 8.9 - Pattern Matrix[(a)] for IB Non-Users

Variables	Component								
	PRA+C	Int	PTr	RFC	SN	PT	PI	PE	SE
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
PRA1	.913								
PC1	.788								
PRA2	.737								
PC2	.670								
Int2		.988							
Int1		.979							
SN.fa1		.520			.435				
PTr1			.917						
PTr2			.875						
RFC2				.907					
RFC1				.828					
SN.fr1					.942				
SN.fr2					.817				
SN.fa2					.738				
PT3						.895			
PT2						.879			
PT1						.819			
PT4						.644			
PI2							.903		
PI1							.867		
PE1								.880	
PE2								.848	
SE1									-.812
SE2									-.796

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a Rotation converged in 10 iterations.

Factors extracted represented all the variables in the research model. Perceived Relative Advantage (PRA), Perceived Compatibility (PC), Perceived Ease of Use(PE) Perceived Trialability (PTr) Perceived Image(PI), Perceived Trust (PT), Subjective Norms-family influence (SN.fa), Subjective Norms-friends' influence (SN.fr), Self-efficacy (SE), Resource Facilitating Conditions (RFC), and Intention (Int) loaded as expected on unique factors with significant loadings (loadings greater than 0.5, Hair et al. (2005). However, the analysis suggested that Perceived Relative Advantage (PRA) and Perceived Compatibility (PC) could be combined in one factor, and similarly that Subjective Norms-family influence (SN.fa) could be combined with Subjective Norms-friends' influence (SN.fr). This was done, for both samples, as detailed next. There was no problem with the nature of item loadings on each factor.

As can also be seen from Table 8.8 and Table 8.9, all items were loaded significantly onto the expected factors, with values higher than 0.4. This supports the discriminate validity of the measurement. It was, therefore, concluded that the revised 26-item scale measuring factors in users' intention to adopt IB and the 23-item scale measuring factors in non-users' intention to adopt IB were uni-dimensional.

The final set of items was used to estimate the reliabilities of the factors identified in this study. Cronbach's alpha was used as a measure of the reliability of the scales. Values are acceptable in the literature for Cronbach's alpha range from 0.6 and above. The reliability values are listed in Table 8.10.

Table 8.10 - Cronbach's Alpha to Measure Internal Consistency of Constructs of both Questionnaires (the second test)

Constructs	IB Non-Users N = 409		IB Users N = 651	
	Number of Items	Cronbach 's Alpha	Number of Items	Cronbach 's Alpha
Perceived Relative Advantage & Compatibility (PRAC)	4	.871	4	.844
Perceived Ease of use (PE)	2	.831	2	.844
Perceived Trialability (PT)	2	.786	2	.764
Perceived Image (PI)	2	..830	2	.899
Perceived Trust (PT)	4	.888	4	.837
Subjective Norms (SN)	3	.875	4	.926
Self-efficacy (SE)	2	.715	2	.763
Resource Facilitating Conditions (RFC)	2	.812	2	.785
Perceived Website Contents (PWC)	-	-	2	.719
Intention (Int)	2	.974	2	.962

The items that resulted from the factor analysis were used to calculate summated measures for each variable. Each variable score was calculated by using the mean value of

all items contributing to that variable. As an example, the score of Perceived Trust (PT) for cases one to four were calculated as follows:

Case 1	(5+5+5+5)/4= 5
Case 2	(4 + 5 + 4+ 4) / 4 = 4.25
Case 3	(4+5+5+ 4)/4 = 4.50
Case 4	(5+4+3+ 3)/4 =3.75

The values that resulted from this stage were used to test the models proposed in multiple regression.

8.4.4 Statistical hypothesis testing

As mentioned earlier in Chapter Three 16 different hypotheses have been formulated in connection with Internet banking adoption. This number was reduced to 14 hypotheses as a result of factor analysis, which suggested that perceived relative advantage and perceived compatibility could be combined in one factor, and likewise family influence could be combined with friends' influence. This was done, for both samples, as detailed next. There was no problem with the nature of item loadings on each factor.

The first eight hypotheses were each examined twice, once for each sample (IB users and non-users). The hypotheses from 9 to 14 were examined only for IB users, as they tested the influence of perceived website characteristics on adoption of IB service.

In this section, multiple regression analysis is used in order to test the research hypotheses 1-9, which are summarised in Table 8.11, below.

Table 8.11 - Research Hypotheses (1-9)

H1	*Clients with high perceived relative advantage and compatibility of using Internet banking will have high intention to use/continue using this technology.*
H2	*Clients with high perceived ease of use of using Internet banking will have high intention to use/continue using this technology.*
H3	*Clients with high trialability of Internet banking will have high intention to use/continue using this technology.*
H4	*Clients with high perceived positive image of using Internet banking will have high intention to use/continue using this technology.*
H5	*Clients with high trust in Internet banking will have high intention to use/continue using this technology.*
H6	*Clients with high subjective norms influence will have high intention to use/continue using this technology.*
H7	*Clients with high self-efficacy will have high intention to use/continue using this technology.*
H8	*Clients with high resource facilitating conditions will have high intention to use/continue using this technology.*
H9	*Clients with high perception of the effectiveness of website characteristics will have high intention to continue using this technology.*

8.4.5 Preparing the data file for multiple regression analysis

A starting point is testing various assumptions necessary for multiple regression. Independent variables must be continuous or categorical, and the dependent variable must be continuous and only one dependent variable can be measured at a time. In this study, the scale used (five-point Likert scale) is a continuous measure, which satisfies this assumption (Field 2003).

In his book, "Multiple Regression in Behavioral Research", Pedhazur suggests that *"Knowledge and understanding of the situations when violations of assumptions lead to serious biases, and when they are of little consequence, are essential to meaningful data analysis"* (Pedhazur 1997:33). When using multiple regressions, the assumption of normality, linearity, homoscedasticity, multicollinearity, and reliability were considered.

1. Normality

Multiple regression assumes normality of the error term. A non-normal situation can distort relationships and significance tests (Tabachnick and Fidell 2007). It can be tested using residual frequency plots and normal probability plots. In both, the data displayed a normal distribution. Hair et al. (2005) emphasized that violating this assumption is less critical when the sample size is large (more than 20 items per variable). In this research, both samples were large enough to support the assumption and the generalizability of findings.

2. Linearity

Multiple regression assumes linear relationships between the independent and dependent variables. The accuracy of the analysis depends on this assumption. If there is no indication of a linear relationship between the dependent and independent variables, the results of the regression analysis will underestimate the true relationship. This underestimation carries two risks: increased chance of a Type II error for that independent variable, and, in the case of multiple regression, an increased risk of Type I errors (overestimation) for other independent variables that share variance with that independent variable (Tabachnick and Fidell 2007).

In this research, detection of linear relationships between dependent variable and independent variables was carried out by testing the correlation matrix between each

two variables. The correlations between all variables indicated that a significant linear relationship existed between them, as will be shown later.

3. Multicollinearity:

Multicollinearity is an important assumption that means no exact linear relationship (high correlation) exists between any two independent variables. High correlations are < 0.8 or < 0.9, as Field (2003) explained. Multicollinearity is a concern for items that may be measuring the same variable (dimension), thus distorting the estimation of the dependent variable.

Presence of multicollinearity can be tested by the correlation matrix which shows correlations of all variables against each other. Inspecting the correlation matrixes (as will be shown next in Table 8.12 and Table 8.13) revealed that no perfect correlation existed between any two independent variables, as will be displayed later.

Multicollinearity can also be detected by using the Variance Inflation Factor (VIF) or the tolerance (1/VIF). As recommended in the literature (Field 2003 and Hair et al. 2005), the VIF measure should be less than 10 and Tolerance value not less than .10. As indicated in Tables 8.18 and 8.19, all values of the independent variables met these criteria.

4. Homoscedasticity

Homoscedasticity means that the variance of errors is the same across all levels of the independent variable. According to Hair and others (Hair et al. 2005), slight heteroscedasticity has little effect on significance tests; however, when heteroscedasticity is significant it can lead to serious distortion of findings and seriously weaken the analysis. This assumption can be checked by visual examination of a plot of the standardized residuals (the errors) by the regression standardized predicted value. Most modern statistical packages include this option. In this research SPSS was used in this regard, as will be shown in the next pages.

5. Reliability of measures

The strength of the measures used indicates the reliability of the research. Based on that, measurement errors can be a concern. In multiple regression or partial correlation, effect sizes of other variables can be overestimated if the covariate is not reliably measured because the full effect of the covariate(s) would not be removed. This is a concern if the goal is to depict the existing relationships accurately. The commonly

used reliability estimates (Cronbach alpha) of 0.7 to 0.8 are generally considered acceptable in multiple regression (Field 2003). The use of existing reliable measures can provide strong protection against reliability problems.

All these assumptions of multiple regression were tested and explored before using multiple regression in this study, as will be shown next.

8.4.6 Running multiple regression analysis

The variation in the dependent variable that can be measured by doing multiple regression analysis is explained by R squared in SPSS outputs. An R squared equalling zero indicates no linear relationship between the independent variables and the dependent variable. R squared is, in effect, a measure of goodness of fit of a particular model, in relation to the population investigated.

The significance of R squared can be tested through the F-ratio and its associated probability. The F-ratio is a test of the null hypothesis that there is no linear relationship between the dependent and independent variables, that is, R squared equals zero. When the F-ratio is high and the level of significance is close to zero, then the null hypothesis can be rejected, accepting the alternative hypothesis that there is a linear relationship between the dependent and independent variables (Tabachnik and Fidell 2005).

Several methods can be used to select these predictor variables. In the present study, a "Forced Entry Method" analysis was regarded as the most suitable. In this approach all predictor variables are tested in one block to assess their predictive ability, while controlling for the effects of other predictors on the model. According to Pallant (2005:160) there are other techniques, for example the stepwise procedures, from which SPSS can pick a subset that provides the best predictive power. These stepwise procedures have been criticised because they can be heavily influenced by random variation in the data, with variables being included or removed from the model on purely statistical grounds (for more details, see Tabachnik and Fidell 2005:136-143).

1. Multicollinearity:

To test for the presence of multicollinearity, we used the correlation matrix generated by correlating all variables against each other (Table 8.12). Inspection of the correlation matrix revealed that no perfect correlation exists between any two independent variables. The maximum correlation for the users' sample was .511, between perceived relative advantage and compatibility on the one hand and self

efficacy on the other. The maximum correlation for non-users sample was 0.633, between perceived relative advantage and compatibility on the one hand and perceived ease of use on the other.

Table 8.12 - Correlations of the New Dimensions after Completing Factor Analysis Test for IB Users

		Int	PRAC	PE	Tr	PI	PT	SN	SE	RFC	PWC
Int	Pearson Correlation	1	.415(**)	.372(**)	.127(**)	.269(**)	.363(**)	.222(**)	.411(**)	.435(**)	.397(**)
	Sig. (2-tailed)		.000	.000	.001	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651
PRAC	Pearson Correlation	.415(**)	1	.511(**)	.137(**)	.285(**)	.446(**)	.249(**)	.500(**)	.437(**)	.278(**)
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651
PE	Pearson Correlation	.372(**)	.511(**)	1	.062	.325(**)	.453(**)	.204(**)	.488(**)	.375(**)	.188(**)
	Sig. (2-tailed)	.000	.000		.113	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651
Tr	Pearson Correlation	.127(**)	.137(**)	.062	1	.293(**)	.113(**)	.294(**)	.012	.102(**)	.127(**)
	Sig. (2-tailed)	.001	.000	.113		.000	.004	.000	.757	.009	.001
	N	651	651	651	651	651	651	651	651	651	651
PI	Pearson Correlation	.269(**)	.285(**)	.325(**)	.293(**)	1	.422(**)	.423(**)	.249(**)	.233(**)	.112(**)
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.004
	N	651	651	651	651	651	651	651	651	651	651
PT	Pearson Correlation	.363(**)	.446(**)	.453(**)	.113(**)	.422(**)	1	.378(**)	.489(**)	.420(**)	.199(**)
	Sig. (2-tailed)	.000	.000	.000	.004	.000		.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651
SN	Pearson Correlation	.222(**)	.249(**)	.204(**)	.294(**)	.423(**)	.378(**)	1	.211(**)	.199(**)	.159(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651
SE	Pearson Correlation	.411(**)	.500(**)	.488(**)	.012	.249(**)	.489(**)	.211(**)	1	.497(**)	.277(**)
	Sig. (2-tailed)	.000	.000	.000	.757	.000	.000	.000		.000	.000
	N	651	651	651	651	651	651	651	651	651	651
RFC	Pearson Correlation	.435(**)	.437(**)	.375(**)	.102(**)	.233(**)	.420(**)	.199(**)	.497(**)	1	.268(**)
	Sig. (2-tailed)	.000	.000	.000	.009	.000	.000	.000	.000		.000
	N	651	651	651	651	651	651	651	651	651	651
PWC	Pearson Correlation	.397(**)	.278(**)	.188(**)	.127(**)	.112(**)	.199(**)	.159(**)	.277(**)	.268(**)	1
	Sig. (2-tailed)	.000	.000	.000	.001	.004	.000	.000	.000	.000	
	N	651	651	651	651	651	651	651	651	651	651

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

Table 8.13 - Correlations of the New Dimensions after Completing Factor Analysis Test for IB Non-Users

		Int	PRAC	PE	Tr	PI	PT	SN	SE	RFC
Int	Pearson Correlation	1	.240(**)	.200(**)	.178(**)	.205(**)	.291(**)	.542(**)	.197(**)	.187(**)
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409
PRAC	Pearson Correlation	.240(**)	1	.633(**)	.306(**)	.497(**)	.571(**)	.397(**)	.544(**)	.439(**)
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409
PE	Pearson Correlation	.200(**)	.633(**)	1	.260(**)	.405(**)	.579(**)	.345(**)	.530(**)	.389(**)
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409
Tr	Pearson Correlation	.178(**)	.306(**)	.260(**)	1	.336(**)	.167(**)	.316(**)	.241(**)	.314(**)
	Sig. (2-tailed)	.000	.000	.000		.000	.001	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409
PI	Pearson Correlation	.205(**)	.497(**)	.405(**)	.336(**)	1	.439(**)	.454(**)	.390(**)	.305(**)
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409
PT	Pearson Correlation	.291(**)	.571(**)	.579(**)	.167(**)	.439(**)	1	.415(**)	.509(**)	.364(**)
	Sig. (2-tailed)	.000	.000	.000	.001	.000		.000	.000	.000
	N	409	409	409	409	409	409	409	409	409
SN	Pearson Correlation	.542(**)	.397(**)	.345(**)	.316(**)	.454(**)	.415(**)	1	.373(**)	.274(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000
	N	409	409	409	409	409	409	409	409	409
SE	Pearson Correlation	.197(**)	.544(**)	.530(**)	.241(**)	.390(**)	.509(**)	.373(**)	1	.524(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000
	N	409	409	409	409	409	409	409	409	409
RFC	Pearson Correlation	.187(**)	.439(**)	.389(**)	.314(**)	.305(**)	.364(**)	.274(**)	.524(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	
	N	409	409	409	409	409	409	409	409	409

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

2. The bivariate relationships in the study

The test of linearity also explores the bivariate relationships between the dependent variable and each of the independent variables. These relationships were tested by inspecting the correlation matrix listed in Tables 8.12 and 8.13. The matrix summarized the Pearson's correlations with a two tailed significance test. All variables correlated significantly with intention at the 0.01 level. These results indicate the importance of those variables in explaining the variance in intention to adopt IB.

3. Normality of the error term

Normality of the error term was tested using residual frequency plots and normal probability plots. In both, the data displayed a normal distribution.

Figure 8.4 - Residual Frequency Plots and Normal Probability Plots for IB Users

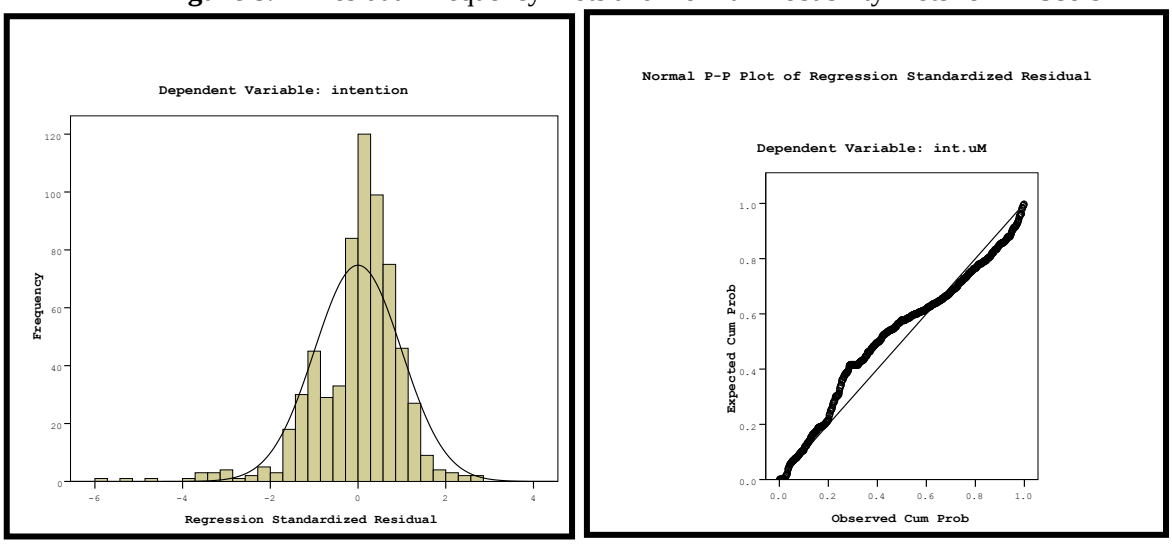
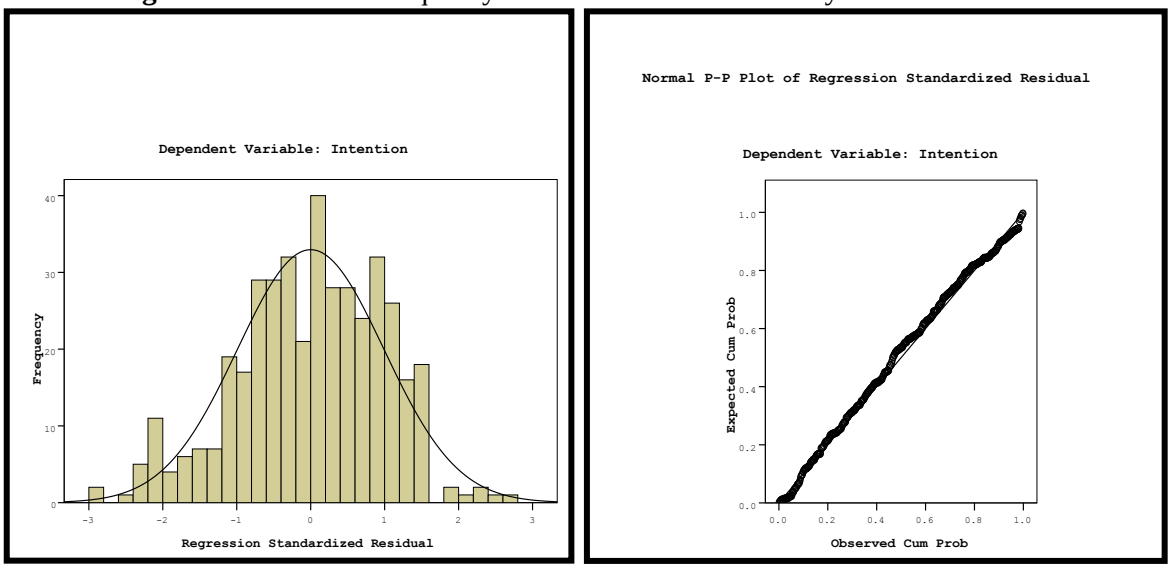


Figure 8.5 - Residual Frequency Plots and Normal Probability Plots for IB Non-Users



Finally, the variance proportion of each variable on any factor (eigenvalue) should not be extremely high. Checking these values in the collinearity diagnostics tables (Tables 8.14 and 8.15), all values for the variables were less than 0.78. Concerns are reported in the literature when values of 0.9 and more are associated with the same dimension (Tabachnik and Fidell 2005).

Table 8.14 - Collinearity Diagnostics for IB Users

Dimension	Eigenvalue	Condition Index	Variance Proportions									
			Constant	PRAC	PE	Tr	PI	PT	SN	SE	RFC	PWC
1	9.723	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.087	10.579	.00	.00	.01	.07	.14	.00	.32	.01	.01	.02
3	.062	12.568	.00	.00	.00	.78	.07	.01	.09	.00	.00	.00
4	.051	13.790	.00	.00	.00	.00	.64	.00	.53	.00	.00	.01
5	.025	19.803	.00	.00	.07	.06	.12	.11	.00	.01	.00	.71
6	.017	24.131	.02	.01	.21	.01	.02	.79	.05	.00	.00	.07
7	.014	26.210	.08	.01	.59	.02	.02	.03	.00	.03	.15	.18
8	.009	33.067	.21	.06	.00	.05	.00	.05	.00	.80	.00	.00
9	.008	34.545	.12	.09	.06	.00	.00	.00	.00	.14	.83	.01
10	.005	43.039	.57	.82	.05	.00	.00	.01	.00	.02	.01	.00

a Dependent Variable: Intention to continue using IB
b Selecting only cases for IB users

Table 8.15 - Collinearity Diagnostics for IB Non-Users

Dimension	Eigenvalue	Condition Index	Variance Proportions								
			Constant	PRAC	PE	Tr	PI	PT	SN	SE	RFC
1	8.671	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.075	10.777	.05	.01	.07	.13	.01	.22	.03	.02	.01
3	.062	11.819	.01	.00	.01	.00	.37	.02	.10	.07	.20
4	.044	14.039	.03	.00	.00	.01	.54	.12	.28	.05	.09
5	.041	14.462	.02	.04	.26	.09	.00	.01	.26	.17	.10
6	.035	15.843	.02	.01	.18	.02	.01	.53	.15	.23	.15
7	.029	17.413	.07	.01	.14	.09	.00	.07	.17	.45	.44
8	.023	19.383	.04	.83	.30	.09	.03	.02	.00	.01	.01
9	.021	20.496	.77	.09	.03	.57	.04	.01	.01	.00	.00

a Dependent Variable: Intention to start using IB
b Selecting only cases for IB non-users

8.4.7 Testing the general model

As discussed, the best statistical indicator is the coefficient of determination (R Square). The R^2 value was .348 for users and .308 for non-users. This means independent variables have the ability to explain the variance in clients' intention to start using IB by 31% in the non-users' sample, and to explain the variance in clients' intention to continue using IB by 35% in the users' sample. These are quite respectable results, considering some of the previous results that are reported in similar studies of IB adoption, or the R^2 value in social sciences in general (Pallant 2005).

Table 8.16 - Model Summary for IB Users and Non-Users

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
IB users (n=651)	.590(a)	.348	.339	.58766
IB non-usersn=(409)	.555(b)	.308	.294	.91333

a Predictors: (Constant), PWC, PI, Tr, RFC, PE, SN, PRAC, PT, SE
b Predictors: (Constant), RFC, SN, TR, PE, PI, PT, SE, PRAC
c Dependent Variable: Int

Table 8.17 - ANOVA Test for IB Users and Non-Users

Model	Sum of Squares	df	Mean Square	F	Sig.
IB users	118.321	9	13.147	38.068	.000(a)
IB non-users	148.350	8	18.544	22.230	.000(b)

a Predictors: (Constant), PWC, PI, Tr, RFC, PE, SN, PRAC, PT, SE
b Predictors: (Constant), RFC, SN, TR, PE, PI, PT, SE, PRAC
c Dependent Variable: Int

The significance of R squared can be tested through the F-ratio (the Fisher F in the ANOVA table) and its associated probability. The F-ratio is a test of the null hypothesis that there is no linear relationship between the dependent and independent variables, that is, R squared equals zero. When the F-ratio is high and the level of significance is close to zero, then the null hypothesis can be rejected, and the alternative hypothesis accepted, that there is a linear relationship between the dependent and independent variables (Tabachnik and Fidell 2005). The F ratio has two degrees of freedom, one related to the number of independent variables used in the model, and the other based on sample size.

Table 8.18 - Coefficients for IB Users

IB users Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	.348	.249		1.397	.163					
Perceived Relative Advantage & Compatibility	.163	.058	**.115**	**2.791**	**.005**	.415	.110	**.089**	.597	1.674
Perceived Ease of use	.092	.039	**.096**	**2.377**	**.018**	.372	.093	**.076**	.623	1.605
Perceived Trialability	.013	.023	.020	.572	.568	.127	.023	.018	.853	1.172
Perceived Image	.046	.024	.074	1.916	.056	.269	.075	.061	.690	1.450
Perceived Trust	.048	.039	.052	1.232	.218	.363	.049	.039	.580	1.726
Subjective Norms	.013	.023	.021	.551	.582	.222	.022	.018	.734	1.362
Self-efficacy	.110	.048	**.097**	**2.276**	**.023**	.411	.090	**.073**	.565	1.769
Resource Facilitating Conditions	.231	.047	**.190**	**4.869**	**.000**	.435	.189	**.155**	.670	1.493
Perceived Website Contents	.240	.033	**.245**	**7.170**	**.000**	.397	.272	**.229**	.873	1.146

Betas represent the importance of each variable in explaining the dependent variable. Also, the values represent the change in the dependent variable associated with the change in the independent variable. Depending on the t values, the significance for the betas is shown in Table 8.18.

Clients with high positive perceptions of website characteristics were found to have high intentions to keep using Internet banking (beta = 0.245, t = 7.170, p < .001). The betas are particularly important in predicting intention to keep using IB for users because they compare the variables' direction. Perception of website characteristics uniquely explained 5.4% of the variance in intention (the squared value of the part correlation; 0.229).

Resource facilitating conditions significantly explained intention when controlling for other variables (beta = 0.190, t = 4.869, p < .001). Bank clients with high perception of resource facilitating conditions had high intentions to continue using Internet banking. Perceived resource facilitating conditions uniquely explains 2.4% of the variance in intention (the squared value of the part correlation; 0.155).

Another dimension that showed significant explanation of the variance in intention is perceived relative advantage & compatibility. The results indicate that IB users with high levels of perceived relative advantage & compatibility will have greater intentions to continue using Internet banking (beta = 0.115, t = 2.791, p < .05). This variable explains 0.7% of the variance in intention (the squared value of the part correlation; 0.089).

Perceived Ease of use was a significant predictor of intention (beta = .096, t = 2.377, p < .05), uniquely explaining 0.5% of the variance in intention (the squared value of the part correlation; 0.076).

Self-efficacy was the last variable to remain in the model with a significant explanation of intention. This result provides more insight into the relationship between self-efficacy and intention. Clients with high self-efficacy reported high intentions to continue using Internet banking. (beta = 0.097, t = 2.276, p < .05). Self-efficacy uniquely explains 0.5% of the variance in intention.

The results indicated that the influence of perceived Trialability, Image, Trust or Subjective Norms was not significant in predicting users' intention to continue using IB.

What is interesting about these findings is that perceived trust did not significantly influence IB users to keep using Internet banking. This may be because they had already been using IB for some time, which means they had already established trust and were dealing with IB, so there was no influence of this issue on their intention to continue using this technology (wider interpretations will be presented in the next chapter).

Regarding clients who are not currently users of Internet banking, the findings are shown in Table 8.19

Table 8.19 - Coefficients for IB Non-Users

IB non-users Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	.951	.267		3.569	.000					
Perceived Relative Advantage & Compatibility	.030	.069	.027	.437	.662	.240	.022	.018	.460	2.175
Perceived Ease of use	-.024	.059	-.024	-.410	.682	.200	-.021	-.017	.502	1.993
Perceived Trialability	.019	.056	.016	.338	.736	.178	.017	.014	.796	1.256
Perceived Image	-.088	.051	-.090	-1.732	.084	.205	-.086	-.072	.636	1.572
Perceived Trust	.112	.056	**.115**	**2.021**	**.044**	.291	.101	**.084**	.532	1.879
Subjective Norms	.587	.055	**.536**	**10.738**	**.000**	.542	.473	**.447**	.695	1.439
Self-efficacy	-.060	.060	-.057	-1.003	.316	.197	-.050	-.042	.538	1.858
Resource Facilitating Conditions	.050	.052	.048	.949	.343	.187	.047	.039	.664	1.507

For non-users, there were different predictors that influenced their intention to start using IB. The results indicated that non-users with high perceived subjective norms were found to have a high intention to start using Internet banking. Subjective norms significantly explained intention to start using IB amongst non-users (beta = 0.536, t = 10.738, $p < .001$). Subjective norms uniquely explained 19% of the variance in intention (the squared value of the part correlation; 0.447). This was the biggest value within the two groups.

Another dimension that showed significant explanation of the variance in intention amongst non-users was perceived trust. The results indicate that non-users with high levels of perceived trust will have greater intention to start using Internet banking (beta = 0.115, t = 2.021, $p < 0.05$). Perceived trust uniquely explains 0.7% of the variance in intention (the squared value of the part correlation; 0.084). Table 8.20 summarises the findings and the related hypotheses tested.

The results indicated that the influence of perceived relative advantage and compatibility, ease of use, trialability, image, self-efficacy and resource facilitating conditions were not significant in predicting intention to start using IB in relation to non-users. This suggests that such factors are less important to non-users than the psychological dimensions of social influence and perceived trustworthiness of IB and may only come into play once bank clients have reached a certain level of interest in IB stimulated by the former factors (Further explanation of these findings will be presented at the end of the hypothesis examination). Table 8.20 summarizes these findings.

Table 8.20 - Factors that Influence Bank Clients' Intention to Adopt IB

IB Non-users(a)	**Predictor**	**IB users**(b)
Not supported	**Perceived relative advantage & compatibility**	Supported
Not supported	**Perceived ease of use**	Supported
Not supported	**Perceived trialability**	Not supported
Not supported	**Perceived image**	Not supported
Supported	**Perceived trust**	Not supported
Supported	**Subjective norms**	Not supported
Not supported	**Self-efficacy**	Supported
Not supported	**Resource facilitating conditions**	Supported
	Perceived website characteristics	Supported

(a) Dependent Variable: Intention to start using IB
(b) Dependent Variable: Intention to continue using IB

To summarize, this section has identified the factors that influence bank clients' intention toward IB, and has shown that these differ for users and non-users. The following paragraphs turn attention to website characteristics in order to examine their factor structure and investigate whether distinct dimensions can be identified, related to the stage of the consumer decision-making process.

8.4.8 Factor analysis for phases

Another principal component factor analysis (PCFA), followed by an Oblimin rotation, was conducted on 20 items, which were designed to investigate perceived website characteristics to determine the underlying related factors. As shown in Table 8.21, the KMO statistic was .932 and Chi-Square value was 9172.881 at a significance level indicating a reasonable outcome (Field 2003).

Table 8.21 - KMO and Bartlett's Test (a)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.932**
Bartlett's Test of Sphericity	**Approx. Chi-Square**	**9172.881**
	df	**190**
	Sig.	**.000**

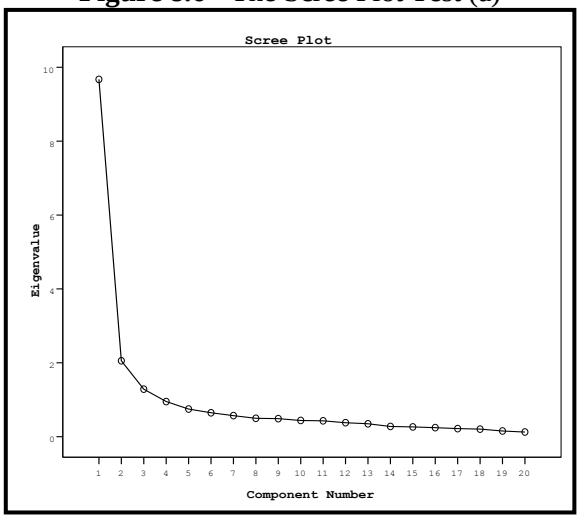
Next, the eigenvalue and the scree plot were investigated to determine the number of factors. An initial PCFA for the twenty items of website characteristics scale generated five components, which accounted for 73.56% of the variance in intention to continue to use IB (Table 8.22). Based on Jolliffe and Field's recommendations (Jolliffe 2002; Field 2003) the eigenvalue was 0.7 (as discussed in section 8.4.3). Figure 8.6 shows that five components were identified, with a distinct break between the first five components and other components.

Table 8.22 - Total Variance Explained (a)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings(a)
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.673	48.364	48.364	9.673	48.364	48.364	7.094
2	2.054	10.271	58.635	2.054	10.271	58.635	5.880
3	1.286	6.431	65.066	1.286	6.431	65.066	6.151
4	.951	4.755	69.821	.951	4.755	69.821	1.908
5	.748	3.738	73.560	.748	3.738	73.560	6.745
6	.648	3.238	76.798				
7	.570	2.849	79.647				
8	.498	2.488	82.135				
9	.488	2.440	84.575				
10	.439	2.197	86.772				
11	.429	2.147	88.919				
12	.378	1.889	90.809				
13	.349	1.747	92.556				
14	.277	1.386	93.942				
15	.264	1.320	95.262				
16	.244	1.222	96.484				
17	.218	1.090	97.574				
18	.205	1.024	98.598				
19	.154	.771	99.370				
20	.126	.630	100.000				

Extraction Method: Principal Component Analysis.
a When components are correlated, sums of squared loadings cannot be added to obtain a total variance

Figure 8.6 - The Scree Plot Test (a)



Communality is also a useful measure for examining the interrelations between items. A good factor should have a minimum communality value of 0.4 (Field 2003). The results, found in Table 8.23, showed that the communality values for all of the listed items exceeded the cut-off level.

Table 8.23 - Pattern Matrix(a)

	Component				
	1	2	3	4	5
Q14	.904				
Q16	.856				
Q17	.847				
Q13	.829				
Q18	.765				
Q3		.898			
Q1		.865			
Q4		.785			
Q2		.678			
Q5		.422			
Q11			-.963		
Q12			-.910		
Q10			-.564		-.351
Q20				.612	
Q19				.553	
Q15	**.428**			**.442**	
Q7					-.840
Q8					-.797
Q9			-.315		-.595
Q6				-.337	-.532

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a Rotation converged in 13 iterations.

The result showed that item number 15, "I find all my banking needs on the online banking website", was equally loaded on two factors, each with a loading of less than 0.5. Due to the problematic nature of this item, it was removed from further analysis.

After reducing the scale to 19 items, the analysis was repeated. The principal component analysis extracted five factors, which accounted for 76.44% of the variance in intention to continue to use IB, as detailed in Table 8.25. This was also supported by the scree plot as shown in Figure 8.7. Furthermore, the KMO, as can be seen in Table 8.24 was 0.927 (with a significance of 0.000) and Bartlett's Test of Sphericity (chi-square = 8728.673 with 171 degrees of freedom, a highly significant result) indicated that a factor analysis of the scale items would be appropriate. The communalities for all items were 0.748 and higher, as shown in Table 8.25 below, regarded as a very satisfactory outcome. From this analysis it could, therefore, be concluded that the revised 19-item scale measuring factors was uni-dimensional and represented five concepts.

Table 8.24 - KMO and Bartlett's Test (b)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.927
Bartlett's Test of Sphericity	Approx. Chi-Square	8728.673
	df	171
	Sig.	.000

Table 8.25 - Total Variance Explained(b)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings(a)
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.267	48.773	48.773	9.267	48.773	48.773	6.547
2	1.956	10.296	59.069	1.956	10.296	59.069	5.801
3	1.285	6.763	65.832	1.285	6.763	65.832	6.737
4	.894	4.705	70.537	.894	4.705	70.537	1.458
5	.748	3.935	74.472	.748	3.935	74.472	5.933
6	.647	3.405	77.877				
7	.557	2.934	80.811				
8	.498	2.619	83.430				
9	.476	2.508	85.938				
10	.439	2.312	88.250				
11	.381	2.004	90.254				
12	.355	1.870	92.124				
13	.281	1.476	93.600				
14	.265	1.396	94.996				
15	.246	1.293	96.290				
16	.219	1.150	97.440				
17	.206	1.085	98.524				
18	.154	.812	99.336				
19	.126	.664	100.000				

Extraction Method: Principal Component Analysis.

a When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Figure 8.7 - The Scree Plot Test (b)

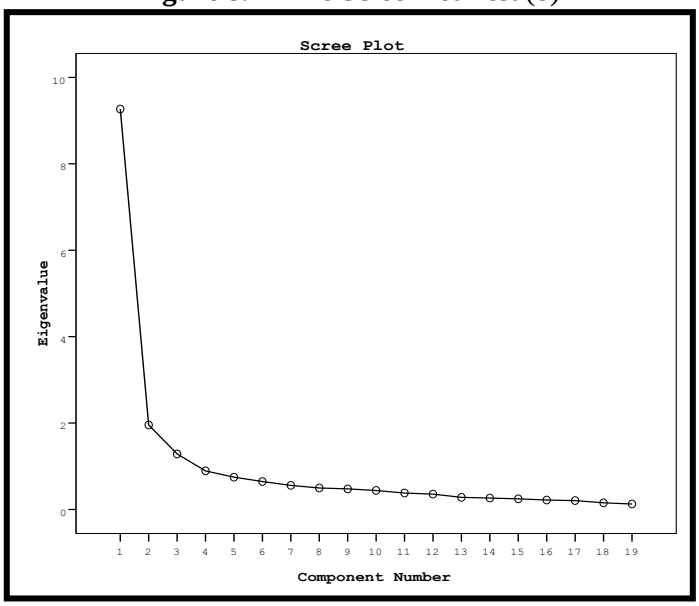


Table 8.26 - Pattern Matrix(b)

	Component				
	1	2	3	4	5
Q7	.855				
Q8	.808				
Q9	.606				.303
Q6	.517			-.315	
Q3		.899			
Q1		.858			
Q4		.791			
Q2		.685			
Q5		.439			
Q14			.905		
Q16			.861		
Q17			.851		
Q13			.831		
Q18			.781		
Q20				.642	
Q19	.305			.570	
Q11					.963
Q12					.906
Q10	.344				.567

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a Rotation converged in 15 iterations.

As can be seen from Table 8.26, all items were loaded onto the expected factors, and apart from one factor, all had a value higher than 0.5, when loaded against their own factors. As suggested by Hair et al. (2005), a factor loading higher than 0.5 is considered statistically significant at an alpha level of 0.05. Thus, all of the items loaded significantly onto their own factors. This supported the discriminate validity of the measurement.

As shown also, only four items loaded onto more than one factor, and the highest loadings were on the expected factors.

The five factors, shown in Table 8.26, are interpreted as follows:

- **Factor 1** consists of four items: using Internet banking information search tools is important to me, the banking website enables me to obtain all the information I need, website contents help me to gain new information, and the banking website has tools that help to evaluate the information of banking products and services. These variables can be considered as perceived elements related to the information search stage (S2).

- **Factor 2** consists of five variables, namely advertisements, recognizing new products and services, preferring promotion offers, want having products and services found on banking website, and reliability of the information on the banking website. These variables can be considered as elements that motivate

and trigger clients' needs. Hence, these can be described as perceived elements related to the need recognition stage (S1).

- **Factor 3** consists of four variables: confidentiality and security, safety, anxiety and trust about website transactions. This factor captures elements related to the stage of performing actual transactions (S4).
- **Factor 4** consists of two variables: obtaining needed support after performing transactions, enabling effective communication in complaining situations. These variables are related to the post-transaction stage. Hence, this factor will be called perceived elements related to the post-transactions stage (S5).
- **Factor 5** consists of three variables: depending on website banking to make financial decisions, perceiving tools that can help to take better decisions, feeling positively about the way of processing transactions. These variables are related to the information evaluation stage. Hence, this factor can be described as perceived elements related to the information evaluation stage (S3).

Table 8.27 shows these factors and the items loaded on each. Further analyses will be based on this result.

Table 8.27 - Pattern Matrix(c)

stages		Component				
		S2	S1	S4	S5	S3
		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
S1	Q3		.899			
	Q1		.858			
	Q4		.791			
	Q2		.685			
	Q5		.439			
S2	Q7	.855				
	Q8	.808				
	Q9	.606				.303
	Q6	.517			-.315	
S3	Q11					.963
	Q12					.906
	Q10	.344				.567
S4	Q14			.905		
	Q16			.861		
	Q17			.851		
	Q13			.831		
	Q18			.781		
S5	Q20				.642	
	Q19	.305			.570	

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a Rotation converged in 15 iterations.

These factors were also assessed for their reliability. Cronbach's alpha was employed after the factor analysis test to provide a measure of internal consistency. The Cronbach's alpha values for all constructs were above 0.8, comfortably above the 0.7 threshold advocated in the literature (Hair et al. 2005), as shown in Table 8.28.

Table 8.28 - Cronbach's Alpha to Measure Internal Consistency of Stages' Constructs

Constructs	*IB Users N = 651*	
	Number of Items	Cronbach 's Alpha
Stage One (S1)	5	.863
Stage Two (S2)	4	.847
Stage Three (S3)	3	.898
Stage Four (S4)	5	.904
Stage Five (S5)	2	.822

The items that resulted from the factor analysis were used to calculate summated measures for each variable. The score for each variable was calculated by using the mean value of all items contributing to that variable, in the same way as was done previously.

8.4.9 Testing hypotheses 10-14

In this section, multiple regression analysis is used in order to test research hypotheses 10-14. These are summarised in Table 8.29, below.

Table 8.29 - Research Hypotheses (10-14)

H10	*Clients with high perceived website features related to need recognition will have high intention to continue using this technology.*
H11	*Clients with high perceived website features related to information search will have high intention to continue using this technology.*
H12	*Clients with high perceived website features related to information evaluation will have high intention to continue using this technology.*
H13	*Clients with high perceived website features related to decision-taking will have high intention to continue using this technology.*
H14	*Clients with high perceived website features related to post-transaction behaviour will have high intention to continue using this technology.*

1. Multicollinearity:

To test for the presence of multicollinearity, the correlation matrix generated by correlating all variables against each other (Table 8.30) was used. The matrix shows no strong correlation between any two independent variables, except for the relationship between perceived elements related to the information search stage (S2) and elements related to evaluation of information stage (S3). Although this correlation value still does not show a very strong relationship, it is understandable, as the two stages are very close and could interfere with each other.

Table 8.30 - Correlations between Features Related to the Five Stages and Clients' Intention to Adopt IB

		Int	S1	S2	S3	S4	S5
Int	Pearson Correlation	1	.253(**)	.352(**)	.206(**)	.358(**)	.285(**)
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	651	651	651	651	651	651
S1	Pearson Correlation	.253(**)	1	.666(**)	.544(**)	.465(**)	.463(**)
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	651	651	651	651	651	651
S2	Pearson Correlation	.352(**)	.666(**)	1	.717(**)	.596(**)	.632(**)
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	651	651	651	651	651	651
S3	Pearson Correlation	.206(**)	.544(**)	.717(**)	1	.580(**)	.587(**)
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	651	651	651	651	651	651
S4	Pearson Correlation	.358(**)	.465(**)	.596(**)	.580(**)	1	.588(**)
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	651	651	651	651	651	651
S5	Pearson Correlation	.285(**)	.463(**)	.632(**)	.587(**)	.588(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	651	651	651	651	651	651

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

2. The bivariate relationships in the study

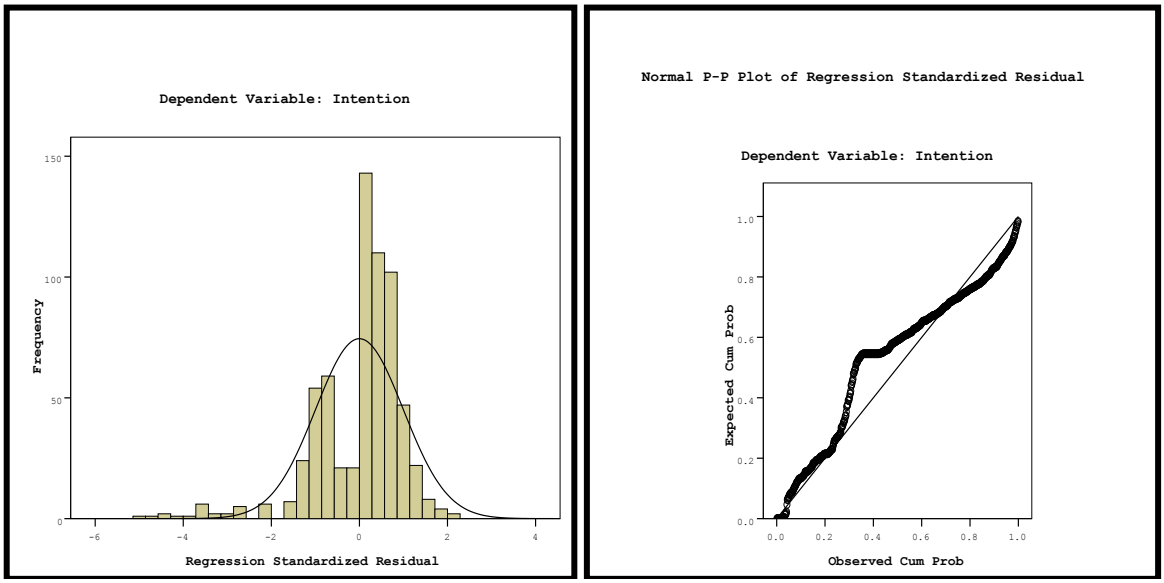
Linearity was tested by inspecting the correlation matrix listed in Table 8.30, which summarizes the Pearson's correlations with a two tailed significance test. All variables correlated significantly with intention at the 0.01 level. As all variables have a positive significant association with intention, these results indicate the importance of those variables in explaining the variance in intention to adopt IB.

Also, as recommended in the literature (Field 2003; Hair et al. 2005), the VIF measure should be less than 10 and Tolerance value not less than 0.10. As indicated in Table 8.34, all values of the independent variables met those conditions.

3. Normality of the error term

Normality of the error term was tested using residual frequency plots and normal probability plots. In both, the data displayed a relatively normal distribution.

Figure 8.8 - Residual Frequency Plots and Normal Probability Plots Related to the Five Stages



Finally, the variance proportion of each variable on any factor (eigenvalue) was checked in the collinearity diagnostics table (Table 8.31). Only two values were over 0.90, the level at which concerns are reported in the literature.

Table 8.31- Collinearity Diagnostics Related to the Five Stages

Dimension	Eigenvalue	Condition Index	Variance Proportions					
			Constant	**S1**	**S2**	**S3**	**S4**	**S5**
1	5.866	1.000	.00	.00	.00	.00	.00	.00
2	.048	11.046	.22	.03	.00	.11	.01	.30
3	.035	12.917	.05	.09	.02	.31	.02	.49
4	.026	15.003	.08	.58	.01	.32	.05	.06
5	.013	21.161	.04	.27	.93	.23	.01	.07
6	.012	22.213	.61	.03	.04	.03	.91	.07

a Dependent Variable: Intention to continue using IB
b Selecting only cases for IB users

As discussed earlier in regard to R squared in SPSS outputs, an R squared equalling zero indicates no linear relationship between the independent variables and the dependent variable.

The R^2 value was 0.174. This means independent variables have the ability to explain 17% of the variance in clients' intention to keep using IB. The significance of R squared can be tested through the F-ratio (the Fisher F in the ANOVA table, Table 8.33). The F-ratio is a test of the null hypothesis that there is no linear relationship between the dependent and independent variables, that is, R squared equals zero. When the F-ratio is high and the level of significance is close to zero, then the null hypothesis

can be rejected, and the alternative hypothesis accepted that there is a linear relationship between the dependent and independent variables (Norusis 2007).

Table 8.32 - Model Summary Related to the Five Stages

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.418(a)	.174	.168	.65939

a Predictors: (Constant), S5, S1, S4, S3, S2
b Dependent Variable: Intention to keep using IB

Table 8.33 - ANOVA test Related to the Five Stages

	Sum of Squares	df	Mean Square	F	Sig.
Regression	59.240	5	11.848	27.249	.000(a)
Residual	280.447	645	.435		
Total	339.687	650			

a Predictors: (Constant), S5, S1, S4, S3, S2
b Dependent Variable: Intention to keep using IB

As discussed earlier, betas represent the importance of each variable in explaining the dependent variable. Also, the values represent the change in the dependent variable associated with the change in the independent variable. The betas are particularly important in predicting intention to keep using IB for users because they compare the variables' direction. The test of significance for the betas is conducted using the t value of that test, as can be shown from Table 8.34.

Table 8.34 - Coefficients Related to the Five Stages

IB users Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	2.908	.158		18.378	.000					
S1	.017	.039	.022	.449	.653	.253	.018	.016	.543	1.841
S2	.234	.050	**.289**	**4.651**	**.000**	.352	.180	.166	.331	3.021
S3	-.130	.036	**-.195**	**-3.579**	**.000**	.206	-.140	-.128	.432	2.316
S4	.246	.047	**.255**	**5.246**	**.000**	.358	.202	.188	.543	1.841
S5	.036	.032	.057	1.140	.255	.285	.045	.041	.515	1.941

Firstly, clients with high perception of website contents related to performing transactions stage (S4) were found to have high intentions to keep using Internet banking in KSA (beta = .255, t = 5.246, $p < 0.001$). Perception of website characteristics related to this stage uniquely explained 3.5% of the variance in intention (the squared value of the part correlation; 0.188).

Secondly, clients with high perception of website contents related to the information search stage (S2) were found to have high intentions to keep using Internet banking in KSA (beta = .289, t = 4.651, p < 0.001). Perception of Website characteristics related to this stage uniquely explained 2.7% of the variance in intention (the squared value of the part correlation; 0.166).

Thirdly, clients with high perception of website contents related to information evaluation stage (S3) were found to have high intentions to keep using Internet banking in KSA (beta =.195, t = 3.579, p < 0.001). Perception of Website characteristics related to this stage uniquely explained 1.6% of the variance in intention (the squared value of the part correlation; 0.128).

The results indicated that the influence of perceived elements related to the first stage and the last stage was not significant in predicting intention to keep using Internet banking technology amongst users. Table 8.35 summarises the findings and the related hypotheses tested

Table 8.35 - Influence of Website Features on Clients' Intention to Continue Using IB

Predictor	**IB users**(b)
Perceived website features related to need recognition	Not supported
Perceived website features related to information search	Supported
Perceived website features related to information evaluation	Supported
Perceived website features related to purchase decision	Supported
Perceived website features related to post-purchase behaviour	Not supported

Thus, two groups of hypotheses have been tested. The first (H1-H9) shed light on factors expected, based on the proposed acceptance technology model, to influence the decision to start or continue using IB. The second (H10-H14) shed light on the influence of website features at different stages of the decision-making process. Table 8.36 summarises the findings of all hypotheses tested.

It can be seen that for bank clients who did not yet use IB, only perceived trust and subjective norms were significant predictors of intention to start using IB. It appears that irrespective of other factors, the common issues influencing non-users to start using IB focus around issues of trust, security, and the client's social pressure (subjective norms). In other words, non-users needed to develop trust in the reliability of IB transactions, the security measures put in place, and the privacy and confidentiality of their personal data,

before they would risk trying this new method of performing their transactions. Moreover, their decision would be strongly influenced by the opinions and experience of others in their reference group. If family members or friends were supportive of IB, non-users would be more willing to try it. Until that point was reached, other factors, such as those related to the characteristics of the technology, might not be perceived and would not significantly influence the decision to use IB.

Table 8.36 - Findings of Hypothesis Testing

IB Non-users[(a)]	Predictor	IB users[(b)]
Not supported	**Perceived relative advantage & compatibility**	Supported
Not supported	**Perceived ease of use**	Supported
Not supported	**Perceived trialability**	Not supported
Not supported	**Perceived image**	Not supported
Supported	**Perceived trust**	Not supported
Supported	**Subjective norms**	Not supported
Not supported	**Self-efficacy**	Supported
Not supported	**Resource facilitating conditions**	Supported
	Perceived website characteristics	Supported
	Perceived website features related to need recognition	Not supported
	Perceived website features related to information search	Supported
	Perceived website features related to information evaluation	Supported
	Perceived website features related to decision-making	Supported
	Perceived website features related to post-purchase behaviour	Not supported

(a) Dependent Variable: Intention to start using IB
(b) Dependent Variable: Intention to keep using IB

For clients who already used IB, the significant predictors of continued use were perceived relative advantage and compatibility; perceived ease of use; self-efficacy, resource facilitating conditions, and perceived website characteristics. This means that bank clients who had already started using IB would be more likely to form the intention to continue, if they saw it as more beneficial to them than the alternatives and appropriate to their lifestyle (for example, speed, convenience, appropriateness to the volume and nature of their transactions), clearly explained and understandable. They needed to perceive themselves as sufficiently competent to use IB correctly and achieve a successful outcome. Ease and cost of access to computers and Internet connection would be an important consideration. Moreover, they would be influenced by the extent to which website features were attractive, functional and user-friendly, meeting their needs for information, security and technical support.

The findings did not come as a surprise, as it was expected that the variables that influence the intention to start using IB or to continue to use IB are not the same

because of the differences in the characteristics, needs and experiences of IB users and non-users. These issues will be explained in more detail in the next chapter.

Analysis (for IB users only) of perceived website characteristics related to the five stage of the decision-making process supported the hypotheses that such features are significant predictors of intention to continue using IB at the information search, information evaluation and decision-making stages, but not in relation to need recognition or post-transaction behaviour.

These findings, in the light of previous literature, will be discussed in more detail in Chapter Nine.

8.5 Further Analysis

After identifying the demographic characteristics of both type of respondents and the testing of the research hypotheses, attention now turns to important issues in relation to the research questions. In the following section, the reasons for not using IB from non-users' perspective will be reported in connection with clients' demographic characteristics. After that, the extent to which some website characteristics are important from users' perspective will be presented.

8.5.1 Main obstacles to IB adoption

Based on the literature reviewed and previous phases of this research, which included interviews with bankers, IB users and non-users, seventeen factors presumed to inhibit adoption of IB were indicated in section 2 of the non-users' questionnaire. These obstacles were investigated in order to explore their real or potential influence on adoption of IB technology, in non-users' opinion.

Analysis of these obstacles was intended to provide a comprehensive view of all the negative effects that may result from each possibility. For this reason, respondents were given a list of seventeen potential obstacles and were asked to respond to each on a scale from strongly agree to strongly disagree, from their own perspective. Table 8.37 details the number and rank order of the total responses related to the seventeen obstacles, as well as the mean and standard deviation.

Table 8.37 - The Relationship between the Main Obstacles and Clients' Gender

Reasons	Rank	Mean	Std. Deviation	Gender	Mean Rank	Z
I do not use Internet banking because my banking business is very simple	1	3.23	1.322	male	204.21	-.221
				female	207.01	
I am satisfied with the way I perform my banking business	2	3.22	1.312	male	202.49	-.702
				female	211.40	
I do not use IB because I do not trust Internet transactions	3	3.21	1.299	male	217.81	-3.593**
				female	172.25	
I would prefer to deal with banking personnel, face to face or by phone, rather than using the Internet	4	3.19	1.386	male	205.50	-.139
				female	203.73	
I do not have enough information about Internet banking	5	3.03	1.330	male	211.53	-1.826
				female	188.30	
I do not have a clear idea about Internet banking service	6	3.02	1.345	male	208.86	-1.081
				female	195.12	
I hesitate to use IB for fear of making mistakes	7	2.94	1.392	male	202.92	-.583
				female	210.33	
I find other banking channels are more appealing to me	8	2.92	1.344	male	209.84	-1.356
				female	192.62	
I do not think that the Internet is for performing business such as banking transactions	9	2.84	1.392	male	212.81	-2.182**
				female	185.04	
Internet connection prices affect my decision to use Internet banking	10	2.80	1.388	male	222.40	-4.865**
				female	160.51	
I feel apprehensive about using Internet banking	11	2.80	1.395	male	203.98	-.583
				female	207.60	
I do not use IB because I cannot understand technical terminology I may find on the Internet	12	2.62	1.366	male	212.10	-1.994**
				female	186.84	
Internet connection problems affect my decision to use Internet banking	13	2.59	1.378	male	211.37	-1.790
				female	188.71	
I do not have time to learn about computers or the Internet	14	2.58	1.345	male	205.43	-.121
				female	203.90	
Computer prices affect my decision to use Internet banking	15	2.58	1.358	male	218.23	-3.719**
				female	171.17	
The Internet is a liberal idea and I do not want to have it in my house	16	2.35	1.392	male	218.02	-3.723**
				female	171.70	
I am not interested in learning about computers or the Internet	17	2.35	1.481	male	208.89	-1.124
				female	195.04	

** Significant at the 0.05 level (2-tailed).

The Mann-Whitney test was used, as a suitable test, to examine significant differences between male and female, as two independent groups on a continuous measure. This test is non-parametric alternative to t-test for independent samples. It compares medians instead of comparing means of two groups, as in the case of the t-test (Pallant 2005:291).

The findings in Table 8.37 show six items for which there are statistically significant differences between male and female respondents' scores. In each case, males consider them more important. Women seem to be less concerned about issues such as prices of computers and Internet connections, Internet connection problems, rejection of the idea of the Internet, thinking of the Internet as a banking channel and facing difficulty with understanding technical terminology. The other items do not show significant influence of the clients' gender, as all show no statistically significant difference, which

means the rest of the reasons listed in the table were equally important for both male and female clients.

The Kruskal-Wallis test allows comparison of the scores on some continuous variable for three or more groups (Pallant 2005:294). It is similar in nature to the Mann-Whitney test used earlier, but it allows comparison between more than just two groups (Norusis 2007). Scores are converted to ranks and the mean rank for each group is compared. This is a "between-groups" analysis, so different clients must be in each of the different groups (Pallant 2005). This test was used to examine participants' responses in relation to their age, Internet experience and qualification.

Analysis reveals difference among the age groups in perception of four reasons for not using IB (Table 8.38).

The mean rank column shows which of the groups had the highest overall ranking, which corresponds to the highest score on these reasons. For familiarity with computer terminology, the youngest group perceived more difficulty with technological terminology than other groups, with a mean rank 249.20 for under 25s, against 162.81 for the age group from 25 to less than 35 years and 196.99 for the age group from 35 to less than 45 years and 235.80 for 45 years and over.

Significant differences between age groups were also found for perceiving the potential technical problems of using IB. The oldest group, 45 years and over, scored highest on this item, with a mean rank of 239.05, while the lowest scoring age group in this regard was the youngest, 18 to less than 25 years, with a mean rank of 175.83.

This conclusion harmonises with and helps to explain the finding of another factor, as the oldest clients were the age group who most believed that they did not have time to learn about computers, and considered this an influential factor in their not using IB technology. This factor was directly related to clients' age, as it was considered more influential as age increased.

Clients' interest in learning about computers or the Internet also revealed significant differences between age groups. The youngest had most interest, and interest decreased with age. There was a clear inverse relationship between clients' interest in learning about computers and the Internet and their age.

Table 8.38 - The Relationship between the Main Obstacles and Clients' Age

Reasons	Rank	Mean	Std. Deviation	Age	Mean Rank	Chi-square
I do not use Internet banking because my banking business is very simple	1	3.23	1.322	18->25	212.85	3.398
				25->35	196.95	
				35->45	216.45	
				45 and over	186.92	
I am satisfied with the way I perform my banking business	2	3.22	1.312	18->25	194.85	3.350
				25->35	197.98	
				35->45	218.76	
				45 and over	216.16	
I do not use IB because I do not trust Internet transactions	3	3.21	1.299	18->25	197.07	.587
				25->35	207.49	
				35->45	207.54	
				45 and over	206.68	
I would prefer to deal with banking personnel, face to face or by phone, rather than using the Internet	4	3.19	1.386	18->25	196.04	4.873
				25->35	194.81	
				35->45	223.37	
				45 and over	212.86	
I do not have enough information about Internet banking	5	3.03	1.330	18->25	196.05	4.915
				25->35	194.29	
				35->45	220.86	
				45 and over	221.19	
I do not have a clear idea about Internet banking service	6	3.02	1.345	18->25	204.23	6.745
				25->35	188.68	
				35->45	225.13	
				45 and over	212.38	
I hesitate to use IB for fear of making mistakes	7	2.94	1.392	18->25	212.22	6.169
				25->35	194.85	
				35->45	197.98	
				45 and over	218.76	
I find other banking channels are more appealing to me	8	2.92	1.344	18->25	192.76	5.422
				25->35	196.14	
				35->45	224.54	
				45 and over	212.22	
I do not think that the Internet is for performing business such as banking transactions	9	2.84	1.392	18->25	181.44	5.314
				25->35	209.58	
				35->45	215.68	
				45 and over	211.95	
Internet connection prices affect my decision to use Internet banking	10	2.80	1.388	18->25	190.07	2.391
				25->35	211.91	
				35->45	209.69	
				45 and over	200.57	
I feel apprehensive about using Internet banking	11	2.80	1.395	18->25	244.69	5.580
				25->35	192.76	
				35->45	196.14	
				45 and over	224.54	
I do not use IB because I cannot understand technical terminology I may find on the Internet	12	2.62	1.366	18->25	249.20	13.683**
				25->35	162.81	
				35->45	196.99	
				45 and over	235.80	
Internet connection problems affect my decision to use Internet banking	13	2.59	1.378	18->25	175.83	11.592**
				25->35	203.18	
				35->45	218.66	
				45 and over	239.05	
I do not have time to learn about computers or the Internet	14	2.58	1.345	18->25	162.81	26.939**
				25->35	196.99	
				35->45	235.80	
				45 and over	244.69	
Computer prices affect my decision to use Internet banking	15	2.58	1.358	18->25	199.18	.371
				25->35	205.34	
				35->45	208.64	
				45 and over	206.90	
The Internet is a liberal idea and I do not want to have it in my house	16	2.35	1.392	18->25	186.51	4.178
				25->35	204.72	
				35->45	204.72	
				45 and over	200.80	
I am not interested in learning about computers or the Internet	17	2.35	1.481	18->25	174.6	15.815**
				25->35	200.7	
				35->45	218.9	
				45 and over	249.20	

** Significant at the 0.05 level (2-tailed).

The findings in Table 8.39 show there were statistically significant differences associated with clients' Internet experience, in their perception of sixteen factors. Clients with less Internet experience considered these factors to be more important obstacles than did clients with more Internet experience. Having more Internet experience seems, therefore, to be the dominant demographic factor that has to be considered by bankers.

Table 8.39 - The Relationship between the Main Obstacles and Clients' Internet Experience

Reasons	Rank	Mean	Std. Deviation	Internet experience	Mean Rank	Chi-square
I do not use Internet banking because my banking business is very simple	1	3.23	1.322	Less than 1 year	225.48	11.69**
				1->5years	205.29	
				5 years and over	174.52	
I am satisfied with the way I perform my banking business	2	3.22	1.312	Less than 1 year	228.56	10.44**
				1->5years	196.58	
				5 years and over	183.80	
I do not use IB because I do not trust Internet transactions	3	3.21	1.299	Less than 1 year	204.66	2.99
				1->5years	215.01	
				5 years and over	189.64	
I would prefer to deal with banking personnel, face to face or by phone, rather than using the Internet	4	3.19	1.386	Less than 1 year	229.35	12.68**
				1->5years	199.94	
				5 years and over	177.33	
I do not have enough information about Internet banking	5	3.03	1.330	Less than 1 year	230.90	19.82**
				1->5years	206.59	
				5 years and over	164.53	
I do not have a clear idea about Internet banking service	6	3.02	1.345	Less than 1 year	235.95	25.63**
				1->5years	204.53	
				5 years and over	160.40	
I hesitate to use IB for fear of making mistakes	7	2.94	1.392	Less than 1 year	232.49	22.83**
				1->5years	207.15	
				5 years and over	161.32	
I find other banking channels are more appealing to me	8	2.92	1.344	Less than 1 year	230.37	13.93**
				1->5years	200.01	
				5 years and over	175.73	
I do not think that the Internet is for performing business such as banking transactions	9	2.84	1.392	Less than 1 year	221.33	12.14**
				1->5years	211.35	
				5 years and over	171.01	
Internet connection prices affect my decision to use Internet banking	10	2.80	1.388	Less than 1 year	224.40	11.73**
				1->5years	206.98	
				5 years and over	713.43	
I feel apprehensive about using Internet banking	11	2.80	1.395	Less than 1 year	229.76	19.66**
				1->5years	208.03	
				5 years and over	163.92	
I do not use IB because I cannot understand technical terminology I may find on the Internet	12	2.62	1.366	Less than 1 year	251.38	54.06**
				1->5years	201.68	
				5 years and over	142.29	
Internet connection problems affect my decision to use Internet banking	13	2.59	1.378	Less than 1 year	226.80	10.54**
				1->5years	201.10	
				5 years and over	179.24	
I do not have time to learn about computers or the Internet	14	2.58	1.345	Less than 1 year	239.63	27.06**
				1->5years	199.30	
				5 years and over	163.29	
Computer prices affect my decision to use Internet banking	15	2.58	1.358	Less than 1 year	225.83	9.61**
				1->5years	201.21	
				5 years and over	180.47	
The Internet is a liberal idea and I do not want to have it in my house	16	2.35	1.392	Less than 1 year	229.52	26.26**
				1->5years	212.90	
				5 years and over	156.56	
I am not interested in learning about computers or the Internet	17	2.35	1.481	Less than 1 year	240.96	29.89**
				1->5years	198.11	
				5 years and over	163.22	

** Significant at the 0.05 level (2-tailed).

Clients' education had a significant influence in their perceptions of six obstacles. The findings in Table 8.40 show that for six items there were statistically significant differences in the scores of Saudi clients according to their qualification.

Clients with a higher qualification showed weaker influence of all these six factors as reasons for not using IB. Bachelor and master degree holders were less concerned about issues such as considering the Internet as a liberal idea, prices of computers and Internet connections, understanding computer terminology, technical problems of IB, and

willingness to learn about computers and the Internet. Clients with a High school certificate or lowest level of education were more concerned about these issues.

Table 8.40 - The relationship between the main obstacles and clients' qualification

Reasons	Rank	Mean	Std. Deviation	Qualification	Mean Rank	Chi-square
I do not use Internet banking because my banking business is very simple	1	3.23	1.322	> High school	206.64	4.439
				High school	216.35	
				Bachelor	190.05	
				Master or above	219.33	
I am satisfied with the way I perform my banking business	2	3.22	1.312	> High school	217.36	2.395
				High school	208.79	
				Bachelor	197.13	
				Master or above	177.25	
I do not use IB because I do not trust Internet transactions	3	3.21	1.299	> High school	208.91	2.973
				High school	209.32	
				Bachelor	195.01	
				Master or above	245.83	
I would prefer to deal with banking personnel, face to face or by phone, rather than using the Internet	4	3.19	1.386	> High school	221.96	3.365
				High school	208.71	
				Bachelor	194.74	
				Master or above	182.00	
I do not have enough information about Internet banking	5	3.03	1.330	> High school	223.39	5.562
				High school	209.61	
				Bachelor	189.11	
				Master or above	231.71	
I do not have a clear idea about Internet banking service	6	3.02	1.345	> High school	224.18	5.376
				High school	210.45	
				Bachelor	188.94	
				Master or above	217.00	
I hesitate to use IB for fear of making mistakes	7	2.94	1.392	> High school	214.86	3.194
				High school	211.04	
				Bachelor	192.06	
				Master or above	223.38	
I find other banking channels are more appealing to me	8	2.92	1.344	> High school	222.20	6.278
				High school	214.02	
				Bachelor	187.18	
				Master or above	198.75	
I do not think that the Internet is for performing business such as banking transactions	9	2.84	1.392	> High school	216.55	2.029
				High school	209.25	
				Bachelor	195.49	
				Master or above	196.17	
Internet connection prices affect my decision to use Internet banking	10	2.80	1.388	> High school	219.64	10.422**
				High school	212.75	
				Bachelor	184.30	
				Master or above	268.75	
I feel apprehensive about using Internet banking	11	2.80	1.395	> High school	218.45	1.547
				High school	205.23	
				Bachelor	200.03	
				Master or above	186.21	
I do not use IB because I cannot understand technical terminology I may find on the Internet	12	2.62	1.366	> High school	231.76	15.192**
				High school	219.03	
				Bachelor	177.46	
				Master or above	193.04	
Internet connection problems affect my decision to use Internet banking	13	2.59	1.378	> High school	236.29	8.315**
				High school	206.26	
				Bachelor	188.61	
				Master or above	211.79	
I do not have time to learn about computers or the Internet	14	2.58	1.345	> High school	231.04	6.883
				High school	209.19	
				Bachelor	190.01	
				Master or above	181.88	
Computer prices affect my decision to use Internet banking	15	2.58	1.358	> High school	232.33	10.400**
				High school	209.51	
				Bachelor	184.29	
				Master or above	242.21	
The Internet is a liberal idea and I do not want to have it in my house	16	2.35	1.392	> High school	218.45	14.564**
				High school	205.23	
				Bachelor	200.03	
				Master or above	186.21	
I am not interested in learning about computers or the Internet	17	2.35	1.481	> High school	233.69	9.680**
				High school	210.94	
				Bachelor	185.70	
				Master or above	195.46	

** Significant at the 0.05 level (2-tailed).

The other items do not show significant influence of the clients' qualification, as there are no statistically significant differences between groups, which means the rest of

the reasons listed in the table were equally important regardless of the level of Saudi clients' qualification.

8.5.2 The importance of website characteristics from users' perspective

The third part of the IB users' questionnaire was about how important some website characteristics are to IB users. Respondents were given a list of twenty-seven features and were asked to rate these features in terms of their importance, based on their own consideration and experience. Again, a Likert scale was used to rate those twenty-seven features, based on users' level of agreement or disagreement with the items.

Table 8.41 shows the rank order of the total responses, mean and standard deviation of the five options given in this question.

The first inspection of the table shows that all twenty-seven characteristics have very strong means, with a range from 3.80 to 4.81. The difference between the mean and standard deviations of these features is not very big, which implies that all these characteristics might be beneficial and important to IB users.

Going into more detail, the table ranks the twenty-seven features according to their means. If the mean of two characteristics is the same, the distinction of ranking is based on their standard deviation.

As suggested from the table, the highest rank is attributed to the concern of clients about making mistakes when they perform transactions. Confirmation pages that show the success of transaction, sending confirmation messages by e-mail or SMS, and the ability to print out transaction details, were the most often reported characteristics that clients wanted banking websites to offer, with a mean of 4.81, 4.80, and 4.78 respectively.

Providing access to inquiries, complaints and obtaining online technical support are shown in the table as important concerns that clients look for in banking websites. These two elements reflect the role of the banking website as an effective tool, which can be used not only to communicate with clients, but also to offer a technical solution to support them in using this new technology

Table 8.41 - The Importance of the Main Banking Website Features from Users' Perspective

Items	Rank	Mean	Std. Deviation
Confirmation pages that show the success of transaction execution	1	4.81	.498
Sending confirmation messages by e-mail or SMS for selected transactions	2	4.80	.546
Ability to print out transaction details	3	4.78	.546
Providing access to inquiries and complaints	4	4.77	.613
Providing online technical support	5	4.76	.598
Applying strict security procedure in log in	6	4.74	.598
Giving each transaction a reference number	7	4.72	.642
Applying strict security procedure to perform transactions	8	4.70	.646
Contact details	9	4.64	.676
Providing large variety of products and services on website	10	4.63	.645
Facility for testing security level of client's computer	11	4.63	.684
Help desk	12	4.63	.694
Reminder messages when bills are due to be paid	13	4.58	.703
Main index of products and services	14	4.57	.734
Availability of live agent (chat room)	15	4.50	.814
Availability of financial advice	16	4.34	.888
Website map	17	4.30	.911
Identifying services and products	18	4.26	.959
Availability of statistical tools that help in financial analysis	19	4.25	.936
Statistical data, tables and figures that help to evaluate products and services information	20	4.25	.901
Demo to illustrate website characteristics	21	4.19	.934
Availability of economic reports	22	4.19	.949
Sending newsletters to client's e-mail	23	4.18	1.111
Frequently Asked Questions (FAQ)	24	4.16	.935
Hyperlinks to related pages	25	4.12	1.022
Promotional offers (discounts, prizes, gifts...)	26	3.98	1.159
Advertisements (banner Ads, pop-ups …)	27	3.80	1.180

That is closely followed, unsurprisingly, by attributes related to ‘security issues’; features such as applying strict security procedure in log in, giving each transaction a reference number , and applying strict security procedure to perform transactions were cited as important features, with means of 4.74, 4.72, and 4.70, in that order.

The lowest ranked features were elements such as availability of economic reports (m=4.19), Sending newsletters to client's e-mail (m=4.18), Frequently Asked Questions FAQ (m=4.16), hyperlinks to related pages (the mean of 4.12), promotional offers such as discounts, prizes, gifts... (m= 3.98), and advertisements such as banner ads, pop-ups... (m= 3.80)

8.6 Summary

This chapter reports two phases of data analysis. In phase one, a series of factor analyses, followed by multiple linear regression tests, were applied to examine nine

hypotheses related to IB adoption. In phase two, another series of factor analyses, followed by multiple linear regression tests, were applied to examine five hypotheses related to perceptions of website characteristics according to the five stages of decision making process.

However, prior to running the statistical analyses, the assumptions of the statistical methods applied to this research, in terms of normality, linearity, multicollinearity, homogeneity of variance and outliers, were tested and no violation was found. Therefore, the analyses included all of the cases, without any data transformation. Afterwards, reliability and validity of each construct were examined.

The findings from the factor analysis confirmed the existence of ten distinct factors for IB users, and nine for non-users, which in each case explained more than 80% of the variance. Perceived website characteristics was the additional feature that applied to users only.

Multiple regression analysis, used to test hypotheses 1-9, showed which constructs significantly explained the behavioural intention of IB users and non-users. For IB users, the hypotheses in relation to the influence of perceived relative advantage and compatibility, perceived ease of use, self-efficacy, resource facilitating conditions and perceived website features were supported, but those related to perceived trialability, perceived image, perceived trust, and subjective norms, were not. In contrast, for non-users, only those hypotheses related to the influence of perceived trust and subjective norms were supported. This suggests that lack of trust and absence of positive social influences deter starting of IB, but if these factors are overcome and a degree of interest or familiarity established, other factors come into play to influence the continuation of involvement with IB.

A further analysis was carried out to test hypotheses 10-14, regarding the influence of different website features at each stage of the decision-making process. Factor analysis confirmed the existence of five factors, corresponding to features related to the five stages of the process. Perceived website features related to the information search, information evaluation and decision-taking stages were found to be influential, while features related to need recognition and post-transaction behaviour appeared not to be influential on intention to continue using IB.

Perceptions of the potential impact of various factors as obstacles to IB adoption were found to be related to some extent to respondents' demographic characteristics. Of the 17 obstacles proposed, six differed according to gender, four according to age, and six according to qualification. However, the most influential characteristic was computer/Internet experience, which was significant for 16 items; in each case, respondents with less experience perceived greater obstacles to use of IB.

Finally, responses were analysed to identify the relative importance to users of 27 website features. The high mean scores showed all were perceived as important, but the top three all related to the provision of various forms of confirmation and recording of transactions. These were followed, successively, by items related to the role of IB as a communicative tool, security issues, and additional facilities. Respondents showed less interest in general promotion tools and advertisements, suggesting a preference to focus on the instrumentality of specific transactions.

In the next chapter, these findings, and those of the other components of the research (reported in Chapters Six and Seven), will be interpreted, synthesized and discussed in the light of previous literature.

CHAPTER NINE
INTERPRETATION AND DISCUSSION OF THE FINDINGS

Figure 9.1 - Following the Research Stages

Chapter Two: Theories applied to new technology adoption and Internet banking acceptance
Chapter Three: Theoretical framework and presenting the research model
Chapter Four: The situation in the KSA, financial sector and Internet banking services
Chapter Five : Research methodology and data collection design
Chapter Six: Outcomes of IB managers interviews and content analysis of banks' website
Chapter Seven: Outcomes of the interviews with Saudi clients (IB users and non-users)
Chapter Eight: Findings of online and offline questionnaires of Saudi banks' clients
Chapter Nine: Interpretation and discussion of the findings
Chapter Ten: Summary and conclusion

9.1 Introduction

The purpose of this thesis was to investigate and examine factors that influence bank clients' intention to adopt Internet banking services in the Kingdom of Saudi Arabia (KSA). Although several theories were proposed, the decomposed theory of planned behaviour (DTPB), developed by Taylor and Todd ($1995_{a\&b}$), was used as the research framework, due to its appropriateness and inclusivity. To make this theory suit the adoption of Internet banking (IB) as a new technology, the theory was expanded by including new constructs such as trust and website characteristics. As a result, eleven constructs were proposed in the research model to examine the intention to adopt IB technology amongst Saudi clients. Eleven hypotheses representing these eleven proposed constructs were formulated to be examined amongst both IB users and non-users. Since this research proposed "perceived website characteristics" as a new construct, five other hypotheses were introduced, one in relation to each stage of the consumer's purchasing decision–making process (PDMP), to examine how website characteristics influence the adoption of IB. These hypotheses were examined only among IB users.

However, before carrying out this investigation, an exploratory phase had to be conducted. The first phase of this research, which involved interviewing Internet banking managers and examining website design, was conducted for several reasons. First, it helped in understanding the current situation of financial banking services presented online in the KSA. This was important to set the background of the investigation on a

solid basis and obtain a clear picture of the current situation. Second, it enabled banking website designs to be investigated in order to see which characteristics Saudi banks used in relation to each stage of the decision-making process. Third, it enabled an exploration of Saudi Internet banking managers' ideas about IB and whether design of banking websites met banking client needs. The second phase could not have been accomplished without conducting the first phase.

In this chapter, the results from both phases are synthesised, interpreted and set in the context of theory and previous research. First, the research model developed on the basis of the literature is briefly recalled from Chapter Three. This model provided the starting point for the research. On the basis of the empirical work, as will be seen, it is now possible to modify the model, and the findings in this respect will show the contribution of the thesis. Following this reminder of the research starting point, banks' objectives in implementing IB and the strategies by which they attempt to promote this service are considered. Then, reasons for not using IB are discussed, followed by exploration of factors that influence adoption of IB, leading to the final form of the researcher's conceptual model of IB adoption. Website features related to the stages of the decision process are discussed. Consideration is also given to the influences of clients' demographic characteristics such as gender, age, income, qualifications, occupation and Internet experience on their adoption of IB.

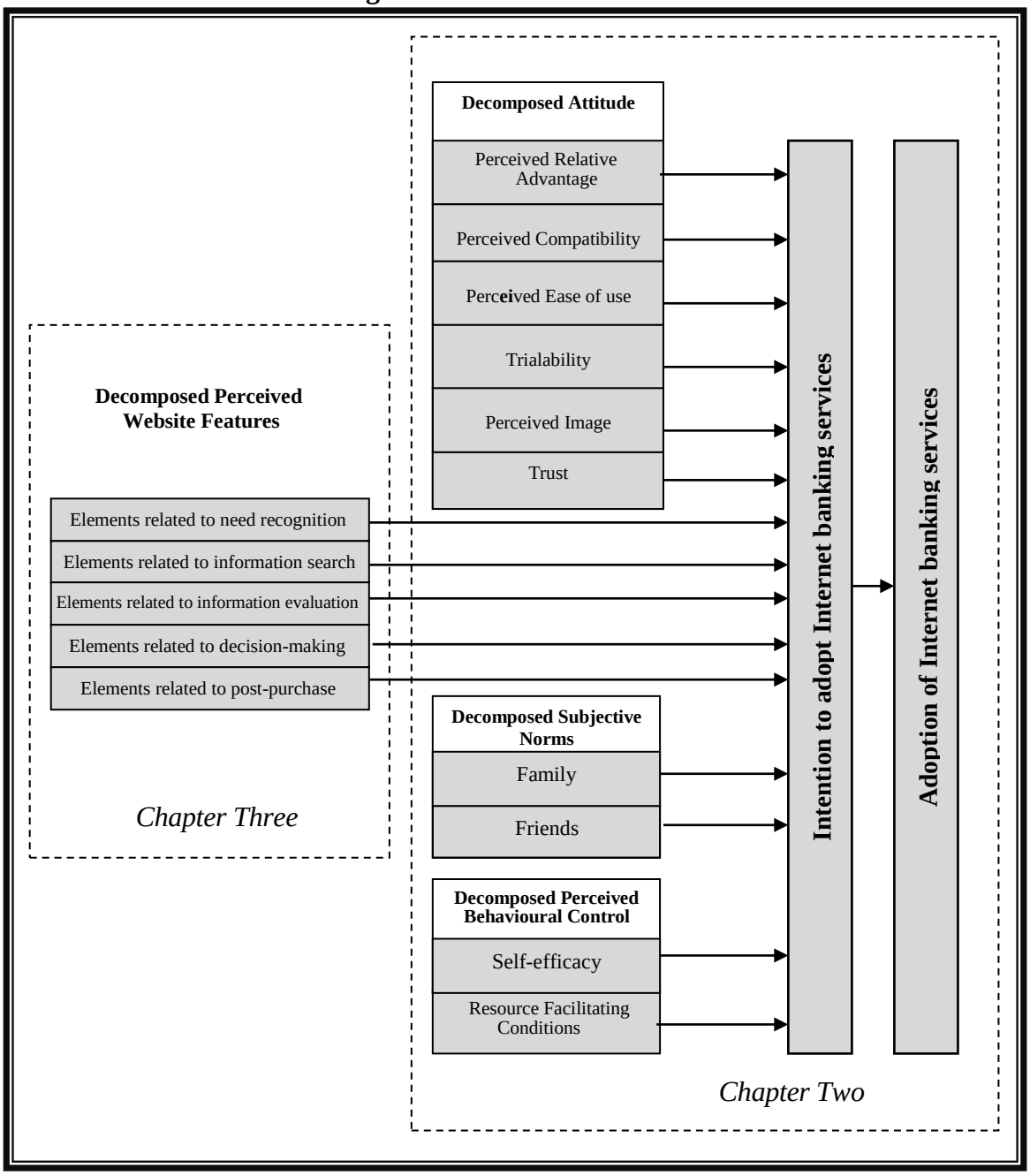
9.2 The Starting Point of the Research

As noted in Chapter Three, the research was guided by an initial model of Internet banking adoption based on consumer behaviour and technology adoption literature. It is worthwhile recalling that model here, as a benchmark against which the findings and revised model presented in this chapter can be more readily appreciated. The model is shown in Figure 9.2, below

The model was based primarily on the Decomposed Theory of Planned Behaviour (DTPB) (Taylor and Todd 1995a). This theory, like its predecessor, the TBA (Ajzen 1991), sees behaviour as influenced by attitude, subjective norms and perceived behavioural control, mediated by intentions to perform the behaviour. Taylor and Todd (1995a) broke down attitude, subjective norms and behavioural control into multi-dimensional constructs. For this study, Decomposed Attitude was assumed to encompass not only compatibility and ease of use, as in the DTPB, but also image,

relative advantage and trialability from the Innovation Diffusion Theory – IDT (Moore and Benbasat 1991) and Trust, shown in previous research (e.g. Saleh 2008; Shu-Fong et al. 2007) to be important in online banking adoption.

Figure 9.2 - The Research Model



(Source: the author)

Subjective norms was decomposed to include two referent groups, friends and family, while behavioural control was decomposed to include internal and external elements, self-efficiency and resource-facilitating conditions respectively (Taylor and Todd 1995a).

A new construct added by the researcher was Website Features, decomposed to reflect impacts at different stages of the consumer decision-making process.

Thus, the original research model proposed that Decomposed Attitude, Decomposed Subjective Norms, Decomposed Perceived Behavioural Control and Decomposed Perceived Website Features would all influence intention to use Internet banking (IB). The intention would, in turn, lead to actual usage behaviour, in line with Ajzen (1991) and as suggested by previous research (e.g. Suh and Han 2002; Shih and Fang 2006).

Following this reminder of the initial assumptions of the research, the remainder of the chapter will discuss the findings reported in Chapters Six, Seven and Eight, in order to show how the research has moved understanding forward.

9.3 Objectives Underlying the Implementation and Development of Internet Banking

Seven overarching objectives were found to be fundamental to the establishment and development of online banking services in Saudi banks. These were: cutting cost; keeping abreast of competition; responding to accelerated technological developments; reaching additional client segments; saving the resources of the banks' branches for the most sophisticated transactions; achieving a balance between banking channels; and giving clients the opportunity to perform financial transactions in a simple, attractive, and effective way.

These main objectives of introducing Internet banking were related primarily to direct benefits for the banks themselves, whereas much less attention was paid to the benefits for Saudi clients. Capturing new users or providing value-added services to existing clients was not an urgent objective of Saudi banks. This does not imply that the other aims are not important, but suggests that Saudi banks may be out of touch with clients' needs, and hence may not have given Saudi clients' needs adequate consideration when they were developing their online facilities.

Saudi banks adopted Internet banking based on defensive analysis strategies to cut costs and meet competitive challenges, among other reasons. They are not alone in this, as attested by previous studies. For example, Jenkins (2007) found all thirteen banks in Cyprus introduced their Internet banking services because this would help them improve their services and hence compete more successfully with foreign competitors

who already provided such services. Similarly, the competitive environment was the fundamental factor in presenting IB by the Indian banks investigated by Malhotra and Singh (2007). They found that the availability of Internet banking services by other banks increased the probability of the decision to present IB services by the investigated banks.

Other studies, however, have placed more emphasis on client factors as a motivation for the development of Internet banking. For example, according to Daniel (1999), the provision of electronic banking in the UK and the Republic of Ireland is perceived by banks as a crucial step to meet the expectations of existing clients in terms of products and services offered, and to capture new users. Similarly, Aladwani (2001) argues that meeting consumers' demand for new services constitutes the most important driver of on-line banking.

This is not to say that competitive forces and client needs are in conflict. Indeed, they are closely linked; if a bank fails to meet clients' needs, it may lose clients to competitors who provide required services. This interaction of competition and client demand was captured by Siaw and Yu (2004), analysing the competitive advantage of using the Internet in the banking industry in Hong Kong. They found that the dynamic growth of Internet technology caused by demands from stakeholders who prefer fast and convenient services was behind the growth of online banking services, in order to keep up with competition in the banking industry.

Generally, then, it appears that the objectives of Saudi banks in introducing IB were in line with reported international trends. It is important to recognize, however, that rushing or being forced to adopt this technology by external factors rather than being prepared to establish this new service based on planning and investigation of clients' needs could lead to the waste of time, money and effort on services and features that are not valued by clients, while actual needs may go unmet.

Subsequent sections of this chapter will shed light on the extent to which bank managers' assumptions, policies and practices accord with clients' perceptions of their needs, beginning in the next section with the strategies adopted by the banks to promote IB.

9.4 Banks' Strategies to Increase Online Clients

Having introduced IB services, banks were keen to promote this new offering in

an attempt to raise client awareness of the facilities available and persuade more clients to use them. Banking literature reports a number of ways in which banks have promoted online services. Mols (2001) and Polasik and Wisniewski (2009) found the use of Ads to be efficacious, while Yiu et al. (2007) reports evidence in favour of incentive programmes and special offers. The strategies reported by banks' managers in this study were consistent with those reported in previous studies, but appeared to be less successful in their effect.

Interview findings with banks' managers revealed that Saudi banks used several advertisement approaches including newsletters, SMS messages, brochures and press advertisements, complemented with promotional offers in an attempt to increase awareness of IB and try to attract new clients. Such strategies can be linked to the first stage of the consumer decision-making process, where the aim is to trigger the consumer's awareness of a need or want (Cant et al. 2002). Findings from phase two of the research, however, call into question the effectiveness of these strategies, and suggest that efforts may be misdirected. Among clients interviewed, one of the main reasons given for not using IB was lack of knowledge of available services, how to sign up to the service, and what skills they needed to do so. SMS messages were thought to contain too little information, while newsletters went unread. Some bank clients had not seen IB advertised, suggesting that advertisements may not be sufficiently prominent, or appropriately placed.

The value of promotional offers such as discounts, prizes and loyalty schemes also seems questionable. Loyalty schemes, in particular, were not favoured by clients, who preferred more direct, instant rewards. They favoured discounts and free offers, but saw these as limited. Moreover, client perceptions of website features related to the need recognition stage (including promotions) were not significantly associated with intention to use or continue to use IB. It would appear that banks are adopting promotional strategies without proper market research as to how best to reach potential clients, and what type of promotional offers are actually valued by clients.

Findings revealed also that the banks set annual plans concerning the number of clients to be reached and how this number can be achieved by considering new segments. However, good intentions did not always appear to be matched with appropriate and effective strategies. For example, an obvious potential client group would be women, since women in Saudi Arabia are permitted to hold their own money,

work, and trade, yet segregation in society can make it difficult for them to access banking services, especially given the limited numbers of women's branches or windows. Online banking would overcome this problem. The literature, however, suggests that women are less willing than men to adopt Internet Banking (Wan et al. 2005). This may be due to differences of needs and interests (Peter and Olson 2005) and if as Schiffman and Kanuk (2004) contend, they are so different as to constitute different sub-cultures, this would imply the need for different approaches to targeting male and female customers. The findings of this study suggest that women were not necessarily uninterested in or unwilling to use IB. Women, however, appeared less likely than men to be reached by promotional activities, and so remain relatively unaware of Internet banking services, according to the phase two findings. If banks wish to increase online clients, they may need to reconsider how they promote such services, and pay particular attention to potential female clients who are at present less aware of IB facilities.

9.5 Reasons for Not Using Internet Banking in Saudi Arabia

Understanding the phenomenon of resistance to new services and methods of doing business, and dealing carefully with the aspects that can be overcome is important for banks. It is not enough to try to direct clients into IB by informing, offering better prices and saying the services are not bound to time or place. It is vital to understand why potential clients do not use Internet banking. Understanding the nature of resistance will help banks not only to diagnose but also to work on potential solutions to decrease the effect of such obstacles, in order to increase the level of IB penetration in the KSA.

Banks' managers showed agreement on certain factors perceived as deterrents or obstacles to the use of Internet banking facilities in the Saudi context, including computer illiteracy, security concerns, purchasing habits, Internet infrastructure, and fears of new technology. Similar factors have been suggested by previous writers, for example, Singh and Malhotra (2004), Wan et al (2005), and Srivatsa and Srinivasan (2008).

Bank interviewees were of the view that Saudi clients who are familiar with using computers and have adequate knowledge and experience of using the Internet in general, predominantly educated and younger people, would have no difficulty in using online banking, and would be the priority target segment. However, they were aware

that there is still a substantial segment of Saudi society who do not have these skills. Computer illiteracy was a term mentioned regularly by the interviewees in explaining failure to take up IB, and some Internet banking managers added other inhibiting factors, such as technophobia, which Srivatsa and Srinivasan (2008) suggest is a factor in inertia to change. The findings from phase two, parts A and B, however, suggest that the situation is more complex, as 84.9% of non-users were not computer illiterate or without experience of the Internet. Nevertheless, many respondents reported limited knowledge and use of computers. IB users reported greater experience of computers and the Internet than non-users. Moreover, educational and linguistic barriers to using IB were reported by some bank clients.

A number of Saudi clients indicated that they could not use a computer, or used it only for simple tasks at work. Non-users, who tended to be older, female, or less educated people, reported difficulty using computers and the Internet. They thought that they did not have time to learn about them. Issues also were raised about the language used for banking terms on the service. Non-users were unclear about the terminology and technological language used in computers and the Internet. This finding disagrees with Weir et al. (2006), who found that understanding of terminology and instructional language used in bank websites in England did not have a significant impact on clients' rating of website usability. However, in Weir's study, the respondents were English speakers. In Saudi Arabia, where the dominant language is Arabic, yet some of the material available via computer is in English, language barriers may be an impediment to use of on-line services, and computers generally. According to Alqadhi (2008) only 12 % of Saudi people use the English interface system in their PCs.

Further, some clients were not willing to become PC-literate or even to become familiar with the Internet. It was very clear from clients' interviews that accumulative knowledge leads to adoption of IB, which means using IB comes not only after obtaining a computer and gaining access to the Internet, but also after gaining essential knowledge about handling a computer, accessing the Internet regularly, and having been familiar with the technology for some time. This is consistent with He and Mykytyn's (2007) finding that computer knowledge is among the factors that influence clients to adopt online payment systems. Lee et al. (2005) also found lack of relevant skills and knowledge to be a deterrent and suggest that widespread diffusion of Internet banking cannot occur unless this barrier is overcome. Findings showed that non-users usually do

not have sufficient skills to use IB, and it may require more than attitudinal changes to bring them closer to adopting IB. At the same time, the findings showed that most of the non-users interviewed had at least some computer and Internet experience, and a small percentage had more than three years' experience, indicates that overcoming computer illiteracy is not in itself enough to encourage use of IB. There are other reasons why computer-competent clients do not adopt IB, and the research sheds light on these.

Security and privacy concerns and perceived risk of the Internet channel were thought by bank managers to be major obstacles to start using IB, and clients agreed. The majority of non-users did not fully trust the Internet (56% saw it as not safe, 54% as risky, 46% as not a reliable medium for banking transactions) and perceived a degree of risk associated with performing IB. This finding is in line with previous studies, which found that security and privacy issues in Internet banking were a major issue for an increasing number of consumers (Gerrard, and Cunningham 2003; White and Nteli 2004; Sarel and Marmorstein 2006). Many non-users indicated that the risks involved in accessing their accounts online were perceived to be too high.

Security concerns and the uncertain environment of IB usage increase perceived risk and decrease trust. Such concerns appear to be, at least in part, a response to constant negative publicity about theft, unauthorized access to accounts, phishing attacks and other fraudulent activities (Sarel and Marmorstein 2006). He and Mykytyn (2007) found a clear relationship between such perceptions of risk and reluctance to adopt new transaction tools. This situation raises the question as to what banks were doing to alleviate such concerns. In fact, it was clear from interviewees' comments about their efforts to meet client needs, as well as from website features themselves, that a number of security measures were in place to protect clients' information and provide them with awareness of the safety of their transactions. Such measures will be discussed further in a later section, where they will be related to the stages of the customer's decision-making process.

Some bank managers suggested that ingrained purchasing habits in relation to financial products might deter conservative people from performing banking transactions online, as they have no interest in seeking out new channels. Older people were expected to be less interested in Internet banking, partly because they had developed strong financial purchasing habits and were resistant to change. Phase two provided some evidence to support such a view, as one of the main psychological

barriers to adoption reported was perceived absence of need, because clients' transactions were infrequent or simple, and they were satisfied with their existing channels, for instance, telephone and ATMs. Such views might, as suggested by Srivatsa and Srinivasan (2008), who found a similar situation, be attributable to inertia to change. On the other hand, some clients seemed to perceive phone banking and ATM as more useful and more convenient than the Internet channel. This was also found by Kuisma et al. (2007). These beliefs need to be challenged by banks' marketing activities.

A final area in which there was agreement between bank managers and clients, regarding reasons for not using IB, concerned infrastructure. Bank managers associated such problems particularly with the early stages of Internet banking, and suggested they were gradually being addressed, for example with the availability of DSL service from two operators. According to clients, however, the unavailability of DSL service in some areas, and the long waiting time to get a line, meant that infrastructure deficiencies still represent a real obstacle for some potential IB uses. Such findings confirm the importance of technology as one of the environmental factors in the general model of consumer behaviour (Assael 2004), and as an aspect of Resource Facilitating Conditions in the DTPB (Taylor and Todd 1995a).

The level of agreement between bank managers and clients regarding the role of the above-mentioned factors as obstacles to IB adoption suggests that bank managers were reasonably aware of the main challenges they faced in trying to promote their IB services to Saudi clients. However, a number of other issues were raised by clients in the phase 2 interviews, in addition to those discussed above, suggesting that the apparent resistance to IB may be a more complex issue than banks realise.

One issue raised by bank clients, but apparently underestimated by managers, was the insufficient information available to them about Internet banking as a newly developed channel. Consumer Behaviour Theory suggests that consumers need to gather and evaluate information about potential products and services before making the decision to purchase or use them (Kotler and Armstrong 2004) and detailed product information is said to be welcomed by customers browsing websites (Ballantine 2005). In this study, however, bank clients did not feel the banks had adequately informed them about such services. Such findings are not unique to this study or to the Saudi context. Mavri and Ioannou (2006), for example, found deficiency of information about IB to be a major reason for rejection of it in Greece. Banks recognize that some clients

lack understanding of and competence with computers, but may fail to realize to what extent even people who are comfortable with computers still need information and support regarding the IB service itself.

Banks can do far more to bring clients' attention to IB; they have to strive to provide the detailed knowledge needed to attract these clients. Marketing campaigns and awareness sessions may be valuable for this purpose, although having skilful staff readily available at bank branches and contact centres would undoubtedly be important.

Banks also perhaps underestimated clients' psychological attachment to face-to-face services. Managers thought that certain types of services, such as financial advice, were best conducted face-to-face, but perhaps were less aware that many clients may prefer to perform most of their banking transactions this way.

Perceived lack of human touch and absence of face-to-face contact is an important barrier which has to be overcome, since many clients see the Internet banking proposition as a replacement for face-to-face banking. Concerns have been expressed also about the absence of physical contact. This, too, is an experience reported by prior researchers in other contexts. Durkin and O'Donnell (2005), for example, found that quite large numbers of clients in UK and Ireland who are Internet banking registered still have a high dependency on face-to-face interaction. Walker and Johnston (2004) emphasise the importance of a preference for face-to-face interaction having a potentially significant impact on perceptions of complexity, while Casaló et al. (2007) found it alleviates perceptions of risk. In essence, banks must show clients that IB is a complement to face-to-face interaction and not a replacement for it, while at the same time striving to give the IB service a "human face." Banks could use an advanced technology in the welcoming page that uses a human voice and picture of a real person to reduce such feelings.

In addition, there were some cultural factors that were seen to affect Internet penetration among Saudi people. Culture is recognized in the general model of consumer behaviour presented in Chapter 2 (Assael 2004), as a significant influence on such behaviour. It is also reflected in the DTPB (Taylor and Todd 1995a), in the concept of subjective norms, as cultural values will influence the messages received from the members of relevant social reference groups about the acceptability or otherwise of a particular entity or behaviour. The conservative culture of Saudi Arabia

(Sharma 2007) makes the impact of such considerations likely. Indeed, the late and limited penetration of the Internet in Saudi Arabia and the current filtering policy are linked to concerns about its cultural impact (www.kact.edu.sa). Concerns about the liberality of the Internet as a medium that is very difficult to control have been raised. Some interviewees perceived the Internet to be manipulative and to bring disorder, distraction and confusion to the home and family. Female, older, less educated and less Internet-experienced clients were more inclined to express such views. Srivastava (2007) found a similar situation when he examined adoption of IB in India. He discovered that factors like culture and religion inhibit clients' intention and have effects on consumer mindset towards Internet banking.

In fact, as indicated in Chapter Four, the Saudi government is aware of such concerns, and Internet content is filtered in an attempt to safeguard cultural values. Over time, as Internet accessibility expands and citizens become more informed about the Internet and the benefits it offers, these fears may be allayed somewhat. Subjective norms may play a role here (section 9.5.6). However, such norms could serve to deter Internet use as well as to encourage it, and it is likely that there will always be some who resist IB on religious and cultural grounds. Meanwhile, banks are realistically prioritising targets who are more likely to be receptive to IB: the younger, the more educated, and those predisposed by familiarity with computers and the Internet to be favourable to new uses of this technology, including IB.

9.6 Factors that Influence Clients' Adoption of Internet Banking in Saudi Arabia

Given a situation in which both IB users and non-users were investigated, this research highlighted the differences between the two groups in relation to their perceptions, experiences and characteristics. This was important to obtain a thorough understanding of the phenomenon of IB adoption.

Such an approach was in line with the advice of Lee and colleagues (2005), who commented on the need to investigate consumers' Internet banking adoption across a wide range of demographics, rather than focusing only on the segment thought most likely to adopt. It is also supported by previous research findings regarding differences between adopters and non-adopters. Hernandez and Mazzon (2007) found that the variables that influence the intention to start using IB are different from the variables that influence the intention to continue using IB, as there are significant differences

between potential and actual adopters. Ozdemir et al. (2008) found significant differences between adopters and non-adopters of Internet banking in terms of their perceptual, experience and consumer-related characteristics. Internet banking adopters perceived Internet banking use as less risky, more user-friendly and more useful compared to Internet banking non-adopters.

Against this background, therefore, taking account of both IB users and non-users was important, as investigating current users alone would lead this research to detect factors that had been affected by time and the experience acquired through use of the innovation, and would also ignore an important portion of the population represented by non-user clients. On the other hand, by investigating non-users only, investigation of perceptions of website design and system characteristics could not be achieved. Therefore, elements of the proposed technology adoption model were investigated from both perspectives, in order to differentiate between the two groups. The elements themselves, as explained in detail in Chapter Three (Section 3.4.) and recalled briefly earlier in this chapter (Section 9.2) were derived predominantly from the DTPB (Taylor and Todd 1995a), supplemented by some features from the IDT (Moore and Benbasat 1991), Trust (Saleh 2005) and Website features (developed by the researcher following, inter alia, Shih and Fang 2006).

9.6.1 Perceived relative advantage and compatibility

Hypothesis 1 *"Clients with high perceived relative advantage and compatibility of using Internet banking will have high intention to use/continue using this technology."*

Perceived relative advantage and compatibility are equivalent terms to usefulness; both have been used in adoption theories, notably, the IDT (Moore and Benbasat 1991), TAM (Davis et al. 1989) and DTPB (Taylor and Todd 1995a). The meaning reflects the individual's evaluation of the benefits received when a new technology is used (Rogers 1995). Compatibility refers to the extent to which Internet banking is believed to be consistent with existing needs of the clients *(*Hernandez and Mazzon *2*007).

The results showed that, for IB users, perceived relative advantage and compatibility had a significant positive effect on intention to continue using Internet banking, suggesting that a positive evaluation of Internet banking by users leads to their intention to continue using IB. In contrast, relative advantage and compatibility were not found to have a significant effect on non-users' intention to start using Internet banking.

This result is to be expected, given that the extrinsic benefits of using Internet banking would be more clearly perceived and acknowledged by users rather than non-users. The findings, moreover, are consistent with previous research which similarly found perceived usefulness to be non-significant for non-users of IB, but significant for users. In the former category, for example Chung and Paynter's (2002) Internet banking adoption study, it was found that non-users of Internet banking did not perceive or need high levels of convenience, as such perceptions did not arouse their intention to start using IB. Yiu et al. (2007) found that perceived usefulness does not affect the adoption and use of IB. Lichtenstein and Williamson (2006) found that non-users were unaware of many of the relative advantages of Internet banking, such as the ability to print receipts.

Other research found a significant influence of this factor, for current users. For example, Lee et al. (2005), Katuri and Lam (2007) and Qureshi et al. (2008) found that perceived usefulness was an immediate direct determinant of clients' intention to adopt IB. Eriksson et al. (2008) found that relative advantage and compatibility have the strongest influence on adoption of Internet banking in regard to IB users. Hernandez et al. (2007) found relative advantage and compatibility with lifestyle were predictors for adoption of IB. Similar findings were obtained by Cheng et al. (2006) who investigated acceptance of Internet banking in Finland and Hong Kong, respectively. All studies reached the same conclusion, that perceived usefulness is an important influential factor in explaining acceptance of Internet banking. Usefulness was also found to be a determinant of continued usage of IB by Eriksson and Nilsson (2007) and Ho and Ko (2008). Among specific advantages perceived and appreciated were speed and convenience.

Gopi and Ramayah (2007) found that clients adopt online transaction in order to speed up their transactions, especially in stock trade. Similarly, in the present research, for some Saudi clients, use of IB services was a consequence of its efficiency as a tool to enable instantaneous speculation on the Saudi Stock Market (SSM). He and Mykytyn (2007) found that convenience and clients' ability to pay their bills at any time and from any place where they could access a networked computer affected the decision to adopt IB.

In the present study, interviewed bank managers assumed the relative advantage of IB, for example citing simplification of transactions as a reason for introducing IB. They

also aimed to build such advantage by providing a variety of information, services and facilities online. Nevertheless, for non-users, these advantages were either not perceived, or perhaps outweighed by the deterrents discussed previously. Although non-users were able to perceive some relative advantage and compatibility such as comfort, performing the process at any time, avoiding crowds and not having to go out at inconvenient times, perceptions of IB advantages and compatibility were stronger among users, and more influential on their intention to adopt IB.

This result suggests that since the perceived influential benefits cannot take place until IB is used, non-users will not be able to perceive relative benefits that can influence their intention until they start using IB. It would seem, therefore, that other factors must first operate to overcome bank clients' inertia or the effect of deterrent factors, to stimulate first use of the service. Promotional activities may help in this respect. Once the client has started to use IB, its perceived usefulness and compatibility with lifestyle becomes important, suggesting that banks will need to be willing and able to develop their services to ensure that clients' varied and changing needs are met.

9.6.2 Perceived ease of use

Hypothesis 2 *"Clients with high perceived ease of use of using Internet banking will have high intention to use/continue using this technology.*"

The ease of use means the simplicity of learning to navigate and control the system, the ease of memorising the primary functions, the degree of error avoidance and the general satisfaction of the user in terms of manageability. Ease of use is suggested by both TAM (Davis et al. 1989) and IDT (Moore and Benbasat 1991) to be influential in the adoption of new technology.

Testing of the hypothesis showed that perceived ease of use positively affects the intention to continue using IB for users, but does not have an impact on non-users' intention to start using it.

One interpretation is that non-users do not have a clear picture of what IB is about and how much difficulty is associated with it, so that it does not affect their intention to use IB. On the other hand, clients who have become IB users can perceive the ease of IB using every time they log in.

This result is consistent with some prior research. Laukkanen et al. (2008) found

that psychological barriers play a role in resistance to adoption of IB among non-users, regardless of perceived easiness, so that ease of use did not determine acceptance of IB among non adopters. Yiu et al. (2007) found ease of use does not affect the adoption and use of Internet banking in Hong Kong.

On the other hand, there are studies that have found perceived ease of use (or lack of it) to be influential. Mavri and Ioannou (2006) found perceived difficulties played a crucial role in the consumer's adoption or rejection of IB. This research found 27% of Greek people considered Internet use as something extremely difficult. He and Mykytyn (2007) found that clients will be more likely to adopt online transactions such as payment methods if the online system simplifies the procedure of frequent transactions.

Although, in this study, the effect of perceived ease of use on intentions to start using IB was not significant in relation to non-users, banks need to design banking websites that are easy to use, as findings imply the importance of this factor to IB users.

Findings also suggested the need for back-up from other approaches to show the ease of using IB, as clients, especially new users, did not find it helpful to have this provided through the website itself. A certain level of skill in using the computer and IB is needed to access and apply the information on the website, so those who are experiencing difficulty, or perceive themselves as lacking the relevant skills, may not benefit from such material. Another point worth noting is that perceived ease of use appears to be less significant for IB users than perceived usefulness.

Similarly, Gefen and Straub (2000) suggest that in many cases the new technology is adopted because of its extrinsic aspect (relative advantage) and not its intrinsic aspect such as ease of use. This could be because, as clients gain more experience in relation to computers and the Internet, ease of use becomes less of a problem for them; then more cognitive considerations emerge and gain significance in determining behavioural intentions towards IB. This does not imply that we should abandon the efforts to make Internet banking easy to use, but it indicates a higher need to promote the usefulness (relative advantage) of the technology over its ease of use.

9.6.3 Perceived trialability

Hypothesis 3 *"Clients with high trialability of Internet banking will have high intention to use/continue using this technology*."

Trialability was hypothesized to affect the intention based on the assumption that the opportunity to try a specific technology will lower clients' doubt and fears that may influence his or her opinion about the technology (Rogers 1995). However, this hypothesis was not supported. Trialability of Internet banking was not found to have a significant effect on the intention to adopt IB amongst users or non-users. From a practical perspective, this finding implies that intention to use IB would not be built by providing clients with the opportunity to test-drive the technology.

Hernandez and Mazzon (2007) similarly found that among Brazilian clients, whether they were users or non-users, greater trialability of IB did not affect the intention to use/continue to use IB. However, the findings contradict a recent finding by Gounaris and Koritos (2008_a), that trialability was an important contributor in the prediction of IB usage for both users and non-users. It may be that such differences reflect differences in the context, nature and extent of the trial experience available.

As discovered in phase one of this research, some bank managers aimed to support clients in obtaining information online by means of interactive demos, to illustrate and enable clients to "test-drive" transactions. These, however, could be said to suffer the same disadvantage as the on-line help discussed under "ease of use". They are only available to clients who have already taken the initiative to start using the bank website. Thus, there is trialability in regard to specific transactions, but not for accessing the service in the first instance.

Saudi banks have to find other ways to complement their effort in this regard. It is not enough to incorporate into the banking website features such as demos or provide step-by-step demonstration to encourage clients to try IB, at least in their present form, since they do not have significant effect on intention to adopt IB. Introducing some training sessions to take place in large branches could be more effective, as some clients suggested such activities would give them the opportunity to know about IB and try it out. Further investigation may be needed to find other ways in which trialability can be offered, to see if this makes a difference.

9.6.4 Perceived image

Hypothesis 4 *"Clients with high perceived positive image of using Internet banking will have high intention to use/continue using this technology.*"

The term image here refers to the degree to which use of Internet banking is perceived to increase the client's image or status (Moore & Benbasat 1991). Since IB is a new channel for performing banking transactions, participation in it may enhance individuals' image technologically and socially, consequently affecting clients' intention to adopt IB. Internet banking users can be projected as sophisticated clients who engage in a new way of doing banking and thereby associate themselves with a technology (Fusilier and Durlabhij 2005).

However, findings showed that perceived positive image did not influence the intention to adopt IB among users or non-users. From a practical perspective, although this factor does not have a significant influence on adoption of IB, banks might want to depict the positive image gained by users who engage in this technology. For example, Gounaris and Koritos (2008_a) found that there is an increase in consumers' perceptions of gains in social image due to IB adoption and the ability to demonstrate among their peers the benefits of IB usage.

9.6.5 Perceived trust

Hypothesis 5 *"Clients with high trust in Internet banking will have high intention to use/continue using this technology."*

Although trust is not a feature of the models reviewed in Chapter Two, it was added to the modified DTPB model, and the hypothesis formed, based on its importance in any situation involving risk (Liu et al. 2005) and previous evidence that it is important in Internet banking adoption (Sohail and Shanmugham 2003; Yousafzai 2005). As hypothesized, trust was found to have a significant effect on the intention to use Internet banking in relation to non-users. Unarguably, trust is important in an uncertain and risky environment such as Internet transactions. In such a situation, trust can be used as a strategy to reduce this uncertainty by implementing safeguards to protect clients from potential unfavourable consequences. This result does not mean that users have no security and privacy fears, but perceptions of other advantages governed their choices, rather than fears.

A significant effect of trust on intention has theoretical and practical implications.

Theoretically, trust has been acknowledged as one of the critical factors in adoption research related to online transactions (e.g. Saleh 2003; Kim and Prabhakar 2004; Kassim and Abdulla 2006; Botelho 2007; Grabner-Kräuter and Faullant 2008; Poon 2008). The importance of trust in IB is expected for several reasons: the performance of transactions in a risky environment, the absence of personal contact, and uncertainty which can raise clients' doubts as to whether the requested transactions were correctly processed.

These results support similar findings in the literature. For example, Lee et al. (2005) found persistent non-users are more likely to perceive risks than current adopters, because they rate security to be more important than do current adopters. Grabner-Kräuter and Faullant (2008) confirmed that the influence of Internet trust on risk perception and consumer attitudes towards Internet banking is greater amongst non-users than users. Ozdemir et al. (2008) found that Internet banking adopters perceived Internet banking use as less risky, compared to Internet banking non-adopters. Among non-adopters, those who intended to use the service in the future (i.e. later adopters) perceived Internet banking use as less risky compared to those who did not intend to use the service (i.e. laggards). Lallmahamood (2007) generally supposed that security and privacy are still the main concerns that inhibit clients from using Internet banking. Clients in Saudi Arabia are still concerned about issues such as lack of protection by government policy and legal regulation, including financial and privacy protection, besides concerns about system security itself.

From a practitioner viewpoint, banks need to build up strategies that improve the clients' trust in the underlying technology. The IB non-users held a negative image of performing transactions through IB, which had led them to distrust the Internet service. The non-users needed clear information about the safeguards available in IB. The interviewed bank managers recognized security concerns and mistrust, and adopted various mechanisms in an attempt to reduce uncertainty and risk associated with the Internet environment. These included provision of various forms of transaction confirmation, showing that they are working closely with professional online security firms, and adopting privacy and security policies. Building on these strategies may portray the higher levels of security adopted by banks and their continuing effort toward reducing uncertainty and risk of using IB. Considering the fact that lack of trust significantly affected non-users' decision whether to start using IB, the extension of such

measures may reduce, if not eliminate, the image of IB as uncertain and unsafe and reassure non-users.

9.6.6 Subjective norms

Hypothesis 6 *"Clients with high subjective norms influence will have high intention to use/continue using this technology.*"

Based on the role of social factors in the general model of consumer behaviour (Assael 2004) and on the concept of subjective norms in DTPB (Taylor and Todd 1995a), as well as the previous research reviewed in Chapter Three (section 3.5.2), this research hypothesized that banks' clients will have a higher intention to adopt IB if they have socially supportive reference groups. The present findings do not provide us with vital information on who, specifically, these reference groups are, as factor analysis suggested composing family and friends' influence in one factor.

As expected, subjective norms was found to have a significant positive effect on intention to adopt IB in relation to non-users, but not to IB current users. Subjective norms have a significant effect on the intention to start using IB. In other words, social pressure and the opinion of people close to the individual contribute to shape clients' behaviour towards the intention to start using Internet banking. The finding that subjective norms is significant in influencing non-users' intentions is consistent with theory. As Ajzen (1991) postulates, attitudes and beliefs of others in groups to which an individual belongs can shape individuals' behaviour toward the use of a specific technology.

Such results have practical implications; banks may want to explore promotional activities through the current users of Internet banking to promote the technology, for instance, implementing referral plans where users of Internet banking receive incentives for introducing the technology to their family members or friends. By taking these reference groups into account, more effective advertising and promotional efforts can be developed. The results suggest the potential value of using positive testimonials from these reference groups to promote Internet banking usage. The finding further implies the importance of providing Internet banking services of the highest quality possible and paying attention to post-transaction services, including complaint handling, because negative word of mouth from dissatisfied clients will reduce Internet banking acceptance by those who are closest to them.

Similar significant effects of subjective norms on intention have been reported in related literature. For example, Block and Köllinger (2007) explained the concept of subjective norms' influence in relation to Internet banking adoption by focusing on the relationship between the adopter and his/her social environment, and found social factors to be influential on the decision to adopt Internet banking services. A recent study (Shi et al. 2008) investigated social factors, such as social norms and found great influence of such factors on intention to adopt IB. Gounaris and Koritos (2008_a) also underscore the role of social factors as predictors of potential IB adopters. Srivastava (2007) suggested that if a client sees most of his or her colleagues or friends using Internet banking, then it may influence his or her decision to adopt Internet banking option. Gopi and Ramayah's (2007) study implies that subjective norms has a direct positive relationship towards behavioural intention to use the Internet in stock trading.

9.6.7 Self-efficacy

Hypothesis 7 *"Clients with high self-efficacy will have high intention to use/continue using this technology.*"

Self-efficacy describes judgements about one's own performance capability in specific settings. These derive from several sources, including personal experience, vicarious experience, verbal persuasion and emotional arousal (Durkin 2007). Ajzen (1991) in TPB and Taylor and Todd (1995_a) in DTPB claimed that such evaluations of internal behavioural control influence the formation of intention to undertake a particular behaviour.

The results of this study support the view that self-efficacy has a positive significant effect on intention to continue using IB for users, but not for non-users to start using IB. This finding implies that lack of confidence in using IB may create discomfort with this banking channel and as a result stop the clients from using it in the future. The results are consistent with findings in other empirical studies (e.g. Jaruwachirathanakul 2005; Hsu et al. 2006; Amin 2007; Guriting et al. 2007; Gounaris and Koritos 2008_a; Kim et al. 2009). Abu Shanab (2005) supported the influence of self-efficacy on client intentions to adopt Internet banking. Xue et al. (2007) found clients' use of self-service channels in retail banking was affected significantly by clients' perceptions of their own efficiency. Kim et al. (2009) found self-efficacy was an important factor in explaining motivation of individual judgments and behaviours. It affects positively an individual's online

consumer's purchase intention.

The interviewed bank managers were aware to some degree of low self-efficacy as a possible barrier to take-up of IB, but seemed to see this as a problem for non-users, associated with computer illiteracy and technophobia. Their assumption was that people who had experience of using computers and the Internet would have no difficulty with IB. This finding, however, suggests that this confidence may be misplaced. Clients who use not only computers and the Internet, but also IB itself, may still perceive themselves as lacking sufficient skill to use IB effectively. Whilst perceptions of self-efficacy can be formed partly on the basis of vicarious experience or persuasion, actual experience is an important part of the formation of such judgements, and is also likely to influence expectancies as to the likelihood of positive outcomes, which Lichtenstein and Williamson (2006) found to affect Internet self-efficacy positively. It is important, therefore, that the client who uses IB should have a positive experience and a successful outcome. This would increase his or her sense of self-efficacy with the IB system and, hence, the likelihood of using it again. The clarity of the website and easy access to help when necessary would be important in generating such positive experiences and feelings.

9.6.8 Resource facilitating conditions

Hypothesis 8 *"Clients with high resource facilitating conditions will have high intention to use/continue using this technology*."

Resource facilitating conditions refer to beliefs about the availability of resources that are needed to engage in a specific behaviour (Ajzen 1991), as an external influence on perceived behavioural control. The DTPB (Taylor and Todd 1995a) suggests that such conditions are among the factors influencing the decision to perform behaviour. These could include technology, as in the general model of consumer behaviour (Assael 2004). In the case of Internet banking, such resources include a computer and suitable connection to access the Internet.

The results reveal that resource facilitating conditions have a positive significant effect on intention to continue using IB for users, but not on intention to start using IB for non-users.

One reason for the impact of facilitating conditions on intention to adopt IB amongst users may be that they were able to evaluate precisely the cost of Internet

connection, which is still very high in Saudi Arabia compared with other countries. Widely available resources to access Internet banking would mean an individual's concern about the accessibility of the resources to use the technology would diminish.

The impact of facilitating conditions may be less of an issue in developed countries. However, in Saudi Arabia there are many parts of the kingdom that still do not have a DSL connection and if they do, it is at a very high price. Concerns about technological problems such as connection infrastructure, dial-up slowness, or prices of Internet subscription were pointed out by both IB users and non-users, and bank managers saw them as possible reasons for not using IB.

This finding suggests that availability of resources can impact on clients' perception of the ease or difficulty of using this banking channel. Difficulties in obtaining DSL connection and high prices of both computers and Internet connections were likely to affect the adoption of Internet banking.

This finding is consistent with other studies (e.g., Jaruwachirathanakul 2005; Hsu et al. 2006; Gopi and Ramayah 2007). For example, Gopi and Ramayah (2007) found that perceived behavioural control has a direct positive relationship towards behavioural intention to use Internet stock trading.

The importance of resource facilitating conditions for IB users may also be linked to security concerns. Banks may need to promote the idea that banking transactions could be completed at work or public locations like coffee houses, since many users seem to be resistant to using computers in these places for security reasons.

In contrast to the current findings, in a recent study Hernandez and Mazzon (2007) found that having a home PC does not play an important role in determining the intention to use/continue to use IB. This may be because, as PC ownership increases, other factors become more significant in the acceptance or rejection of IB. Indeed, Srivastava (2007) found that in case of the clients who do not use Internet banking services, having all facilities at their disposal, technology was not the biggest issue. Thus, in the case of non-users of IB, the absence of significance of resource facilitating conditions may have two explanations; either they did not have the opportunity to experience and evaluate such conditions, or, irrespective of the availability of resource facilitating conditions, there were other factors that weighed more heavily in their decision not to use IB.

9.6.9 Perceived website characteristics

Hypothesis 9 *"Clients with high perception of the effectiveness of website characteristics will have high intention to continue using this technology*."

This hypothesis was examined for IB users only, and was developed based on evidence from a variety of contexts, of the importance of website features as the interface between the consumer and the online product or service, contributing to both usefulness and attractiveness of the site (for example, Hong 2002; Moore et al. 2005; Ndubisi and Sinti 2006). The results show that perceived effectiveness of website characteristics positively affects the intention to continue using IB services. Perceived characteristics of Internet banking websites as a new innovation have the ability to predict and explain the decision to adopt this technology

The result is similar to that of Jaruwachirathanakul and Fink (2005), who discovered that the main attitudinal factor that appeared to encourage the adoption of Internet banking in Thailand was "Features of the website". Website features that were found to have a large influence were a well-designed and user-friendly website; bilingual information, both Thai and English; providing both electronic and documentary demonstrations of online services and conducting regular surveys among clients for further developing of the website. Indeed, a large number of studies have similarly shown website design to be an important feature in client reactions to online services.

Respondents in this research shared with those in previously reported research concerns for simplicity (Casaló et al. 2007), speed (Nah 2004; Dabholkar and Sheng 2008; Migdadi 2008), and user-friendliness (Liu et al. 2003), and appreciated website features that contributed to these qualities. It has previously been reported in a variety of contexts, including online banking (Poon 2008) that such qualities are influential in the decision to use websites and to take up services, and the findings of this research are consistent with that trend. Such an effect may be explained by the feelings of self-efficacy website features can induce during the transaction, and the hedonic and instrumental benefits they confer. These in turn increase the sense that the new service brings advantages and is compatible with the users' lifestyle. All these effects, as we have seen, encourage adoption.

The research findings are also in line with Grabner-Kräuter and Faullant's (2008)

findings that website characteristics that evolve the feeling of trust and make the Internet banking interface for the client more attractive and easier to navigate are important to increase the adoption rate of Internet banking.

These findings validate the decision to incorporate website features as a new component in the model of technology acceptance developed for this study. In the next section, the model is revisited and its final form presented.

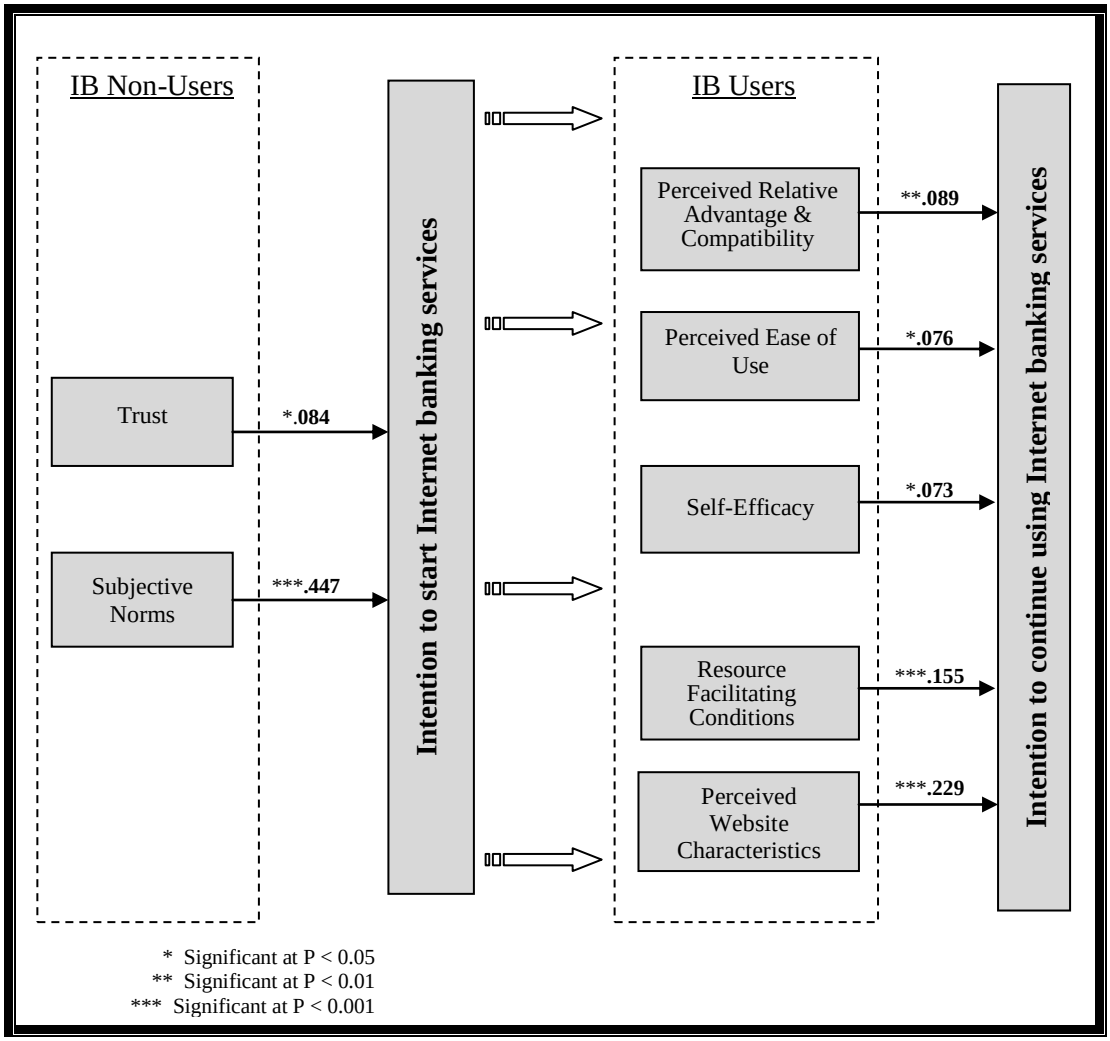
9.7 Implications for Research Model

In Chapter Three a model of technology adoption was proposed, drawing on existing models and theories, particularly the DTPB, and with the significant addition of website features, as a new contribution of this research. Based on the research findings, it is now possible to refine that model.

Whilst the findings support the significant influence of all the variables included in the original model (except perceived trialability and image), the research findings show the model to be too simplistic, in that it proposes a single set of factors for all clients. The research findings, however, show that in the case of IB, the factors influencing the intention of non-users to start using the service are quite different from those influencing the intention of existing users to continue. These differences are depicted in Figure 9.3

As shown in Figure 9.3, and as discussed previously, only two factors, trust and subjective norms, influence the intention of IB non-users. In part, this is because certain aspects of IB can best be recognized and evaluated based on experience. Non-users cannot fully imagine how IB will fit into their lifestyle or what benefits it could bring; they may not know how much it costs, how easy it is to use and whether they will be able to use it successfully. Above all, they have no experience of website characteristics. Nevertheless, some at least of these aspects may be advertised and discussed in society, so that it may be possible even for non-users to form some sort of judgement about them. Such judgments, however, do not seem to be influential, without further support, and in the absence of direct experience, subjective norms play an influential role. This may be based on the experience, or even simply on the norms, values and perceptions of those close to the individual, such as family and friends. By following subjective norms, the client places reliance on the judgement of those he/she trusts and avoids the risk that may be attached to being the innovator in his/her social group.

Figure 9.3 The Final Research Model



(Source: the author)

The other significant factor influencing IB non-users is trust, which again can be seen in relation to risk. By conducting his/her banking business online, the client faces a number of risks: that he or she will make a mistake, that personal data will be misused or will be accessible to others, and so on. To outweigh those risks, the prospective user needs to have a high level of trust in the competence and goodwill of the organisations concerned, to put in place and maintain effective security systems, and to treat online clients and their data with integrity. Trust is important in any business relationship, but in the absence of the cues provided by face-to-face contact, and the personal relationship so built up, it becomes of more concern.

Once these hurdles have been overcome, and given a supportive social environment, the intention may be formed to start using IB, and the non-user becomes a user. As noted in Chapter Three, the research did not investigate behaviour as such and

the link between intention and actual behaviour assumed in the TPB (Ajzen 1991) remains problematic. However, numerous studies have supported a relationship between intention and behaviour in various contexts (Davis et al. 1989; Morris and Dhillon 1997; Limayem et al. 2000; Chen et al. 2002; Lau 2002; Suh and Han 2002) and in Internet banking specifically (Yousafzai 2005; Shih and Fang 2006). Thus, it seems reasonable to propose that the factors influencing formation of an intention to begin using IB also influence, albeit indirectly, the actual use. It may be that not everyone who forms the intention to use IB actually goes on to do so (this is an issue beyond the scope of the present study) but as noted previously, there is a theoretical basis for suggesting that behaviour is preceded by an intention. Once individuals start to use IB, trust and subjective norms cease to be influential. When these factors are sufficiently favourable to allow the initial step in using IB, they pose no problem to the continuation of that behaviour. For IB users, however, another set of factors become significant when conjecture and vicarious experience are replaced by direct experience of the technology and the service, which grows over time. Through use of IB, the client forms an evaluation of the benefits it brings (such as speed and convenience); how easy the system is to use (such as clarity of on-screen instructions); his or her perceived competence to use the system effectively and obtain the desired result; the availability and cost of the necessary resources (e.g. Internet connection); and the characteristics of the website itself. If all these are favourable, the user is likely to form the intention to continue using IB. If one or more of these factors is unfavourable, however, the client may become discouraged and dissatisfied and may discontinue use, reverting to the old and familiar channels that worked for him/her in the past. These findings are consistent with the evidence in the consumer behaviour literature (Assael 2004), that once customers have purchased goods or services, they will decide whether it is worthwhile to continue to do so, based on the experience they have had. Thus, whereas the intention to start using IB is influenced by intangible feelings and influences in the social world, once the customer has been using IB, the intention to continue is influenced by the cognitive, emotional and practical dimensions of particular experiences.

This implies that banks' strategies to encourage adoption of IB should include two distinct dimensions. On the one hand, non-users should be targeted by emphasising the safety and security of IB, and its acceptance in society. On the other hand, strategies for retaining IB users need to be based on enhancing the features that are influential to

them, with website design potentially playing a key role.

9.8 Influence of Website Features in Relation to Stages of the Decision-Making Process.

All Saudi banks were found to provide informational, administrative and transactional services on their secure website. A particular contribution of this study, however, was to investigate how the way those services are presented serves the client at different stages of the DMP. In other words, does the website contain features likely to be pertinent (i.e. attractive, useful and influential) at each stage of the process, are such features perceived by clients, and do they influence the decision to use or not use IB services? In the following section, the findings will be discussed for each stage of the DMP in turn.

9.8.1 Perceived website features related to need recognition

Need recognition is the first stage of the consumer's DMP. Faber et al. (2004) believe that the Internet technology now presents a huge opportunity to communicate effectively with clients in order to rouse their attention, while Huarng and Christopher (2003) assert the importance of triggering clients' interest. The aim here, therefore, was to discover firstly what features Internet banking websites use to motivate clients' needs and secondly to what extent those characteristics could be perceived by clients and affect their intention to continue using IB.

All banks used a number of features which were intended to attract clients' attention and stimulate their awareness of the need either for a variety of banking products and services or for IB itself as a new service channel. Their efforts in this regard can be linked to their strategies to increase on-line clients, discussed in section 9.3.

Banner ads on the pages, pop-ups, promotion incentives such as discounts and gifts, "What's new" flashing icons, identifying services and products, sending newsletters, reminder operations and multiple hotlinks, were the most popular features used to arouse consumers' attention, although these features were used more by larger banks and those more experienced in providing IB services (Tables 6.3, 6.4).

Banks' preferences in this respect were consistent with the practices observed in previous studies, such as that carried out by Huarng and Christopher (2003), who

examined 120 websites to find what features and contents were influential in client's need recognition. They found that the examined websites were using banner ads, giving discounts or gifts, and "What's new" flashing icons. Wamalwa (2006) found that banks extensively used banner ads on the banks' websites for internal messages but not for third party companies. The range of appetizers, advertisements and incentives available on the website, however, differed according to bank size and experience as IB providers.

Loyalty point collection schemes were used only by banks that are larger, more experienced, and have a higher percentage of online clients and online transactions. These banks seem to depend on their strong relationships with their clients and the large data base they have to keep their clients loyal to them. On the other hand, medium-sized banks were depending more on promotional discounts and gifts through their websites to safeguard their market share. Banks that were small, less experienced and had a lower percentage of online clients and online transactions did not have a wide variety of appetizers, advertisements, and incentives in the website. They were depending mainly on the conventional promotion approaches such as promotional literature (e.g. brochures, pamphlets, and leaflets inside the branches) and advertising through the mass media.

Similar evidence of bank size as a factor influencing bank website content was found in an international context; Wamalwa (2006) examined seven American banks and found that banking services offered on the large USA banks' websites were different from the banking services offered by small banks. He suggested that this was because the larger banks had invested much money in technology and technical staff. He indicated that banks, in USA, that had large financial resources were able to innovate and improve Internet banking technology more easily than start up banks that lacked resources. He found also that "What's new" flashing icons, banner ads, site maps, educational services, promotional methods and client support were considered more by larger banks.

Whilst the phase 2 part A interviews confirmed that clients notice and remember features such as banner ads and flashing icons, there was also evidence that sometimes they may be counterproductive, as some clients found them annoying and obtrusive. Overuse of these features could create a feeling of over-stimulation or information overload, distracting users and making the use of the website more stressful. Moreover,

as discussed in section 9.3, the strategies employed by the medium and large-sized banks in particular, such as loyalty schemes, were not necessarily of great interest to clients, as evidenced in the phase two findings. Although advertisements (banner ads, pop-ups …), promotional offers (discounts, prizes, gifts...), and sending newsletters elicited generally positive client perceptions, they ranked as less important elements compared with the other elements related to other stages of the DMP.

These findings were supported by the results of hypothesis 12, which examined the influence of website features related to need recognition on the intention to continue using Internet banking services. The result showed that perception of those elements does not have significant effect on the intention to continue using IB services, which means the presence of such features on banking websites does not affect clients' intention to continue using this technology. This finding can be seen as a confirmation of a recent study by Raman et al. (2008) which found availability of incentives on banking websites would work only for the early adopters but not for the medium and heavy users among Internet banking adopters, who already rely on and realize the importance of Internet banking.

From a practical perspective, this suggests that banks would be well-advised to be more discriminating in their use of advertisements and incentives on websites, as heavy investment in such features may not bring commensurate return. It may be that banks' website promotional strategies have little impact on the need recognition stage because, by the time the client comes to use the website, need recognition has already taken place. The client has already identified the need for banking services, the need to perform a particular kind of transaction, and the benefits of banking online.

9.8.2 Perceived website features in relation to information search

The second stage of the DMP is information search, in which the client gathers a variety of information about the services and products he or she is interested in. Banks can aid this process by providing appropriate and easily accessible information on their websites.

Banks' websites should not only provide timely information but also depth and breadth of information. Website contents can offer a number of methods to facilitate obtaining information. The quality and characteristics of various financial products depend on the style of information provision.

A literature review of marketing and e-commerce research suggests that interface characteristics are capable of influencing consumers' information search and processing. For example, Weir et al. (2006) found straightforward design features, such as simple and scannable information on banking websites have the ability to grab the attention of those who browse. In Huarng and Christopher's (2003) study, they found the most important features on the website to provide information to users were: Frequently Asked Questions FAQs; website index (website map); product index (product list); and product search function (search engine).

The findings showed that in relation to this stage Saudi banks were paying more attention to the design quality rather than content quantity. Simplicity and ease of navigation were considered by most Saudi banks. Features such as lists of services and products, contact details, help desk and demo were found to be used in all Saudi banks to facilitate obtaining information from websites, irrespective of banks' features. Frequently Asked Questions FAQs and Site index (website map) were used widely but not in all banks.

Saudi bank websites seemed to be in general informative in their nature, rather than being interactive in relation to this stage. Information could not be obtained quickly if it was not on the website and clients were not necessarily familiar with the functionality of information search tools. Live agent (chat room) was used only by one bank offered as an interactive chat room to assist clients in obtaining information quickly. Absence of interactivity in most banks' websites could discourage clients from using IB if they were looking for information and cause them to prefer phone banking instead.

Large banks with large website size, banks with more experience in presenting online services and banks with a greater percentage of online clients and online transactions were found to have richer information. These findings are consistent with those of Huizingh (2000), that larger websites seem to be more advanced in their content and features, and Furst et al. (2002) who found that both larger banks and banks that had offered an Internet banking service for a long time tended to offer a wide range of services from their Internet banking websites.

Findings confirmed that using Internet banking information search tools was important to clients, who acknowledged that bank websites enabled them to obtain new

information. It was found that information was considered important not only before but also during IB usage, in order to enable clients to perform transactions individually. The information provided should be detailed enough and easily available on the web pages.

Among the particular tools welcomed by clients when using IB websites was a list of services and products that could be shown through all browsed pages. Hong (2002) similarly found that consumers can browse websites more efficiently and effectively when product information is organized in the list format. Bayles (2004) found the style of presentation of account information in a list layout was an influential factor on bank clients' satisfaction.

Other favoured tools were help desk, website map, demo to illustrate website characteristics and FAQ respectively. However, some doubts were expressed regarding search engines, website maps, and FAQ, concerning their effectiveness in facilitating the search for information users wanted. As a result, they were rarely used. Help desk was perceived as an important tool when making inquiries, but was criticised for response lag.

These findings were supported by the results of hypothesis 13, which examined the influence of website features related to information search on the intention to continue using Internet banking services. The result showed that perception of those features has positive significant effects on the intention to continue using IB services.

These findings are consistent with those of other studies in a variety of contexts. Qureshi et al. (2008) found the amount of relevant information is very important in acceptance of online banking, as there were positive correlations between the amount of information and increased client acceptance. Ding et al. (2007) found that clients valued IB websites as a channel to high-quality information, and highlighted the power of the banking website in providing rich information. Indeed, as Shih and Fang (2006) found in Taiwan there is a tendency to give high credence to information provided on the banking website. Clients view it as correct and complete information which is updated frequently.

Given the importance to clients of help with information search, it is a matter of concern that websites are not always as helpful as they might be in this respect. This is by no means only a Saudi problem. Bonsón et al. (2008) found that the corporate websites of some European financial entities are still not utilising devices to make their

website content presented easily, and suggested that better navigability would improve user access to the enhanced information provided.

Generally, information on IB should be comprehensive but related to clients' interests and the bank should pay attention to simplicity of design and organisation of the site, as information displayed on the IB website could sometimes be confusing. Using simple language and terminology in banking website interfaces will increase use of these website functions.

9.8.3 Perceived website features related to information evaluation

In the third stage of the customer DMP, information evaluation, clients analyse and interpret the information they have found, to provide a platform for decision-making. Banks could potentially help clients in this stage by providing clear and accurate information about the bank's services, simple decision tools, such as financial ratios, links to specialized advisory services, and rapid response to client queries. Huarng and Christopher (2003), for example, found help desk and links to related websites that provided extra information, whether these websites were commercial, public, or experiential, were the main features provided by examined websites to help clients to evaluate their information.

In line with those findings, some Saudi banks provide direct links to well-known economics websites and official services, which can be used to access large amount of information regarding regulatory rules, companies' information, the latest news, and various economic reports. Wamalwa (2006) similarly found that many banks take advantage of their websites by turning them into portals to provide financial and community information. Banks also provided broad information about their funds and related investment options such as tables, figures, charts, and different historical and statistical data to help clients to evaluate diverse alternatives. Such features were all considered important by the IB users surveyed in phase 2.

Nevertheless, despite the availability of such features, there was considerable variation between banks in the quality and quantity of help provided. Content analysis revealed an obvious shortage of tools and elements to help clients to evaluate their information. No banks provided financial advice through the website, only one bank provided a live agent, and only two banks provided financial evaluation tools that help clients to calculate some financial ratios.

The most information evaluation tools and features investigated in this research, which were limited, were presented by banks with longer experience of introducing IB and with banks that had a higher percentage of online clients and online transactions.

The statistical tests show the existence of an association between variables, but not the direction of causality (if indeed the association is causative). It is, therefore, a matter for debate whether such banks attracted more online clients and transactions because they offered such features, or whether they were induced to offer such features because of their more extensive dealings with online clients.

Three main reasons emerged for the inability or unwillingness of banks to provide certain information evaluation aids: staff shortage, a cultural preference for face-to-face contact, and the legal/regulation environment.

Advisory services to clients through the Internet were said by some managers to be not available online due to shortage of human resources in this regard. This was unexpected, because clients cannot benefit from most investment channels without expert advice. The issue is not only the number of staff available, but their level of expertise.

In this regard, Lawson et al. (2003) similarly found that poorly trained staff would impede the diffusion and the development of the Internet as a marketing channel. Such a deficiency may not be capable of resolution by the banks themselves, but raises questions as to the education and training in finance and economics available in higher education institutes. This issue is outside the scope of the present study, but may warrant further investigation.

In the view of many managers, however, even if such expertise were available, Saudi consumers would prefer financial advice to be delivered face-to-face. Similarly, Bolongkikit et al. (2006) found among other issues that markets needed a high degree of human interaction and this determined the online services that would be provided for clients.

This may be more important for some transactions than others. Durkin et al. (2008) found that product complexity levels affect clients' decision to perform transactions through Internet banking or not (Table 5.4 for e-banking product complexity levels). They found clients, in general, do not require face-to-face interaction for purchase of simple products, but there is evidence that as product

complexity increases (to medium or complex product levels for example), the role of face-to-face interaction becomes more important. It is, however, possible to provide a sufficient level of personal-style interactivity, even on line, as Sayar and Wolfe (2007) found when they examined the performance of Internet banking websites in Turkey and UK. They found that offering an online chat option on Internet banking website to bank's clients is an important element. Even if chatting was designed for answering questions and complaints rather than making transactions (due to security reasons), they argued that chat is a significant element on banking website, since it has the potential to compensate for the lack of a face-to-face relationship.

The other reason given for not providing detailed financial advice was fear of incurring legal liability. It was noted, however, that some banks overcame this problem by providing links to trusted sources, such as the SAMA website, or specialist international organisations.

The clear demand for such information from bank clients suggests that managers' reservations notwithstanding, many clients would find on-line (rather than face-to-face) analytical information acceptable. Moreover, it suggests that it would be helpful for SAMA to make the legal position more clear, especially as banks appear to differ in their interpretations and some may be over-cautious in their efforts to avoid legal repercussions. If the position were clarified, for example by the provision of a list of approved sources, Saudi banks might be better able to meet clients' needs at this stage of the customer DMP.

In this respect, clients wanted Saudi banks to offer added value in the form of more specialized analytical reports about SSM and to provide advice concerning investment techniques, because of the bank's name and experience in this field. Such information, in their view, would support their dependence, as well as increasing their loyalty to the bank. Availability of live agent (chat room), financial advice, evaluation tools that help in taking financial decisions and presenting economic reports were, respectively, ranked the most important features by clients in relation to this stage.

These results were supported by the results of hypothesis 14, which examined the influence of website features related to information evaluation on the intention to continue using Internet banking services. The results showed that perceptions of those features had a positive significant affect on the intention to continue using IB services.

The findings show the importance of banks providing correct, complete, and reliable information, rapidly updated, to IB users. This has to be done instantly if the information is available on the website or within a satisfactory time if the information needs to be investigated before giving the clients the responses about their requests.

Clients wanted to open a dialogue and interact directly with their banks using the Internet to obtain an abundance of relevant information, and they wanted rapid response. Just as Liao and Wong (2008) found, the findings of the present research illustrate that clients are looking for website characteristics to create direct two-way communication with their bank, and that responsiveness in this regard would influence their adoption of this channel.

9.8.4 Perceived website features related to decision-taking

Discussion with managers in relation to this stage focused mainly on issues of security and trust. Security is the most significant attribute because of its influence on clients' perceptions. Many IB users were depending on the bank as they had confidence that banks have sophisticated systems to protect their databases. However, many clients may not be aware of the risks regarding the Internet and their computers.

Saudi banks paid considerable attention to the security issues related to Internet banking application. However, it is very important for Saudi banks not only to protect themselves but also to be able to protect their clients as well. Moreover, they have to convince their clients about the effectiveness of the measures taken. Success in this difficult task would increase clients' trust in adopting this technology. In online banking transactions, it is not enough to secure the system but also it is necessary to demonstrate to clients that their bank is dealing with security issues effectively.

In this regard, all Saudi banks provided informative tools to enhance the level of clients' awareness of their security, while some also applied strict conditions to provide extra protection for clients, and also adopted some procedures to enhance the security level of online transactions.

To increase clients' trust in IB transactions on the website, a variety of approaches were reported, such as, showing the last time the client logged in and number of failed attempts to log in as a check on any unauthorized entries, registration of online users through ATMs or through paying visits to the bank, banking services obtained through

ATMs or branches the first time, putting a keyboard on the screen, log on through corporate website, applying a daily maximum limit, and providing security advice.

Some banks applied more measures than others. The size of the banks, the experience in presenting IB services, the percentage of online clients and online transactions seemed to have a positive relationship with presenting more features through the website.

Other banks also implemented strict procedures, but did not so effectively demonstrate their security precautions on the website. These banks may need to reconsider and demonstrate the safety of transactions more clearly, to reduce clients' perception of risk.

Some Saudi banks had implemented some security procedures to prevent fraud through keyloggers, which record every stroke from the keyboard and send them to a remote computer. By this means, the owner of the remote computer, the hacker, can easily learn all the confidential information necessary to enter an Internet branch and can transfer money from the account of the clients to his/her account.

Increasing clients' awareness of "phishing" is another essential consideration. Phishing is a situation in which clients receive e-mails that seem to be sent by their bank, and asking them to fill out a form (which requests their client numbers, passwords, memorable data, etc.) to update their information in order for them to be able to continue banking online. Banks need to provide means of protection and to increase the consciousness of clients about these issues, but the challenge is to do this without discouraging them.

Previous research that examined the security procedures provided by banks found similar approaches were taken. For example, Sayar and Wolfe (2007) found UK banks asked clients to choose random characters for passwords, and use PINs and memorable data (e.g. date of birth) to deal with screen and keyloggers which makes it difficult, although not impossible, for unauthorized persons to learn these data. A measure used by Turkish banks was to offer "virtual keyboards" (optional or mandatory to use) so that passwords and PINs could be entered without keystrokes by clicking on the appropriate keys on the screen. The researchers suggested that cultural differences have a bearing on the measures chosen in each country.

Wamalwa (2006) asserted that banks should provide full information about

security issues, identity theft and phishing on their websites to educate clients. He found security information was provided by seven large American banks by links or messages on their home pages, which warned users about how to avoid Internet phishing, identity theft, and online fraud.

'Security' and 'trust in the service' were powerful reasons for clients perceiving Internet suitability for performing transactions at a general level. However, such feelings were related to clients' experience with IB. Respondents who had been using IB for some time seemed, generally, to be positive and trusting towards IB. They had fewer concerns about some important issues such as security, trust, and privacy. They did not worry about lack of face-to-face interaction, receipts, or the possibility that something might go wrong. Less experienced clients had doubts about these issues.

The key role played by security issues in the adoption of IB is highlighted by the fact that the factors considered most important in relation to website design were related to security. In other words, taking the decision to perform a transaction through Internet banking was the stage most affected by perceptions of IB website features. Clients ranked six features related to the last two stages of customer's DMP in the first eight positions among the main banking website features (Table 8.41). These features were confirmation pages that show the success of transaction execution, sending confirmation messages by e-mail or SMS for selected transactions, the ability to print out transaction details, applying strict security procedure in log in, giving each transaction a reference number, applying strict security procedure to perform transactions.

These results were supported by the results of testing hypothesis 15, which examined the influence of website features related to decision-taking on the intention to continue using Internet banking services. The result showed that perceptions of those features had a positive significant effect on the intention to continue using IB services.

This finding is consistent with those of previous researchers such as He and Mykytyn (2007), who found that obtaining payment confirmation influences adoption of online billing and payment systems by clients. Casaló et al. (2007) found that the improvement of the levels of perceived elements and tools related to security and privacy increase the clients' commitment to IB websites. This is particularly important for more complex service product offerings, where clients have a greater need for reassurance about Internet security and the impersonal and intangible nature of online

transactions (Durkin 2007).

9.8.5 Perceived website features related to post-transaction behaviour

The fifth stage of the customer's DMP refers to feelings of doubt that may be experienced after the purchase (for example, if the product or service proves difficult to use or does not conform to expectation in some way) and, alternatively, feelings of satisfaction with the product or service. It is generally assumed in the literature that post-transaction services such as inquiry and complaint handling, online support, and measurement of client satisfaction, are important in maintaining a relationship with clients and securing their loyalty and continued custom.

In relation to the communication between banks and their clients, the IB website could potentially be a useful medium for increasing consumers' post-transaction satisfaction by support broadcast, one-on-one communications, support via websites and e-mail to help enhance loyalty and create a long-term relationship. This implies that banks should design their websites to gauge client satisfaction or dissatisfaction and to identify proper corrective action.

The information obtained in Phase one of the research, both from interview managers and from content analysis of websites, suggested that Saudi banks adopted such an approach, to varying degrees. Saudi banks provided technical support in several ways, such as through help desk or FAQs, or by a telephone call centre. Several researchers have indicated the importance of providing online support on the website for clients (e.g Huarng and Christopher 2003; Song and Zahedi 2005; Zuckweiler 2005)

Saudi banks also measured their online users' satisfaction in several ways, including quick polls through a call centre or online website, online surveys, reports through a specialized company, through obtaining regional awards, increase in the number of transactions and growth of online users and through clients' complaints and feedback. These methods were prevalent in the banking industry and applied by a number of banks.

Apart from providing access to inquiries and complaints, which was provided by all banks, these approaches were considered more by larger banks, more experienced banks in terms of presenting IB service, and banks with more online clients and online transactions.

Post-purchase doubt was dealt with by a variety of transaction confirmation procedures. However, judging by the findings in Phase two A, these efforts were not wholly successful in allaying cognitive dissonance, partly because clients, at least initially, did not understand their meaning and significance.

There is, however, some ambiguity in the findings related to this stage of the CDMP. On the one hand, providing access to inquiries and complaints and providing online technical support were ranked as the fourth and fifth most important banking features from users' perspective (Table 8.41). On the other, this finding was not supported by the results of testing hypothesis 16, which examined the influence of website features related to post-transaction on the intention to continue using Internet banking services. The result showed that perception of these features did not have significant effects on the intention to continue using IB services. This finding appears, however, to be inconsistent with previous studies such as He and Mykytyn (2007) who found that clients will be more likely to adopt online transaction such as payment methods if the online system offers reassurance for its users, such as following up requests.

This raises the question why, if post-transaction services were important to clients, and given a variety of criticisms levelled at the IB service by clients, post-transaction services appeared to have so little impact on behavioural intention. As reported in Chapters Seven and Eight, some users were found not to be wholly satisfied with IB services in regards to this stage, but still to continue using it. It could be that the considerations of this stage are outweighed by factors relating to other stages, so that if clients are happy with the way their information search, evaluation and decision-taking stages are met, this will influence them to continue with IB even in the face of post-transaction difficulties. They may feel they have no alternative, or that alternatives are perceived as even less satisfactory. It may also be that, once the client becomes an established and experienced IB user, post-transaction concerns do not arise to any great extent (this explanation would be consistent with the finding, reported above, that post-transaction doubt is higher among early users than more experienced users). Also, needs at this stage might be met by means other than website features. Clients could make enquiries or complaints and obtain support by using other banking channels to complement the process begun with IB, e.g. using the phone or paying a visit to the bank. Further investigation would be needed to assess how far any of these explanations

apply.

Another point to consider is that the researcher looked at behavioural intention only in terms of intention to continue using IB, but there may be influences on other aspects of behaviour; a client who is not wholly satisfied with the handling of post-transaction issues may for a variety of reasons continue using IB, but may give unfavourable word-of-mouth to others. This, considering the importance of subjective norms to non-users, may deter others from trying IB.

9.9 Influence of Clients' Demographic Characteristics

In the literature, it is suggested that there are direct and indirect influences of clients' demographics on the innovation adoption decision. This thesis supported such an idea, as it indicated that such features play a role in determining whether individuals use IB or other bank delivery channels.

This research found clear differences between IB users and non-users in relation to their demographic characteristics. These findings harmonise with those of Gounaris and Korito's (2008_a), who found the demographic profile of IB non-users displays important differences compared to that of those already using IB. Similarly, Ozdemir et al. (2008) found, in their study in Turkey, that there were significant differences between adopters and non-adopters of the Internet banking services in terms of their perceptual, experience and consumers' demographic characteristics.

The characteristics found to be significant in this research were gender, age, income, education, occupation and Internet experience. These results support previous research (Akinci et al. 2004; Cheng et al. 2006; Srivastava 2007; Branca 2008; Gounaris and Koritos $2008_{a\&b}$) which revealed that gender, age, education and income play important roles in Internet banking adoption.

In the following paragraphs, each factor will be discussed in turn.

Gender: The majority of respondents whether they were IB non-users or users were men, but the disproportion was particularly high among IB users. Whereas more than a quarter of the non-users sample was female, only 7 percent of the IB users in the sample were female. This does not come as a surprise, as males in Saudi Arabia dominate many aspects of life. According to culture, religious understanding and inherited tradition, they have the full responsibility for managing the financial affairs

of their families. This is why women in Saudi Arabia still do not have as much opportunity as men in regard to obtaining higher education or in entering the workforce. This affects the number of women who have individual financial resources or personal bank accounts.

Moreover, even if a Saudi woman has a bank account, she would be strongly influenced by men in her family (i.e. husband, father or brother), so it is not likely that a Saudi woman would take the initiative to start using IB without the support of a male member first. The present research findings showed that subjective norms play a significant role in getting non-users to start using IB, and for women in particular, this implies the influence of male family members.

Banks should understand this and try to reach Saudi women through their male family members. This could happen by introducing the benefits of using IB to males first and tempting them to introduce this service to their family members. This method could be supported by giving rewards for clients who succeed in achieving this. In general, this finding is consistent with many prior studies, which found that men are more willing than women to adopt Internet banking (Akinci et al. 2004; Wan et al. 2005).

There were also differences between men and women in their attitude toward obstacles to IB adoption and in the characteristics they considered important. Saudi women were less concerned than Saudi men about thinking of the Internet as a suitable banking channel. This might be because it is more difficult for them to use regular banking channels compared to men. Segregation norms require women and men to be served at different branches or at least different sections, but there are relatively few women's sections, even in big cities. Moreover, as women are not allowed to drive, it may be difficult for them to reach bank branches or ATMs. Also, they cannot stand with men in the same queue in front of an ATM, as to do so would cause great embarrassment, and this adds to the difficulty of performing financial transactions, which might make them more welcoming of IB as a banking channel.

Women were also less concerned than men about issues such as trust, prices of computers and Internet subscriptions. This may be because they do not have as much knowledge about such issues as men, given men's control of family finances.

Age: The majority of respondents were concentrated in the middle groups between 25-45 years. A quarter of IB non-users were under the age of 25. This is not consistent with the previous anticipation about the spread of adoption of IB amongst young people as a result of their closer relationship with the technology. Similarly, over a quarter of IB users were above 45 years. This calls into question the assumption of some banks' marketing managers that electronic channels should first be marketed to young clients, as they are expected to be more readily persuaded than older clients. There are, however, possible explanations for the low IB use among the under 25s. Given recent trends in Saudi culture, it may be that many people of this age are still in education and financially dependent on parents and guardians, so their bank transactions are few and simple; hence they felt no need to pay attention to learning about and using IB. This view is supported by another finding, which shows the main reason for not adopting IB was because banking business was very simple. In contrast, older people might have more extensive banking transactions that justify adoption of IB. Older people, for example, might be more likely than younger ones to have built up a business, to have accumulated savings, or to have capital to invest on the stock market.

These findings harmonise with previous research such as Wan et al. (2005) and Akinci et al. (2004), who found that clients who adopt Internet banking are middle-aged, whereas younger or older consumers tend to use the more traditional channels. A recent study similarly shows that younger clients do not seem to adopt IB earlier than other age segments of the population (Gounaris and Koritos 2008_a).

Moreover, in regard to perceptions of non-users, there were some interesting differences according to the age of clients; for example, the youngest and the oldest groups perceived more difficulty with technical terminology than other groups. This result could be understandable in regard to the oldest group, who were educated before the advent of computers. However, many young people too, might not have used and learned about computers and the Internet until high school, or later, since these facilities are being diffused into society gradually. The younger group might therefore have little computer experience. However, they did not seem to have difficulty with all aspects of computer use; difficulty with using and understanding computers and the Internet, in general, was reported by older clients rather than younger. The interest in learning about IB among IB non-users was greater among younger than older respondents. Younger clients might have stronger recognition of the role of this technology in the

modern lifestyle, and have more opportunity to learn about it. The older ones might be more reluctant to change and prefer to continue performing their banking business as they have done for a long time (inertia). Others were not keen to learn about the Internet, considering it only for the young generation.

Income and Qualification: In relation to participants' income, a clearly significant difference was observed between IB users and non-users. The income of IB users was noticeably higher than non-users' income. Higher income would make people more able to afford the prices of computers and Internet subscription, which were reported frequently as reasons for not using IB. Ozdemir et al. (2008) similarly found that clients who had higher income had more intention to adopt Internet banking services. Another explanation of the role of income is suggested by Wan et al. (2005). They found in Hong Kong that a high household income would mean that the client has more financial resources to manage, and thus a stronger need for banking channels that offer a high level of flexibility, such as Internet banking. This explanation may also be applicable in the Saudi context, given the finding, noted previously, that the scale and complexity of banking transactions were seen by interviewees as a relevant factor in their decision-making regarding IB use.

A similar situation was found for qualifications, where more than half of non-users were not educated above High school certificate, whereas three quarters of IB users held a bachelor degree. In other words, the IB users' population was better educated than the IB non-users' population. This could be significant in two ways; better education would increase the opportunity to become familiar with computers and the Internet (which was first introduced in universities) and might also lead to better jobs and, hence, greater ability to afford computers and Internet charges.

Clients with higher qualification were less concerned about issues such as considering the Internet as a liberal idea, prices of computers and Internet connections, understanding computer terminology, technical problems of IB, and willingness to learn about computers and the Internet. Clients with a High school certificate or lowest level of education, were more concerned about these issues. These findings support the above interpretations regarding the salience of education.

Less educated people seemed to be more conservative, finding the Internet a liberal idea. They were reluctant to have it in their home, for fear it would bring deviation from traditional values, in which they aimed to raise their children.

Previous research (Karjaluoto et al. 2002_a; Mattila et al. 2003; Akinci et al. 2004; Wan et al. 2005) similarly found that highly educated people were likely to be more receptive to new things, and tended to use the relatively new Internet banking channel.

Occupation: Comparing participants' occupations between IB users and non-users shows that the majority of IB users were private sector employees, whereas the majority of non-users were government sector employees. A reasonable explanation of this variation is not only because the private sector in Saudi Arabia focuses on employing qualified, skilled people who can use technology easily, but also because the private sector has outdistanced the government sector in using technology in general and specifically Internet applications. The majority of private sector companies in Saudi Arabia make Internet access available to their employees, but this does not apply to the government sector. Another relevant factor is that working hours in the private sector are the same as banks' working hours, from morning to evening, which means these employees may be forced to use electronic banking channels including IB to handle their own financial affairs. In contrast, the shorter office hours in the government sector mean that these employees would more easily be able to visit bank branches and so may perceive less need for IB.

Karjaluoto et al. (2002_b) and Wan et al. (2005) found that those who have high-level occupations are more likely to use Internet banking. Probably the incumbents of higher-level jobs have easy access to the Internet, whereas lower-level jobs do not usually provide incumbents with Internet facilities. On the other hand, lower-level jobs usually place more restrictions on the incumbents, forcing the incumbents to adopt other banking channels that are still available after office hours.

Internet Experience: Regarding respondents' Internet experience, there was a strong weighting of Internet experience towards IB users, nearly 90 percent of whom had at least five years Internet experience. In contrast, among non-users, only a quarter had been using the Internet for more than five years, and another quarter were new users of the Internet, with less than one year's experience. Proficiency at computing and the

Internet seems to be positively correlated with Internet banking using, as was found by a recent study (Katuri and Lam 2007).

Although the majority of non-users were not computer or Internet illiterate, they had more limited experience of the Internet; the duration and cumulative experience of the Internet seemed to have a great influence on the adoption of IB. Clients with longer experience with the Internet were less worried about all the possible obstacles that influenced clients with shorter experience. For example, experienced clients were less concerned about losing human contact, fear of making mistakes, performing banking transactions online, feeling apprehensive about using IB, understanding technical terminology, and other matters.

It is clear and notable that having a longer experience with the Internet would create more favourable attitudes toward many aspects in relation to the Internet including IB, and people who have started using and gaining experience with the Internet are at an advantage in moving at the same time towards using IB, as long as there are no other inhibitors.

Internet experience emerged as the dominant demographic factor that has to be considered by bankers. Banks should target people with more Internet experience before considering other demographic factors, as those people have a very high potential to be IB users.

9.10 Summary

This chapter has integrated the findings from two phases of research, involving interviews with managers in Saudi banks, content analysis of banks' websites, interviews with bank clients and a survey of IB users and non-users, in the light of relevant literature.

It was shown that banks' provision of IB was motivated primarily by bank interests in cost-saving and keeping abreast of competition, although this is not to say that they were entirely lacking in client focus. They acted in the light of several assumptions about client needs, reflected for example in their approaches to advertisements and inducements, and their concern with security features. Whilst some of these assumptions were supported by findings from clients themselves, others were not, or only partially so. Contrary to banks' assumption, for example, computer illiteracy did not appear to be a significant barrier to IB adoption, although experience

and confidence were more salient. Moreover, banks were perhaps unduly complacent about the effectiveness of their promotional strategies, since it appeared that often these failed to come to clients' attention, or were in forms not greatly valued by clients.

An important feature of the discussion in this chapter was the refinement of the technology adoption model proposed in Chapter Three. Whilst all the proposed components of the model were supported by the research findings (except perceived trialability and perceived image), a distinct difference was found between IB users and non-users, in the factors that influence their behavioural intentions toward this technology. Non-users are influenced to start using IB by only two factors: trust and subjective norms. Having no experience of the benefits or difficulties of using IB, they deal with the risk of the unknown by relying on the judgement of influential members of their social group. Moreover, they need to have a high level of trust in the integrity of the bank and in the practical safeguards provided for on-line transactions. Once the individual takes the initial step to become a user of IB, however, trust and subjective norms lose their importance, to be replaced by a completely different set of factors: relative advantage, ease of use, self-efficacy, resource facilitating conditions, and website characteristics. The favourable status of all these elements is important in the decision to continue using IB.

The influence of website features in relation to the five stages of the customer DMP was also examined. At each of the five stages, banks gave consideration to clients' needs and provided a number of website features intended to help in meeting those needs. In general, the features provided were consistent with Internet bank practice and theory, and were appreciated by clients. However, the range of features varied considerably among banks, with some providing only the most basic; larger banks and those more experienced in IB provided more features. The provision of more varied and sophisticated website features was also associated with larger proportions of online clients and online transactions, although whether such provision was a cause or a consequence of the greater volume of online business cannot be ascertained at this stage. What is clear, however, is that website features at the information search, information evaluation and decision-taking stages are sufficiently important to clients, that their perceptions of such features influence the intention to continue using IB. At the need recognition and post-transaction stages, however, these features appear to have no significant effect.

Within the general trends reported above, differences were found among clients related to their demographic characteristics. Both the inclination to adopt IB, and the perception of specific features, were significantly related to gender, age, income, education, occupation and Internet experience. Men, middle age groups, those with higher income, those educated beyond high school level, private sector employees and those with longer Internet experience were more likely to be IB adopters, and less likely to be worried about various possible obstacles, than other groups.

On the basis of the integrated understanding provided by this chapter, it is now possible to draw some conclusions regarding the research questions and to derive implications for theory and practice. This is the task of the following chapter, which concludes the thesis.

CHAPTER TEN

SUMMARY AND CONCLUSION

Figure 10.1 - Following the Research Stages

Chapter Two: Theories applied to new technology adoption and Internet banking acceptance
Chapter Three: Theoretical framework and presenting the research model
Chapter Four: The situation in the KSA, financial sector and Internet banking services
Chapter Five : Research methodology and data collection design
Chapter Six: Outcomes of IB managers interviews and content analysis of banks' website
Chapter Seven: Outcomes of the interviews with Saudi clients (IB users and non-users)
Chapter Eight: Findings of online and offline questionnaires of Saudi banks' clients
Chapter Nine: Interpretation and discussion of the findings
Chapter Ten: Summary and conclusion

10.1 Introduction

The growth of the Internet has impacted on a variety of services, including banking. However, full exploitation of the new technology requires understanding of consumer needs and characteristics, and of the factors that influence their adoption or rejection of this service channel. This research investigated these and related issues in the context of Saudi Arabia, from both bank and consumer perspectives. Taking as a basis the decomposed theory of planned behaviour (DTPB) (Taylor & Todd $1995_{a\&b}$), and extending it by including the additional construct, website features, the thesis explored how a range of personal, situational and technology-related variables influence the intention to start or continue using Internet banking (IB). Additionally, it has examined how banking website features affect consumer intentions to adopt IB at each of the five stages of the consumer's decision-making process (DMP).

In this chapter, the key findings of the research are summarized, in accordance with the research questions set out in Chapter One, section 1.5. The theoretical and practical implications of the findings are highlighted, and recommendations derived for the Saudi government, the Saudi Arabian Monetary Agency and Saudi banks. Limitations of the research are identified, and suggestions are made for further research building on the contribution of this thesis.

10.2 The Key Findings of this Research

In this section, the answers to the research questions, set out in Chapter 1, section1.5, are summarized, based on the findings reported in chapters 6, 7 and 8, and discussed in chapter 9.

10.2.1 To what extent, and in what ways, are the five stages of the client's decision-making process considered and applied in the design of Internet banking (IB) facilities in the KSA?

Internet managers displayed awareness related to all five stages of the client's decision-making process. Their efforts to attract and support clients in each stage were reflected in the website features provided, from banner ads and flashing icons, through information, evaluation aids and security measures, to query and complaint handling. However, support for consumers was somewhat constrained by banks' limited and sometimes erroneous assumptions about clients, and the regulatory environment. Moreover, efforts were sometimes misdirected towards promotional activities that did not reach their target, or were not valued by clients. Banks were generally reactive rather than proactive, but the facilities they offered for IB clients varied according to bank size, experience in IB and proportion of IB clients and transactions.

10.2.2 What are the specific factors affecting banking clients' attitude toward Internet banking? To what extent do perceived relative advantage, compatibility, ease of use, social image, trialability and trust affect the intention to adopt IB?

Perceived relative advantage of Internet banking and compatibility with lifestyle, such as speed, convenience and facilitation of access, evoked positive attitudes to IB, particularly for those with more extensive and complex banking needs. Factor analysis suggested that relative advantage and compatibility form a single construct. This construct helped to explain adoption intention for IB users, but was not significant for non-users.

Perceived ease of use, related to competence with computers and the Internet, clear and simple instructions for performing IB, website design, download time, language used, etc, was associated with positive attitudes toward IB. This factor was significant for IB users, but was not significant for non-users.

Perceived social image aroused contrasting views; some thought IB use would confer an image of education, culture and higher social class; others disagreed. Perceived image was not a significant predictor of IB adoption intention, for users or non-users.

Perceived trialability, for example, giving the opportunity to try this service out before using it and availability of the transaction simulations on some websites, had no significant impact on adoption intention, for IB users or non-users.

Perceived trust in the reliability of banking transactions, privacy of information and protection from misuse of data did not significantly influence the intention of IB users to continue with IB. However, it was significant in the intention of non-users to start using IB.

10.2.3 To what extent do family and friends affect clients' intention to adopt IB?

The influence of personal recommendations from members of the social reference group, and the transmission of experience by family members and friends were frequently cited as influential in the adoption decision. These factors were captured in the variable, subjective norms. Subjective norms explained 19 percent of the variance in non-users' intention to start using IB, making this the most significant of all the factors examined. However, it had no significant impact on IB users' intention to continue.

10.2.4. To what extent do resource facilitating conditions and self-efficacy affect clients' intention to adopt IB?

Resource facilitating conditions are external factors such as availability of computers, Internet connection, money and time. Saudi clients were particularly concerned about the effect on access of infrastructural shortcomings and high prices. This factor significantly influenced IB users' intention to continue use. It had no significant impact on non-users.

Self-efficacy is an internal aspect of behavioural control associated with feelings of confidence, knowledge and familiarity with IB. This factor was also significant in IB users' intention to continue. It had no significant effect on non-users' intention to start using IB.

10.2.5. To what extent do website features influence the client's intention to adopt IB, over the five stages of the decision-making process?

High positive perceptions of website features explained 5.4 percent of the variance in intention of IB users to continue using it. Features that had significant impact on IB users' adoption of IB were those related to:

- information search (guide list, search tools, help desk)
- information evaluation (financial advice, economic reports, hyperlinks to related pages)
- decision-taking (security protection, range of products and services)

No significant impact was found for features related to:

- need recognition (banner ads, flashing icons, promotions, advertisements)
- post-purchase behaviour (obtaining needed support and effective communication after performing transactions).

However 27 listed characteristics were rated as important by IB users. Features related to transaction confirmation ranked highest, followed by those related to make inquiries and obtain information, and security issues. Promotions and advertisements were ranked lowest.

10.2.6 What are the main obstacles that deter IB non-user clients from starting to use IB?

Obstacles inhibiting people from using IB fell into seven categories as follows:

- psychological barriers: perceived risk; no perceived need for IB; absence of the human touch
- marketing barriers: inadequate information about IB
- educational barriers: inadequate competence/experience with computers and the Internet
- technical barriers: difficulties in regard to computer and Internet accessibility
- cultural barriers: perceived threat to traditional values
- economic barriers: cost of computers and Internet connection
- linguistic barriers: weak proficiency in English.

Among 17 items reflecting these categories, items related to absence of perceived need ranked first and second, with lack of trust coming third.

Differences were found in the impact of potential inhibitors of IB use, associated with demographic characteristics, as follows:

- Gender: Men were more concerned than women about cost of computers and Internet connection, Internet connection problems, "liberal" influences, suitability of the Internet as a banking channel, and technical terminology.
- Age: The youngest group (< 25 years) and the oldest group (> 45 years) perceived more difficulty with technical terminology than others
  - The youngest group (< 25 years) had more interest in learning about computers and the Internet than others
  - The oldest group (> 45 years) were most inclined to perceive a lack of time for learning about IB.
- Internet Experience: Clients with less Internet experience (< 1 year) were more likely than others to perceive obstacles to IB use in all factors except Internet connection problems.
- Education: Clients with degrees were less concerned about liberal influences, cost and computer terminology, more receptive to benefits of IB and more willing to learn about computers and the Internet than those educated to high school level and below.

10.2.7 To what extent are there differences between IB users and non-users in personal characteristics and in the factors that influence their intention to adopt IB?

The demographic profiles of IB users and non-users differed in the following respects:

- Gender: a higher proportion of users than non-users were male
- Age: users were predominantly concentrated in the middle age groups (25-45 years)
- Income: income of IB users was noticeably higher than that of non-users
- Education: IB users were better educated than non-users
- Occupation: private sector employees were more likely than government employees to be IB users
- Internet experience: IB users had considerably more Internet experience than non-users.

Factors influencing the decision to adopt IB differed between users and non-users as follows:

- IB non-users' intentions to start using IB were influenced by subjective norms and perceived trust.
- IB users' intentions to continue using IB were influenced by perceived relative advantage and compatibility, perceived ease of use, perceived self-efficacy perceived resource facilitating conditions and perceived website characteristics.

10.3 Contributions of the Research

10.3.1 Theoretical Contributions

This research has a number of theoretical implications and contributes to the state of knowledge of Internet banking adoption and online consumer behaviour research in e-marketing literature.

10.3.1.1 Implications for Internet banking adoption research

As noted previously, this research took as its starting point a body of literature on consumer behaviour in general, on the adoption of technology and other innovations, and on the acceptance of Internet banking in particular. This research had tended to assume a simple progression from non-use to established, continuous use (sometimes termed adoption) and to identify a set of factors assumed to influence "non-users" to become "users". Intention models used in previous Internet banking adoption research, such as the TRA (Fishbein and Ajzen 1975), TPB (Ajzen 1991), IDT (Rogers 1995), TAM (Davis et al. 1989) and DTPB (Taylor and Todd 1995_a) propose links between attitude, intention and behaviour and suggest determinants of intention, but they assume a single process by which the proposed factors influence intention and use, without considering whether there may be different kinds and levels of use, or whether the same factors influence each decision equally.

This research has added to understanding of IB adoption by examining differences between users and non-users. This is significant, since the present research suggests that there are essential differences between users and non-users, not only in their demographic characteristics, but also in the way they perceive the various factors examined in this research, for example, relative advantage, ease of use, trust, subjective

norms, and others. Completely different considerations, therefore, need to be applied to each group.

Very little research on Internet banking adoption has undertaken a dichotomous examination of IB users (as adopters) versus non-users (as non-adopters) in investigating the effects of adoption factors. Yousafzai (2005) in the UK, for example, investigated only users of IB, whereas Kuisma et al. (2007) in Finland investigated only non-users of IB. McKechnie et al. (2006) in England and Ravi et al. (2007) in India sampled both users and non-users of IB, but did not provide separate analyses for the two groups. The great majority of studies reported in Chapter Two used single, undifferentiated samples (although the findings sometimes revealed the percentage of respondents who had actually used the innovation in question, as in Shih and Fang's (2006) study of “potential” IB users in Hong Kong, which revealed that 34% of respondents already used IB). However, the results of the present thesis reveal that adoption factors can be perceived at two levels; the decision to start using IB, and the decision, once having used it, to continue, and different factors are salient in each situation. In this respect, the research offers a more nuanced perspective on the adoption phenomenon than is found in much previous research.

Another contribution to the theorizing of IB adoption research is an extension of the Decomposed Theory of Planned Behaviour (DTPB) (Taylor and Todd 1995a), by adding a very significant construct, namely, perceived "website characteristics" as a new factor in the Internet banking adoption context. Although several models and theories have been applied in previous research on Internet banking, such as the Theory of Reasoned Action (TRA), the Innovation Diffusion Theory (IDT), the Theory of Planned Behaviour (TPB), the Technology Acceptance Model (TAM) and the Decomposed Theory of Planned Behaviour (DTPB), none of these models specify which aspects of technology are influential, or in what way. This is a significant weakness, given that the Task Technology Fit Theory (Goodhue and Thompson 1995) suggests that evaluations of technology based on the correspondence between perceived functionality and user requirements influence utilization (Chae 2005).

In this thesis, accordingly, the construct "website features" is introduced and an argument made for the influence of perceptions of such features on adoption of new technology in general and Internet banking in particular. Drawing on evidence from previous research on particular website features in e-commerce generally (for example

Hong 2002; Ndubisi and Sinti 2006) and IB in particular (inter alia, Waite and Harrison 2002; Taylor and England 2006; Loonam and O' Loughlin 2008a), a list of potentially relevant features was drawn up, which can be used to operationalize the construct. Further, the construct is developed theoretically in relation to clients' needs at different stages of the decision-making process. The five stages have been defined and applied in a general marketing context (Arnould et al. 2004), in services (Zeithoul and Bitner 2005), financial services (Harrison et al. 2006), e-commerce (Frambach et al. 2007) and Internet Banking (Gan et al. 2006). However, this study makes a new contribution in explicitly and systematically mapping website features to the five steps. In so doing, the research demonstrates the value of expanding the DTPB with additional constructs relevant to the context of inquiry, since context-specific factors may be influential on certain behaviours, which may not be captured by the original DTPB. Moreover, it offers a systematic and detailed example of such a development for the IB context, which synthesizes insights from an extensive literature base.

10.3.1.2 Implications for online consumer behaviour in e-marketing literature

This research contributes to the understanding of online consumer behaviour in a new environment. Considering the Internet as a marketing channel, where most products and services can be presented, this technology needs to overcome many potential obstacles, if it is to be accepted. General research on consumer behaviour (Engel et al. 1995; Assael 2004; Schiffman et al. 2005; Solomon et al. 2006; Peter and Olson 2008) suggests that such behaviour is influenced by a variety of environmental (cultural, social, marketing, economic, technological) and individual (demographic, personal and psychological) factors. This research confirms and clarifies the role of such factors in relation to the take-up of IB in Saudi Arabia.

In particular, however, findings from this research suggest that it is crucial for consumer behaviour research to give greater consideration, in relation to this new medium, to the role of website design as a significant factor that affects the adoption of this technology. Technology is considered as a potentially influential environmental factor affecting consumer behaviour; for example Harrison et al. (2006) acknowledge the impact of the Internet on the lives of many consumers. The importance of website features for customer attitudes to IB has been noted by Shih and Fang (2006) and Kuisma et al. (2007) among others. This research, however, goes beyond those general findings. It shows that website features are especially important to customers in the

absence of direct interaction, and with high uncertainty, and possibility of limited trust. It argues that website characteristics should therefore be incorporated into e-marketing models to develop a better understanding of any new product or service offered via the Internet, and to examine the success of its acceptance and anticipated adoption.

Moreover, the findings of this research showed that website characteristics operate differently at each stage of the customer's decision-making process, which has been classified into five stages: need recognition, information search, information evaluation, the purchase decision-taking, and post-purchase (Engel et al. 1995; Cant et al. 2002; Arnould et al. 2004; Peter et al. 2005; Solomon et al. 2006). In order to design effective websites that attract consumers and support the B2C relationship, therefore, marketers and designers who engage in introducing a new application (product, service or implementation) through the Internet need to understand all these stages, and give explicit consideration to use of website features that operate effectively. Website features can be used to stimulate need recognition, to facilitate the client's search for and evaluation of information, to allay perceptions of risk in performing transaction, and post transaction, to alleviate cognitive dissonance and provide feedback on satisfaction. In relation to each of these stages, critical questions were formulated, which need to be answered in order to have a complete understanding of the role played by website features in the formation of consumers' behaviour intentions. Such an approach would extend marketing theory to take account of the new and distinctive retail environment created by the Internet. For businesses, it offers a framework which can guide their website design to play a more effective role in the marketing function and in the long-term relationship with clients.

10.3.2 Empirical Contributions

This research makes significant empirical contributions to the study of consumer behaviour generally and IB in particular, in two important areas: the implementation of a novel, sophisticated research design, and the extension of such research to a novel context, Saudi Arabia, where distinctive conditions apply.

As regards the research design, the actual methods used – interviews, content analysis and questionnaires – are standard and have been used by other researchers. Interviews have been used to investigate information on factors affecting IB adoption by, for example, McKechnie et al. (2006) and Kuisma et al. (2007). Questionnaires have

been used to gather data by, for instance, Teo and Tan (2000) and Tigre and Dedrick (2004). Content analysis of website pages has been used to gain insight into Internet phenomena by researchers such as Huarng and Christopher (2003) and Singh et al. (2005). What is new and distinctive in this research is the way several instruments were triangulated in a complex, two-phase design, which not only allowed complementary use of qualitative and quantitative data in each phase, but also allowed multiple comparisons between IB banks and their clients, and between IB users and non-users. Linkages were made within and across the research phases, to provide a multi-faceted picture of a phenomenon that has previously been the focus of one-dimensional designs, which failed to distinguish between IB users and non-users, and did not consider providers at all. In the first phase, concerned with the perspective of website providers, complementary use of semi-structured interviews with bank personnel and content analysis of the bank websites enabled actual provision to be viewed in relation to the rhetoric of intentions, each shedding light on the other. The interviews helped in understanding why certain website features were present or absent, what banks hoped to achieve and the constraints they faced. Conversely, the examination of website features provided evidence which helped to uncover bank managers' sometimes confused and conflicting interpretations of their customers' needs and of the regulations constraining bank activity. In phase two, interviews with bank clients provided initial insights into perceptions of IB and factors likely to influence related attitudes, intentions and practices. These, in turn, informed the design of a survey tailored – in both content and form of administration – to both users and non-users of IB. This design played an important role in the ability of the research to uncover and synthesize such data, and hence in its contributions to theory and practice.

Of particular interest is the application of this study in the Kingdom of Saudi Arabia, where specific institutional and cultural factors pose restrictions on the conduct of research. They also present an environment where there are distinctive influences on Internet and IB adoption, not uncovered in Western research. The Saudi environment is challenging for a researcher, because research generally is relatively novel and not well understood by many people. Moreover, cultural traditions of privacy can cause reluctance to participate and make access to potential respondents difficult. In particular, it is very difficult for a male researcher to elicit the perceptions of women, since face-to-face contact is culturally unacceptable. The researcher had to draw on his

knowledge of the culture in order to obtain a good level of response from a cross-section of Saudi citizens, male and female, and of various ages and backgrounds. In so doing, he was able to gain insights into how the Saudi regulatory environment, traditional gender roles, social solidarity and family values, for example, contribute in influencing the intentions of Saudi customers to start or continue using IB. Such insights demonstrate clearly the interest and value of exploring consumer behaviour in novel cultural contexts and open up the possibility of cross-cultural comparisons in the future.

10.3.3 Managerial Contributions

The findings of this thesis are important and relevant to banks, financial services institutions, Internet banking managers and the directors of e-marketing channels in Saudi Arabia. This research also makes an important contribution to Saudi society in general.

The provision of Internet Banking services is no longer adequate for obtaining competitive advantage in banking business; it has become a global trend and an essential component that banks must provide in their services package. Therefore, banks have to look for comprehensive understanding of the relationship of this technology with their clients in order to react swiftly and strategically to market developments in customer-centric ways.

In this respect, the findings of this research could be useful in pointing the way to developing appropriate strategies to increase the number of users who adopt this channel, thereby substantially reducing the cost of operation for banks, as other banking channels are still more costly compared to Internet banking. Such strategies, moreover, can be tailored to different groups - not only non-users and users, but also specific customer segments (for example, women, or particular education and occupation groups).

Here, some of the main practical implications of the thesis are highlighted in general terms; specific strategies for addressing the issues raised will be offered in the recommendations in section 10.5.

A major implication of the research findings for banks is the need for more appropriate and effective marketing strategies. Banks already engage in a variety of marketing efforts, but as discussed in Chapter Nine, there is evidence that these may

sometimes be misdirected or lacking in impact. Marketing messages are going unheard, or take forms that are not valued by clients.

It was clear from the research findings that some banks did not use the right marketing strategies to raise awareness of IB among clients. Clients did not receive adequate information about IB services. Using SMS, e-mail newsletters, and banner ads would not be suitable for new and light users, not to mention non-users. Of primary importance, therefore, are concerted efforts to raise awareness of IB among Saudi society in general. Such a campaign should not only draw attention to the availability of IB services, but should highlight the relative advantage to be gained from IB, and explain clearly what facilities and skills are needed to use IB, how to enrol with IB, and what support is available.

At a general level, it would seem important for bank-marketing strategists to place greater emphasis on encouraging non-user clients about the trustworthiness of banking online services, especially the security issue. Banks should consider how to change the attitude of their clients by highlighting the positive safety features provided with IB services. There is a need for effective advertising messages to clients that emphasize security standards which will offer a safeguard against any risk, in order to overcome the fears and negative perceptions of their clients, thereby enabling them to feel secure and comfortable in using IB services. It is particularly important that clients who do not yet use IB are reassured as to Internet security, since trust is a salient issue for this group.

Another practical lesson for marketers is the potential value of leveraging subjective norms. According to the findings, the influence of key members of the reference group is the greatest single factor affecting the intention of non-users to start using IB. Several aspects of Saudi culture – the traditional deference of younger to older members, the dependence of women on men, the importance of close family ties and social networks, all provide ample opportunity for attitudes and behaviour to be influenced, favourably or unfavourably, by others. These strong social ties can be exploited for marketing purposes in two ways: at the general level by presenting images of IB as socially accepted and associating it with appropriate role models; and at the individual level by targeting existing clients to exert their influence in favour of the bank's IB service. Such marketing strategies should be accompanied by standards of

service (including post-transaction) that promote client satisfaction and engender positive word-of-mouth.

In addition to the above implications for the content of marketing messages, the research findings have implications for their targeting. Promoting IB usage needs different marketing means to harmonise with targeted segmentation. Promotion messages and methods should be designed according to clients' characteristics such as gender, age, income, education level, experience with the Internet, and the level of involvement in banking business (number of banking transactions). Male clients are more likely to adopt IB than women, because of the Islamic tradition of male responsibility for financial affairs; moreover, they have strong influence on female members of the family. For this reason, it would be appropriate to target family men. At the same time, there is a potentially important female client segment who can be attracted by highlighting the comfort and convenience of IB – no public exposure, no risk of mingling with unrelated men, no long journeys to find a women-only branch or section.

However, irrespective of gender, the initial target to diffuse Internet banking in KSA should include the segments who have more Internet experience, are more educated, have greater income and longer working hours. In particular, the clients with greater Internet experience are more inclined to adopt Internet banking. According to the research findings, Internet experience and familiarity could be the most useful source of market segmentation. Banks may find it to their advantage to obtain information about the length and frequency of Internet use amongst IB non-users, in order to target those clients directly.

Finally, the research findings point to the importance of website features in influencing existing IB users to continue using it. As Internet banking has become more common and user-friendly, the public has become increasingly capable in its use. However, in the design and development of Internet banking, attention should be paid to practical functions and to extending the important features that are frequently required and consistent with clients' needs. Features that facilitate website navigation can enhance perceptions of ease of use and relative advantage, and contribute to a pleasurable and successful experience that builds clients' feelings of self-efficacy. Moreover, website features have been shown to have an important role in supporting bank clients at different stages of the decision-making process in obtaining information,

evaluating it and taking the decision to perform a transaction. Such features will therefore be important in retaining IB clients, and in encouraging their use of particular services and facilities offered by the bank. The implication, therefore, is that it will be worthwhile for banks to invest money, time and effort in enhancing their website, aesthetically and functionally, to provide the range of services that clients want, in a simple, easily-navigable and understandable format.

In order to address the issues highlighted in this section, a variety of actions can be taken, not only by banks themselves, but also by the agencies that provide the infrastructure and regulatory environment for IB. Some suggestions in this regard are offered in the next section.

10.4 Recommendations

In the light of the research findings, several recommendations are suggested:

10.4.1 To Saudi Arabian Monetary Agency (SAMA) and Saudi government:

1. SAMA can play an important role in influencing Internet banking adoption in the country, by setting up clear regulations. The rise of online banking necessitates rapid development of regulations and legislation to address the unique aspects of the online delivery channel. Moreover, confidence in Internet transactions could be increased by establishing and implementing specific regulations to clarify the legal liability of different parties in order to protect these parties from e-crimes, frauds and financial offences. Such offences should not be outside the law if we want to increase trust in e-transactions. Since IB is a new delivery channel, the laws and rules governing the electronic delivery of certain financial institution products and services may be ambiguous and still evolving in Saudi Arabia. This was shown in banks' different interpretations of their liability in relation to financial advisory services. Clarity on these matters would encourage banks to develop their advisory services and provide a framework within which competition could develop.
2. SAMA could encourage client-focused website design by awarding annual prizes for the most effective website design as voted by clients. This would encourage banks to consider client needs and develop alternative, easy-to-use websites.

3. Both government and banks could facilitate and encourage payment of some government fees online. Regular use of IB to perform these basic transactions would contribute in building experience with the Internet and IB which could provide a basis for a wider range of uses in the future.
4. A public awareness campaign aimed at all levels of Saudi society should be initiated to increase the level of awareness and knowledge of utilizing online banking services, especially the security and safety aspects of these services.
5. The cost of the Internet in Saudi Arabia is very high compared to other countries, while the capacity of the information infrastructure is inadequate. Therefore, if Saudi people are to enjoy the maximum benefit from online banking and Internet facilities in general, a significant investment in the information technology infrastructure is needed.

10.4.2 To Saudi banks

1. Banks should utilize various media channels to establish an extensive campaign to enhance and maximize awareness of Internet banking among non-users, and increase their perception of the relative advantage of using this service. IB non-users indicated that they had insufficient information about IB. Therefore, banks have to direct more effort into increasing awareness and trust in Internet banking transactions in order to reduce the gap between the adopters and the non-adopters.
2. Any marketing campaign strategy employed should exploit direct interaction to be more convincing, given the importance of face-to-face contact to Saudi clients, especially IB non-users. One suggestion would perhaps be to use the branch staff so relied upon by these clients as influencers/educators and through the branch platform promote more clearly the concept of Internet banking as a viable alternative to in-branch banking to this constituency. Saudi banks could motivate clients' interest, through having training sessions running continuously under banks' supervision, not only to increase awareness about IB but also to familiarise clients with the basic procedures. Initial encouragement is very important for some reluctant clients who do not have deep knowledge about IB services and their effectiveness. This could break the barrier between clients and technology, show them how easy using IB could be and make them see directly the relative advantage they could have if they use IB in their banking business,

which will improve clients' self-efficacy towards using IB and increase the possibility of IB adoption.

3. Research findings revealed the important role of the influence of subjective norms (family and friends) in influencing the decision of Internet banking adoption for non-users. Banks and marketers should consider this role and work to benefit from this influence by applying some marketing strategies related to reference group influence. For example, banks could encourage IB users to introduce IB services to their family members and friends, by giving motivational vouchers, financial rewards, or the offer of a period of free services.
4. Banks' initial targets to diffuse Internet banking in Saudi Arabia should be the segments which have longer Internet experience, greater income, higher education, private sector employees, and clients with longer working hours. Men and clients aged from 25 to 45 are more likely to accept the IB services. Banks should screen their clients' database to identify potential target clients and contact them by mail or phone to encourage them to start using IB services. Banks could train their employees also to check out the clients' information when they are visiting bank branches or phoning the call centres, to detect if they are potential targets for IB and then try to persuade them personally to start using IB and show them how to register. Personal communication with clients could be more effective in the Saudi context.
5. The number of Internet banking users could be increased by providing several incentives at first. For the first time registration, an incentive should be given in order to attract non-users to register. Several incentives could be given also for light users, as they could revert to being non-users. Light users' retention should be maintained with various ongoing incentives. However, any incentive programmes should be based on sound market research, in order to ensure that the incentives offered are those genuinely valued by existing and potential clients.
6. To make Internet banking easer, designers should focus on website navigation and applicable functions to cater to the needs of various user segments. A sound principle would be to simplify the Internet website design as much as possible, especially considering the low levels of experience of many clients, to create a

good first impression, engender confidence in ease of use, and avoid any confusion that could undermine client self-efficacy. Familiar features such as those used in ATMs would facilitate clients' use of the new technology. In addition, banks need to show clearly that help is readily available, either on the website itself or in other ways. Confidence may be remarkably affected by worries that help is difficult to obtain when faced with difficulties during carrying out transactions through IB.

7. As familiarity with and use of IB increase, banks could increase the options to the clients as they request and according to their needs. Personalized Internet accounts according to clients' need is something that needs to be given serious consideration by banks, to ease the navigation of content and provide a clear understandable interface. Banks could use several templates to fit different segments of clients, starting from the simplest design, which could be similar to an ATM interface design, to more complicated templates that suit other clients' profiles and are compatible with their needs and interests.
8. Banks should understand and provide features and components that add value to IB users. Therefore, since the IB users as shown in this research did not see much value in the features related to the first stage (need recognition) and the last stage (post-transaction) of the DMP, it will help both the users and the banks to minimise them, and in their place improve on the features related to the second, third and fourth stages of the consumer decision-making process. In particular, this means facilitating the information search process, providing the kinds of information clients want (such as financial advice and stock market information) and providing tools that help them to evaluate information, such as simple ratios, graphs and charts, and expert reports.
9. Banks' employees, especially those in phone call centres or working in client service at branches, need periodic training programmes to increase, develop, and enhance their ability not only to answer clients' enquiries but also to encourage them to use Internet banking.
10. Although the research found that there is a positive influence of website design on the decision of Internet banking adoption, e-marketers and bankers should not stop at this point. In order to retain clients, win back "drop-outs" and continue to enlarge the client base, they will need to keep studying the impact of the new

channel on clients, as one of the most important objectives of marketing activities is to know and understand your targeted customers. This could be achieved by conducting ongoing research and closely following-up and measuring customer satisfaction in regard to products and services provided, in order to revise the applied strategies. The rapid development in e-banking services and website design technology requires such activities to be conducted continuously.

10.5 Limitations

Due to time and resource constraints, like any research, this study is subject to certain limitations regarding context and choice of method, which need to be taken into account in interpreting and attempting to generalize the findings.

One limitation of this research was the difficulty of eliciting the views and experiences of Saudi women with regard to online banking. It is not clear how far the limited number of Saudi women may reflect a difference in banking usage, and how far it is due to the cultural constraints inhibiting access by a male researcher. In order to obtain a comprehensive understanding of the Saudi women's perspective, future research by a female Saudi researcher could illuminate these circumstances and provide additional information for understanding of this subject.

The clients that participated in the second phase were clients of Al-Rajhi and Riyad banks. Therefore, there is no assurance that they would be representative of Saudi clients of other Saudi banks, which may offer different services or target different consumers. This limitation could be overcome by considering clients of more financial services organisations in future research efforts.

A further limitation is that this study was limited to Saudi banks and Saudi clients. However, as earlier chapters have shown, there are a number of foreign banks operating in KSA, and there is a large proportion of the population who are expatriates. It is possible that foreign banks may offer different services, or be subject to different regulatory and other influences. Foreigners living and working in KSA may differ from nationals in their banking needs (e.g. to repatriate earnings to their home country) and/or experiences of both banking and the Internet, which might lead them to respond differently to IB. It would be worthwhile in the future to investigate how IB is

practised and perceived by groups other than Saudis, to obtain a more comprehensive picture.

10.6 Future Research

Some implications for future research have already been derived, based on methodological considerations, in the previous section. In this section, suggestions are put forward for further research specifically to build on the findings of this study.

Further investigation of the proposed model in different countries, in order to understand cross-culture effects on IB adoption, would be a productive direction for future research, since this is needed to verify the extent to which the findings of this research can be generalised, especially in countries that have the same pattern of culture and technology development factors, such as Arab and Islamic countries.

The present study made a preliminary step towards a better understanding of the interaction between website characteristics in relation to the decision-making process and clients' adoption. Further research could build on this contribution by looking in more detail at a particular stage of the decision-making process, in order to investigate in more detail the influences of website characteristics and design on the consumer purchasing behaviour. The examination of more detailed aspects of the decision-making process in purchasing banking products and services through Internet banking would be a promising area for future research.

Many differences were found between the two groups of Saudi clients (IB users and non-users). One of the essential conclusions is that experience on the Internet seems to have a powerful effect on IB perception, attitude, and intention to adopt IB. Other differences were found between those who have used the Internet for a long time and those who have not, in both groups. This finding certainly deserves additional investigation. Future research could also go further by examining differences between experienced and novice users of online banking, and between Internet users and nonusers among IB non-users.

Generally, it appears that academic research on the applications and theoretical implications of this relatively novel technology will lag behind evolving technology. Therefore, the ongoing evolution and growth of Internet banking demand that regular tracking with longitudinal studies be implemented.

A number of possible explanations have been suggested for the lack of influence of post-transaction features on bank clients' IB adoption intentions, which runs counter to expectation from customer satisfaction literature. These include availability of alternatives, switching costs, and use of other sources of support. At present, such explanations are purely speculative. Research is needed to focus more specifically on this stage of the DMP, to examine more closely the issues of post-purchase behaviour and customer satisfaction, and to obtain a better understanding of how IB clients respond to those two factors. Such a study would not only be of interest in the IB context, but could contribute to theories of customer satisfaction.

10.7 Concluding Remarks

The rapid growth of the Internet makes possible means of service delivery, such as Internet banking, which offer a number of potential advantages to banks and their clients alike. In Saudi Arabia, intention to start or continue using this recently-introduced service has been shown to depend on a complex array of psychological, educational, economic, technical and marketing issues including, significantly, the design of the website itself. The insights afforded by this thesis can help Saudi banks to understand their clients better. They will thus be better equipped to improve their website design and marketing strategies to raise awareness of IB, and provide appropriate information and support for clients throughout the decision-making process. In this way, it is hoped that the research will contribute in laying the foundation for the more effective development and wider adoption of Internet services in Saudi Arabia, to the benefit of the Saudi citizens, the banks and the economy as a whole.

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Appendices

Appendix I Important letters

Letter 1

Marketing & Communication

بنك الرياض
riyad bank

To : The Center of Marketing, Communications and International Strategy at the University of Hull

Ref. : 70/51
Date : 17.08.1429H
Corres: 20.08.2008

This is to certify that our Bank provided the researcher (Mr. Abdullatif Alhudaithy) from Hull University in England, the supportive and assistance which include the following:

- Sending online questionnaire to online clients, who are using Internet banking services, through their e-mails.
- The Marketing Research Department helped the researcher in coordination with ten branch managers in Riyadh Region to allow him to distribute written questionnaire for those who are not using the internet banking services, and according to researcher request, those branches covering various areas in Riyadh Region.
- The bank provided the necessary assistance to the researcher for sending those questionnaires to other five ladies branch in Riyadh region and receiving the replies then given it back to the researcher.

Mr. Abdullah Al-homimidi, Head of Marketing Research Department, was pointed as a general coordinator for this project.

For additional information regarding to this subject, please feel free to contact us

Yours faithfully,

Mohamad Al-Rabeah
Senior Vice President
Head of Marketing & Communication
P O Box 22608 Riyadh 11416
Saudi Arabia
Tel. 00966(0)14013030 Ext. 3990
Mohamad.al-rabeah@riyadbank.com

Letter 2

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
King Khalid University

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك خالد

12 March 2008

- To Whom It May Concern -

On the basis of charging department of the Business Sciences for me for supervision and following up Mr. Abdullatif Ibrahim Alhudaithy during his scientific visits for the Kingdom to collect data for his doctoral research, which he perform it, I would like to confirm that I did the actual supervision on the researcher during the two visits to the Kingdom in Summer of 2007, and in Winter of 2008. And I have followed up closely the methods and techniques of field work that he performed it and representing in the followings:

1. Interviews with the banks Internet directors in the Saudi Banks (11 interviews).
2. Content analysis of the banks' sites on the Internet.
3. Interviews with Saudi clients as following: 20 interviews with on-line clients, and 20 interviews with off-line clients.

Mr. Alhudaithy was given this letter at his request.

Regards,

Abu Seada

Dr. Ibrahim M. Abu Seada
Associated professor,
Dep. Of the Business Sciences

KING KHALID UNIVERSITY

Dr. Ibrahim M. Abu Seada
Associated professor,
Dep. Of the Business Science
King Khalid University
T:+966(0)72292951
M:+966(0)507391478
abuseada@hotmail.com

الرقم : ..... التاريخ: / / ١٤ هـ المرفقات : .....

Kingdom of Saudi Arabia
Ministry of Higher Education
KING SAUD UNIVERSITY
Risalat Al Jamiah
A weekly Newspaper
Published by Dept. of Mass Communication
College of Arts

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك سعود
رسالة الجامعة
صحيفة اسبوعية يصدرها قسم الإعلام
بكلية الاداب

١٣٧٧ - ١٤٢٧ هـ

No.: ..... الرقم: Date..... التاريخ

30/8/2008

To Whom It May Concern

I am, Mr. Hesham Sayed Mohamad, working as a Researcher Assistant at King Saud University. I confirmed that I provided all supporting and assistance that given to Mr. Abdullatif Alhudaithy from Hull University regarding transferring his research data to SPSS program, where we had cooperate with him in reviewing, coding, and entering 409 questionnaires, which related to his research sample that presents Saudi clients who do not use Internet Banking services.

This letter has given to Mr. Alhudaithy at his request.

Yours faithfully,

Hisham Sayed Moahmed
Researcher Assistant
King Saud University
Tel. 00966 (0) 2124128
Hesham_seid@yahoo.com

P.O.Box, 2456, Riyadh 11451 Tel. 467-3555 Fax:467-3479
www.ksu.edu.sa/resalah العنوان على الإنترنت
ص.ب. ٢٤٥٦ الرياض ١١٤٥١ ت/ ٤٦٧-٣٥٥٥ فاكس: ٤٦٧-٣٤٧٩
resalah@ ksu.edu.sa البريد الإلكتروني

Letter 4

مصرف الراجحي Al Rajhi Bank

2008/1/ 28

الزملاء الأفاضل مدراء فروع المصرف التالية
الورود – اسواق الشمال – العليا – الربوة – الديرة

السلام عليكم ورحمة الله وبركاته وبعد

أفيدكم أن الطالب / عبدا للطيف إبراهيم الحديثي لديه موافقة من المصرف لعمل عدد 6 لقاءات فقط في كل فرع مع ستة عملاء لغرض إتمام متطلبات إعداد رسالة الدكتوراه عن المواقع الالكترونية للمصارف السعودية .

آمل التكرم بالسماح له بإجراء هذه المقابلات .

وتفضلوا بقبول خالص التقدير والاحترام

محمد اليامي

مدير العلاقات العامة

= صورة مع التحية والتقدير لسعادة مدير شبكة الفروع .

شركة الراجحي المصرفية للاستثمار
ص ب 28 الرياض 11411 المملكة العربية السعودية
هاتف 6000 211 1 966+ تلكس 406317

Al Rajhi Banking & Investment Corp.
P O Box 28 Riyadh 11411 Kingdom of Saudi Arabia
Tel +966 1 2116000 Tlx 406317
www.alrajhibank.com.sa

Al Rajhi Bank

28/1/2008G

M/S Managers of the Following Branches
Al-Wroud, Al-Shamal Markets – Olaya – Rabwa – Dira

Dear Sirs,

I would like to bring to your kind notice that student **ABDULLATIF IBRAHIM AL HUDAITHY**, has got permission from the bank to make 6 interviews only at every branch with six customers for the purpose of completing requirements of preparing his PhD thesis about websites of the Saudi Banks.

Please, allow him to carry out these interviews.

Best regards,

Muhammad Al-Yami

Public Relations Manager (signed)

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
King Khalid University
College of Languages and Translation

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك خالد
كلية اللغات والترجمة

TO WHOM IT MAY CONCERN

This is to certify that Mr. Abdulatif Ahudaithy asked me in July 2008 to review two questionnaires related to his Ph.D dissertation titled *Influence of Website Design Features and Consumer's Characteristics on Internet Banking Adoption: Saudi Arabia Perspective in terms of translation*. To the best of my knowledge, the translation was professionally done and fully corresponds to the English version.

Please don't hesitate to contact me with any questions you may have.

Sincerely,

Abdulaziz Fageeh

Dr. Abdulaziz I. Fageeh
Assistant Professor of Applied Linguistics
English Department
Faculty of languages and translation
Email: fageeh@hotmail.com

King Khalid University
College of Languages & Translation
Dept. of English

Letter 6

بسم الله الرحمن الرحيم

٢٠٠٨/٦/٢٦

سعادة رئيس مجلس إدارة بنك الرياض المـوقر

السلام عليكم ورحمة الله وبركاته ،،،،،

يسعدنا أن نخبركم بأننا في مركز التسويق والاتصالات والاستراتجيات الدولية بجامعة هل في إنجلترا نقوم بالدراسة التالية:

Influence of Website Design Features and Consumer's Characteristics on Internet Banking Adoption: Saudi Arabia Perspective

إن تطبيقات الإنترنت البنكي المختلفة اكتسبت أهمية متنامية في تقديم الخدمات المالية حول العالم. ودراستنا الحالية قد قطعت شوطا كبيرا في دراسة وتحليل المواقع البنكية السعودية استنادا على بعض النظريات التسويقية حيث أنها قد أنجزت خلال العامين ٢٠٠٦و ٢٠٠٧ المرحلتين الأولى والثانية منها كم أنها توصلت إلى العديد من النتائج والتوصيات المهمة.

ونحن في هذا المركز نقدر قبولكم للمشاركة معنا في هذه الدراسة المهمة خلال مرحلتها الثالثة بإرسال استبانه قصيرة تم تصميمها لترسل إلى عينة عشوائية من عملائكم عن طريق الإيميل.

إن مشاركتكم معنا في هذا البحث سيعطيكم الحق في الاستفادة الكاملة من نتائجها بالإضافة إلى توصياتها حيث سترسل لكم في المستقبل القريب. ولا يفوتنا أن نؤكد لكم على أن الأسئلة لا تحتوي على أيه معلومات سرية أو خاصة كما أن إجابات العملاء ستستخدم لأغراض البحث العلمي فقط.

بقي أن نشكركم مقدما على تجاوبكم وتعاونكم الكريم معنا.

وتقبلوا أطيب التحيات،،،،

البروفسور فيليب كيتشن
رئيس مركز أبحاث التسويق
مدرسة إدارة الأعمال
جامعة هل، يورك شير، إنجلترا

عبداللطيف الحديثي،مرشح لنيل درجة الدكتوراة
التسويق الالكتروني، مدرسة إدارة الأعمال
جامعة هل، يورك شير، إنجلترا

THE UNIVERSITY OF HULL

Influence of Website Design Features and Consumer's Characteristics on Internet Banking Adoption: Saudi Arabia Perspective

We are pleased to inform you of the aforementioned study, which we are currently undertaking at the Centre of Marketing, Communications and International Strategy at the University of Hull, England. The topic of Internet banking services is gaining increasing attention in financial services sectors all around the world. Indeed the impact of Internet services and the demand for on-line customer products and support is growing at an alarming rate.

The purpose of this research is to:

a Identify a comprehensive set of potential factors influencing adoption of Internet banking services by consumers in Saudi Arabia;

b Measure perceptions of Banking Website features in relation to consumer purchasing behaviour on adoption of Internet banking services in Saudi Arabia

We would be most grateful if your bank could participate in this important research by sending out a limited online questionnaire to a random sample of your on-line clients through clients' E-mail.

The questionnaire has been designed to minimise effort. We anticipate that it will not take more than 15 minutes to complete all of the sections. Anonymity and confidentiality are of course fully guaranteed.

Being participants in this research will give the bank the right to receive an executive summary of the key research findings of this valuable study. We would like to thank you in advance for your support and kind co-operation.

Yours faithfully,

Prof. Philip Kitchen
Director - Research Centre for Marketing,
Communications, and International Strategy
The Business School
Hull, UK HU6 7RX
E: p.j.kitchen@hull.ac.uk

Abdullatif Alhudaithy
Doctoral Researcher

THE MASTERS OFFICE
THE BUSINESS SCHOOL
THE UNIVERSITY OF HULL
HULL
HU6 7RX

Letter 7

KINGDOM OF SAUDI ARABIA
Ministry Of Higher Education
King Khalid University

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الملك خالد

إدارة التطوير الإداري والابتعاث والتدريب

الى من يهمه الامر

السلام عليكم ورحمة الله وبركاته وبعد:

أفيدكم بأن الباحث/ عبداللطيف بن ابراهيم الحديثي ، أحد الطلاب المبتعثين الى بريطانيا للحصول على درجة الدكتوراه في تخصص ادارة أعمال.

وتهدف رسالة الدكتوراه التي يقوم بها الى دراسة المواقع البنكية السعودية على الشبكة الالكترونية لمعرفة ملائمتها من وجهة النظر التسويقية الحديثة لثقافة المجتمع السعودي وللعميل السعودي بشكل خاص.

وحيث أن هذه الدراسة تتطلب الحصول على بعض المعلومات والبيانات الاحصائية وأجراء بعض المقابلات.

آمل التكرم بمساعدته في جمع المعلومات المطلوبة.

وتقبلوا سعادتكم أطيب تحياتي،،،،

وكيل الجامعة
للدراسات العليا والبحث العلمي
أ.د. محمد بن علي آل هيازع

جامعة الملك خالد
التطوير الإداري والابتعاث والتدريب

١٣٥٨.

الرقم : ..... التاريخ : / / ١٤ هـ المرفقات : .....

ص.ب ٩٦٠ ؛ ٠٧٢٢٩٠٩٩٢/٣٤٢١ ؛ ٠٧٢٢٩١٥٢٨ ؛ E-mail:tadreeb@kku.edu.sa

THE UNIVERSITY OF HULL

To: His Royal Highness Prince Mohammed bin Nawaf
Ambassador of the Kingdom of Saudi Arabia to the United Kingdom and Ireland
Royal Embassy of Saudi Arabia

19th October 2009

Your Royal Highness,

Recently, an Arab student from the Kingdom of Saudi Arabia – soon to be – Dr. Abdullatif Alhudaithy – submitted and defended his thesis titled:

> "The Influence of Website Design Features and Consumer Characteristics on Internet Banking Adoption in Saudi Arabia"

This outstanding young man produced an excellent thesis and oral defence. His work and standards have been exemplary throughout his time at the University of Hull Business School. May I offer the following points as proof of his exceptional work:

1. The thesis was very well written and equally well defended. Notably, he passed the viva voce examination 'without amendment'. He is indeed the first student in the Business School at Hull University to achieve this accomplishment since the Business School was established.
2. The thesis has produced demonstrable significant contributions to knowledge, theoretically, empirically, and managerially.
3. Five papers have been produced from the thesis so far, some of which have been published, and others are under review with excellent academic journals. His first paper, presented in a conference, won major plaudits and conference prizes.
4. The thesis incorporates an exceptionally elegant research design in terms of adoption research. This in itself forms a sound extension to the literature.
5. The Editor of Bank Technology News, a publication in the practitioner domain, has asked Dr. Alhudaithy to write an article on his work.

The University of Hull
Business School
Kingston upon Hull HU6 7RX
UK

Professor Philip Kitchen
Marketing and Business Strategy
The University of Hull
Hull, HU6 7RX, United Kingdom
T: +44(0) 1482 463532
F: +44(0) 1482 463689
E: p.j.kitchen@hull.ac.uk

6. Based on some of the findings of the conceptual foundations of the thesis, Dr. Alhudaithy has been asked to be a reviewer for Tourism Management, a 4* world class journal.
7. The external examiner of the thesis, a Professor at a leading University, commented 'this young man is a credit to the Business School'.

On a personal note, my experience of supervising Dr. Alhudaithy is that he is a bright, extremely intelligent and personable young man. He is a credit to his sponsors and to his country, and he is an exceptional ambassador for the Kingdom of Saudi Arabia and for the Arab world.

Yours Sincerely,

Professor Philip J. Kitchen
Research Centre Director and Personal Supervisor

The University of Hull
Business School
Kingston upon Hull HU6 7RX
UK

Professor Philip Kitchen
Marketing and Business Strategy
The University of Hull
Hull, HU6 7RX, United Kingdom
T: +44(0) 1482 463532
F: +44(0) 1482 463689
E: p.j.kitchen@hull.ac.uk

THE UNIVERSITY OF HULL

THE BUSINESS SCHOOL

To: The Saudi Arabian Cultural Attaché

29th July 2009

Abdullatif Alhudaithy

Dear Sir,

I am writing in support of Abdullatif Alhudaithy's application for a prize as one of the 'excellent students' sponsored by the Saudi Arabian Government.

He has been an excellent student at Hull, attracting attention for his commitment to his studies, and we fully expect him to successfully defend his thesis in October 2009.

More than this, a working paper presented by him at an international conference was chosen as one of the best three papers submitted to the conference and commended at the closing ceremony as 'a noticeably outstanding paper'. It is not surprising, therefore, that he has already had one academic paper published in a journal this year and others are in the pipeline.

We are very proud of Abdullatif Alhudaithy at Hull University Business School and believe his efforts are worthy of recognition by the Saudi Arabian Government.

Yours sincerely,

Professor Mike C Jackson
Dean of Hull University Business School.

The University of Hull
Business School
Kingston upon Hull HU6 7RX
UK

Professor M.C. Jackson
Dean
The Business School
The University of Hull
Hull, HU6 7RX, UK
T: +44 (0) 1482 463002
F: +44 (0) 1482 463492
m.c.jackson@hull.ac.uk

THE UNIVERSITY OF HULL

Business School

To: Royal Embassy of Saudi Arabia
Cultural Bureau in London
Professor Ghazy Al Makky
Saudi Arabian Cultural Attaché

15th October 2009

Dear Sirs

With regard to the annual prize awarded to the best Ph.D. thesis in the Arab world by the Arab Administrative Development Organization, I would like to draw your attention to Abdullatif Alhudaithy. He has recently submitted and defended his thesis successfully which was entitled

'The Influence of Website Design Features and Consumer Characteristics on Internet Banking Adoption in Saudi Arabia'

This work was of an outstanding nature and his oral defence was exceptional. I have known Abdullatif for the whole of the four years he has been studying at Hull and throughout this time his work has been outstanding. If I may, I would like to draw your attention to the following points that illustrate just how good this thesis is.

- The work was of an excellent quality, it was intelligently conceived, the research problem was well formulated and had a strong methodological foundation. The research design was innovative and provides a significant contribution to the literature.

- It was very well written providing an important contribution to knowledge both in managerial and theoretical terms.

- Abdullatif provided an exemplary defence of his thesis and the result from the viva voce was 'pass without amendment'. This is a stunning achievement and he is the only student who has accomplished this throughout the last 3 years across the whole of the university.

- Throughout the period of research Abdullatif has worked to publish in academic journals. So far he has successfully published 5 papers with others under review

Doctor Dianne Dean
Lecturer
Business School
The University of Hull
Hull, HU6 7RX, UK
T: +44 (0) 1482 463340
D.M.Dean@hull.ac.uk

and this highlights the originality of the research. Currently he has a number of other papers under review with high ranking academic journals. He has also won prizes for his conference paper presentations.

- In terms of practitioner journals, Abdullatif has been asked to contribute an article to the Bank Technology News and has been asked to be a reviewer for Tourism Management a leading 4* journal.

During my experience of supervising Abdullatif I have been impressed with his ability, his attitude and his personable manner. He was commended by the external examiner as being a 'credit to the Business School', I would agree entirely. He has been a pleasure to work with and I would recommend most highly him for the prize awarded by the Arab Administrative Development Organization.

Yours sincerely

Doctor Dianne Dean

Doctor Dianne Dean
Lecturer
Business School
The University of Hull
Hull, HU6 7RX, UK
T: +44 (0) 1482 463340
D.M.Dean@hull.ac.uk

Appendix II Interview schedule for banks' managers

Phase 1 (A): Interview Schedule

General Questions:

1. What are the objectives behind the application and development of your online facilities? To what extent does Internet banking help Saudi customers purchase financial services?

   Purpose: To obtain information about the main objectives

2. Do you have any clear strategies for increasing your online customers in the next three years? What is your plan to enable this increase to continue? How can you attract (convert) offline customers to be online customers? What methods are you using to encourage customers to use online banking facilities?

   Purpose: To obtain information about specific plans, means or methods to increase using of internet banking

3. What do you think are the main barriers to the success of online banking in the KSA?

4. What difficulties and problem in terms of your customers were (faced) overcome when you set up online banking facilities? In your view, why do some Saudi customers use online banking facilities and some not?

   Purpose: To determine the main obstacles to use of Internet banking by clients in the KSA

Questions related to the consumer's purchasing DMP

Stage 1: Need Recognition

1. How do you identify clients' needs?
2. How are these needs reflected in the bank's website contents?
3. What methods are you using through the Internet to motivate clients' needs?
4. In regard to triggering clients' needs, what types of appetizers, advertisements, and incentives do you provide on your website?

Stage 2: Information Search

1. What methods are you using through the internet to help customers obtain banking information that they are looking for?
2. In regard to offering information that customers may look for, what type of search functions, indexes, lists, open interactions, and opportunities for answering questions does the Website provide?
3. Does the Website facilitate online customers' obtaining economic or financial information by giving them access to relevant data and links from a variety of private, commercial, or public sources? Explain, please?

Stage 3: Information Evaluation

1. Do you help online customers to evaluate the different products, services and information provided by your bank? How is this done?
2. Does the bank's Website provide a mechanism to allow access to financial advice?

3. Do you provide links to related pages to facilitate evaluation of information? (Explain please)?

4. Do you provide tables, figures, and statistical data to help customers in service and product selection? (Explain please)?

5. Does the Website provide all the information that consumers need to obtain services without visiting or contacting the bank? (Explain please)?

Stage 4: Purchase Decision

1. Security of online banking Websites is a very crucial issue. How can you show to your online customers that you are dealing with this matter effectively?

2. How can your bank build (and increase) customers' trust in your reliability in regard to using your online facilities?

3. To what extent does the bank website provide capability for interaction to a wide range of services and products? In your opinion, what types of banking products or services are not suited to an online bank website?

Stage 5: Post-purchase Behaviour

1. What is your bank strategy to develop appropriate online techniques to reduce the level of post-purchase doubt?

2. What are your bank strategies and mechanisms to measure and evaluate levels of online customers' satisfaction?

3. What mechanism do you have to facilitate inquiries and complaints in your bank's Website? Does the bank's Website provide confirmation materials with reference numbers for all online transactions to online users?

4. Do you provide any kind of online technical support? (Explain please)?

Standardized Questions

1. For how long has your bank provided online banking services?
(You can choose from these alternatives if you don't want to give the exact number)

□ Less than 3 years
□ 3 to less than 5 years
□ 5 years or more

2. What is the percentage of your online bank customers out of the total customers?
(You can choose from these alternatives if you don't want to give the exact number)

□ Less than 10%
□ 10% to less than 30%
□ 30% or more

3. What is the percentage of your online bank transactions out of the total transactions?
(You can choose from these alternatives if you don't want to give the exact number)

□ Less than 10%
□ 10% to less than 30%
□ 30% or more

5. What is the total number of your online banking pages?
(You can choose from these alternatives if you don't want to give the exact number)

□ Less than 500 pages
□ 500 to less than 1000pages
□ 1000 pages or more

THANK YOU VERY MUCH FOR YOUR PARTICIPATION IN THIS STUDY

Appendix III Interview questions for IB non-users

Interview Questions for IB Non-Users

1. Tell me more about your knowledge and experience of computers and the Internet in general?

-When did you start using them?
-What are the main reasons behind using them?

2. What access do you have to the equipment necessary to use the Internet?

-Personal computer
-Internet connection
-Home, work, somewhere else

3. What is the first thing that comes to your mind when I mention "Internet banking" (IB)?

4. Does anyone from your family use IB? Tell me more about this?

-Do you chat with them about it?
-Learn something from them
-Talk about their experiences
- How do they use it?

5. Do any of your friends use IB? Tell me more about this?

6. What do you think about IB services?

-Regarding yourself?
-Regarding the society?

7. How do you feel about the safety of IB?

-Reliability
-Security
-Privacy
-Trustworthy

8. In your view, does using IB reflect upon a person's social status?

-Perceiving others who use IB
-Prestige
-How?

9. What are the main reasons that discourage you in using IB?

Obstacles/Barriers?
Problems?

10. In your view, what are the main reasons that would encourage you to use IB in the future?

Perception of incentives?

11. Tell me about the benefits that you think you would obtain if you used IB?

-Perception of usefulness

12. In your view, how easy do you think IB would be?

-Is it easy to learn it?
-Is it easy to be skilful?

13. Before using Internet banking, how important is it to you to try it out?

14. Can you tell me how you think IB would fit with your banking needs?

Appendix IV Interview questions for IB users

Interview Questions for Users

1. Tell me more about your knowledge and experience of computers and the Internet in general?

-When did you start using them?
-What are the main reasons behind using them?

2. What access do you have to the equipment necessary to use the Internet?

-Personal computer
-Internet connection
-Home, work, somewhere else

3. What is the first thing that comes to your mind when I mention "Internet banking" (IB)?

-Attitude
-Like? Dislike?
-Problem? Useful?
-Easy to use?
-Can it be trusted?

4. Does anyone from your family use IB? Tell me more about this?

-Chat with them about it
-Learn something from them
-Talk about their experiences
- How do they use it?

5. Do any of your friends use IB? Tell me more about this?

6. What do you think about IB services?

- Regarding yourself?
- Regarding the society?

7. What do you think about IB websites?

-Appropriateness
-Clear-Understandable-Useful
-Considering customers' needs
-Positive and Negative points
-How can they affect you?

8. How do you feel about the safety of IB?

-Reliability
-Security
-Privacy
-Trustworthy

9. In your view, does using IB reflect upon a person's social status?

-Perceiving others who use IB
-Prestige
-How?

10. Tell me more about your experience with the IB?

11. What are the main reasons that encourage you to use IB?

Incentives?

12. In your view, what are the main problems that would discourage you to keep using IB?

Perception of obstacles?
Problems? Discomfort?
Insecurity?

13. Tell me about benefits you have obtained from using IB?

14. How easy do you find it to use IB?

-What is easy?
-What is difficult?

15. Does IB fit well with all or some aspects of your banking needs? (explain)

16. Tell me about advertisements on IB websites?

-Kinds of ads
-Readable, captivating, interesting
-Valuable, useful
-Motivate you

17. Tell me if you use IB websites to search for information? How do you find it?

-Information tools
-Useful, save time
-Easy
-Valuable

18. Tell me more about what you think of information on the banking website?

19. Tell me about your current transactions that take place via Internet banking?

-Percentage
-Type of transactions

20. Regarding IB, what do you think of issues such as security, trust, fraud, and the possibility of mistakes (something going wrong)?

21. When you performed transactions online, how did you feel about it?

-Did it work well-badly?
-Were you satisfied?
-How did you act?

Appendix V Interviewees' demographic characteristics

Interviewee Number	*IB Using*	*Gender*	*Age*	*Internet Experience*	*Monthly Income*	*Educational Level*	*Occupation*
Interviewee 1	N	M	Over 55 *yr*	*Non Experience*	*Over 20000 SR*	*Bachelor degree*	*police or armed forces*
Interviewee 2	N	M	36-45 *yr*	*3 >5 yr*	*4000 >8000 SR*	*High School*	*Civil servant*
Interviewee 3	N	M	46-55 *yr*	*Less than 1 yr*	*12000 >16000 SR*	*Bachelor degree*	*police or armed forces*
Interviewee 4	N	M	36-45 *yr*	*1>3 yr*	*12000 >16000 SR*	*Bachelor degree*	*Civil servant*
Interviewee 5	N	M	36-45 *yr*	*5 >7 yr*	*12000 >16000 SR*	*Bachelor degree*	*police or armed forces*
Interviewee6	N	M	36-45 *yr*	*3 >5 yr*	*12000 >16000 SR*	*Bachelor degree*	*Civil servant*
Interviewee7	N	M	36-45 *yr*	*3 >5 yr*	*12000 >16000 SR*	*High School*	*Self-employed*
Interviewee 8	N	M	26-35 *yr*	*Non Experience*	*4000 >8000 SR*	*High School*	*Civil servant*
Interviewee 9	N	M	26-35 *yr*	*1>3 yr*	*Less than 4000 SR*	*High School*	*Self-employed*
Interviewee 10	U	M	18-25 *yr*	*3 >5 yr*	*4000 >8000 SR*	*Less than High School*	*Student*
Interviewee 11	U	M	26-35 *yr*	*3 >5 yr*	*12000 >16000 SR*	*Bachelor degree*	*Private sector employee*
Interviewee 12	U	M	18-25 *yr*	*3 >5 yr*	*8000 >12000 SR*	*High School*	*Self-employed*
Interviewee 13	U	M	26-35 *yr*	*7 yr or more*	*12000 >16000 SR*	*Bachelor degree*	*Civil servant*
Interviewee 14	U	M	36-45 *yr*	*1>3 yr*	*16000 >20000 SR*	*Bachelor degree*	*police or armed forces*
Interviewee 15	U	M	18-25 *yr*	*3 >5 yr*	*4000 >8000 SR*	*High School*	*Student*
Interviewee 16	U	M	26-35 *yr*	*7 yr or more*	*12000 >16000 SR*	*Bachelor degree*	*Civil servant*
Interviewee 17	U	M	36-45 *yr*	*7 yr or more*	*16000 >20000 SR*	*Bachelor degree*	*police or armed forces*
Interviewee 18	U	M	18-25 *yr*	*5 >7 yr*	*8000 >12000 SR*	*Bachelor degree*	*Private sector employee*
Interviewee 19	U	M	36-45 *yr*	*7 yr or more*	*16000 >20000 SR*	*Master degree*	*Civil servant*
Interviewee 20	U	M	36-45 *yr*	*Less than 1 yr*	*16000 >20000 SR*	*Bachelor degree*	*Self-employed*
Interviewee 21	U	M	26-35 *yr*	*5 >7 yr*	*12000 >16000 SR*	*Bachelor degree*	*Private sector employee*
Interviewee 22	U	M	26-35 *yr*	*7 yr or more*	*12000 >16000 SR*	*Bachelor degree*	*Civil servant*
Interviewee 23	U	M	26-35 *yr*	*7 yr or more*	*12000 >16000 SR*	*Bachelor degree*	*Private sector employee*
Interviewee 24	N	F	36-45 *yr*	*Non Experience*	*8000 >12000 SR*	*Bachelor degree*	*Housewife*
Interviewee 25	N	F	36-45 *yr*	*5 >7 yr*	*8000 >12000 SR*	*High School*	*Private sector employee*
Interviewee 26	N	F	36-45 *yr*	*Non Experience*	*8000 >12000 SR*	*Bachelor degree*	*Civil servant*
Interviewee 27	N	F	46-55 *yr*	*Non Experience*	*8000 >12000 SR*	*Bachelor degree*	*Housewife*
Interviewee 28	N	F	18-25 *yr*	*1>3 yr*	*Less than 4000 SR*	*High School*	*Student*
Interviewee 29	N	F	36-45 *yr*	*Non Experience*	*8000 >12000 SR*	*High School*	*Civil servant*
Interviewee 30	N	F	36-45 *yr*	*Non Experience*	*8000 >12000 SR*	*Bachelor degree*	*Housewife*
Interviewee 31	N	F	26-35 *yr*	*3 >5 yr*	*4000 >8000 SR*	*High School*	*Private sector employee*
Interviewee 32	N	F	36-45 *yr*	*Non Experience*	*8000 >12000 SR*	*Bachelor degree*	*Civil servant*
Interviewee 33	N	F	36-45 *yr*	*1>3 yr*	*4000 >8000 SR*	*High School*	*Private sector employee*
Interviewee 34	N	F	26-35 *yr*	*1>3 yr*	*Less than 4000 SR*	*High School*	*Student*
Interviewee 35	U	F	26-35 *yr*	*7 yr or more*	*12000 >16000 SR*	*Bachelor degree*	*Civil servant*
Interviewee 36	U	F	18-25 *yr*	*5 >7 yr*	*4000 >8000 SR*	*Bachelor degree*	*Civil servant*
Interviewee 37	U	F	36-45 *yr*	*7 yr or more*	*12000 >16000 SR*	*Bachelor degree*	*Private sector employee*
Interviewee 38	U	F	26-35 *yr*	*7 yr or more*	*8000 >12000 SR*	*Bachelor degree*	*Civil servant*
Interviewee 39	U	F	18-25 *yr*	*3 >5 yr*	*Less than 4000 SR*	*High School*	*Self-employed*
Interviewee 40	U	F	26-35 *yr*	*5 >7 yr*	*4000 >8000 SR*	*High School*	*Civil servant*

Appendix VI The online questionnaire in Arabic

عميل البنك الكريم

تقوم إدارة بحوث التسويق ببنك الرياض بالتعاون مع مركز أبحاث متخصص بعمل دراسة تهدف إلى دراسة محتوى وتصميم المواقع البنكية للبنوك السعودية لمعرفة تأثير خصائص هذه المواقع على مستوى قبول الخدمات البنكية المقدمة عن طريق الإنترنت.

لقد صممت هذه الاستبانة عن طريق مجموعة من الخبراء لتتمكن من الإجابة عليها بسهولة **في دقائق معدودة.**

أن هذه الاستبانة لا تطلب منكم أية معلومات سرية أو خاصة كما أن إجاباتكم ستسهم في تطوير الخدمات البنكية المقدمة عن طريق الإنترنت لذا نتمنى أن تتحرى الدقة في إجابتكم بقدر المستطاع لأن أرائكم تمثل أهمية قصوى لنجاح هذه الدراسة.

يمكنكم تعبئة الاستبانة إلكترونيا عن طريق الضغط على الرابط التالي:

www.smart-survey.co.uk/v.asp?i=5923pltjp

بقي أن **نشكركم كثيرا على تعاونكم ومساهمتكم الطيبة**

وتفضلوا بقبول أطيب الأمنيات ،،،

إدارة الاتصالات والتسويق – بنك الرياض

للاستفسار الرجاء الاتصال على مدير إدارة بحوث التسويق ببنك الرياض
الاستاذ: عبدالله منصور الحميدي هاتف 4013030 تحويلة 3361
إيميل:abdullah.m.al-homimidi@riyadbank.com

أو الاتصال على الباحث الرئيسي الاستاذ: عبداللطيف الحديثي على الجوال 0555752911

استبيان خاص بعملاء البنك الذين يستخدمون الانترنت البنكي

يتكون هذا الاستبيان من ثلاثة أسئلة ويمكن الإجابة عليها من خلال استخدام زر الماوس فقط. لطفا منك الإجابة على جميع الأسئلة ونشكرك مقدما على تعاونك وتجاوبك معنا

السؤال الأول

* **إن الهدف من العبارات التالية هو التعرف على اتجاهاتك نحو خدمة الإنترنت البنكي. الرجاء إختيار ما تراه مناسبا حيث الأختيار الأول يشير إلى موافقتك القصوى على العبارة بينما الإختيار الأخيرإلى عدم موافقتك على الإطلاق**

	موافق بشدة	موافق إلى حد ما	ليس لدي رأي	غير موافق إلى حد ما	غير موافق على الإطلاق
أعتقد أن الإنترنت البنكي يقدم فوائد كبيرة لي	○	○	○	○	○
أعتقد أن الإنترنت البنكي يمكنني من إدارة أعمالي البنكية بطريقة أكثر فعالية	○	○	○	○	○
أعتقد أن الإنترنت البنكي يتناسب تماما مع احتياجاتي البنكية والمالية	○	○	○	○	○
أعتقد أن الإنترنت البنكي يتماشى ويتلاءم مع أسلوب معيشتي	○	○	○	○	○
أعتقد أن الإنترنت البنكي سهل جدا للاستخدام	○	○	○	○	○
أعتقد أن إجراءات الإنترنت البنكي واضحة ومفهومة	○	○	○	○	○
أعتقد أن الإنترنت البنكي يعطي مستخدميه بعض التميز الاجتماعي	○	○	○	○	○
أعتقد أن الإنترنت البنكي يعكس دلالة ووضع اجتماعي معين	○	○	○	○	○
أعتقد أن الإنترنت البنكي غير آمن لإجراء المعاملات البنكية	○	○	○	○	○
أعتقد أن الإنترنت البنكي يحتوي على مخاطرة في استخدامه	○	○	○	○	○
أعتقد أنه يمكن الوثوق بخدمة الإنترنت البنكي	○	○	○	○	○
أعتقد أنه يمكن الاعتماد على الإنترنت البنكي لإنجاز المعاملات المالية	○	○	○	○	○
أعتقد أنه يجب تجربة خدمة الإنترنت البنكي قبل استخدامها	○	○	○	○	○
أعتقد أنه كان من الضروري بالنسبة لي تجربة خدمة الإنترنت البنكي في البداية لأقتنع بها	○	○	○	○	○
أعتقد أن أفراد عائلتي الذين يمتلكون التأثير على قراري يشجعون بقوة استخدم الإنترنت البنكي	○	○	○	○	○

أعتقد أن قراري استخدام الإنترنت البنكي يتأثر بأفراد عائلتي المقربين لدي	○	○	○	○	○
أعتقد أن أصدقائي الذين يمتلكون التأثير على قراري يشجعون بقوة استخدم الإنترنت البنكي	○	○	○	○	○
أعتقد أن قراري استخدام الإنترنت البنكي يتأثر بأصدقائي المقربين لدي	○	○	○	○	○
لا أعتقد أنه بإمكاني تنفيذ معاملاتي المالية عن طريق الإنترنت البنكي دون الحصول على أية مساعدة	○	○	○	○	○
لا أعتقد أن لدي المعرفة الكافية لكي أستخدم الإنترنت البنكي	○	○	○	○	○
أعتقد أنني أملك الأدوات اللازمة لاستخدام الإنترنت البنكي (مثل كمبيوتر شخصي، توفر اتصال بالإنترنت)	○	○	○	○	○
أعتقد أن الأدوات التي تمكنني من الوصول إلى الإنترنت متوفرة كلما رغبت في استخدامها	○	○	○	○	○
أعتقد أن بساطة تصميم الموقع البنكي يؤثر في قرار استخدامي الانترنت البنكي	○	○	○	○	○
أعتقد أن محتويات الموقع البنكي تؤثر في قرار استخدامي الانترنت البنكي	○	○	○	○	○

الصفحة التالية

السؤال الثاني

* **إن الهدف من العبارات التالية هو التعرف على رأيك حول بعض محتويات موقع الانترنت البنكي. الرجاء اختيار ما تراه يشير بدقة إلى درجة موافقتك أو عدمها**

	موافق بشدة	موافق إلى حد ما	ليس لدي رأي	غير موافق إلى حد ما	غير موافق على الإطلاق
إن الإعلانات على الموقع البنكي مفيدة	○	○	○	○	○
أتعرف على منتجات وخدمات جديدة من خلال الموقع البنكي	○	○	○	○	○
أحب العروض الترويجية التي أجدها على الموقع البنكي	○	○	○	○	○
أرغب في الحصول على بعض المنتجات والخدمات البنكية التي أجدها على الموقع البنكي	○	○	○	○	○
أعتمد على المعلومات التي أجدها على الموقع البنكي	○	○	○	○	○

إن استخدام أدوات البحث عن المعلومات الموجودة في الموقع البنكي يعتبر مهما بالنسبة لي	○	○	○	○	○
يساعدني الموقع البنكي على الحصول على كل المعلومات التي أحتاجها	○	○	○	○	○
تساعدني محتويات الموقع البنكي في معرفة معلومات جديدة	○	○	○	○	○
يمتلك الموقع البنكي أدوات تساعد في تقييم المعومات الخاصة بالمنتجات والخدمات المالية	○	○	○	○	○
أنا أعتمد على الموقع البنكي لتقييم معلوماتي المتعلقة بالمنتجات والخدمات المالية والبنكية	○	○	○	○	○
يعتبر الموقع البنكي مهما بالنسبة لي لصنع قراراتي المالية	○	○	○	○	○
تساعدني محتويات الموقع البنكي في اتخاذ قرارات مالية سليمة	○	○	○	○	○
أشعر بالارتياح والطمأنينة في الطريقة التي تنفذ بها تعاملاتي المالية على الموقع البنكي	○	○	○	○	○
إن إجراءات الأمان والحماية على الموقع البنكي تشعرني بالثقة في عمليات الانترنت البنكي	○	○	○	○	○
أجد جميع احتياجاتي البنكية على الموقع البنائي	○	○	○	○	○
تساعد محتويات الموقع البنكي في تقليل مشاعر القلق والتخوف المصاحبة للعمليات التي تتم على الانترنت	○	○	○	○	○
تساعد محتويات الموقع البنكي في تجاوز الشكوك التي تنتابني بعد تنفيذ بعض العمليات على الانترنت البنكي	○	○	○	○	○
تساعدني محتويات الموقع البنكي في التأكد من أنني نفذت عملياتي المالية بشكل صحيح	○	○	○	○	○
أستطيع الحصول على الدعم التقني الذي أحتاجه من خلال الموقع البنكي	○	○	○	○	○
يمكنني الموقع البنكي من التواصل السريع والفعال مع البنك	○	○	○	○	○

الصفحة التالية

السؤال الثالث

* **هنا ستجد بعض العناصر التي من الممكن أن تجدها على الموقع البنكي. الرجاء اختيار ماتراه يعبر بدقة عن مدى أهمية العنصر بالنسبة إليك**

	مهم جدا	مهم إلى حد ما	ليس لدي رأي	غير مهم إلى حد ما	غير مهم على الإطلاق
إعلانات الموقع البنكي	○	○	○	○	○
تقديم عروض ترويجية على الموقع البنكي (خصومات، هدايا، جوائز سحب(	○	○	○	○	○
التعريف بالمنتجات والخدمات	○	○	○	○	○
إرسال الرسائل الإخبارية newsletters إلى بريدك الالكتروني	○	○	○	○	○
الرسائل التذكيرية لدفع الفواتير المستحقة	○	○	○	○	○
قسم الأسئلة المتكررة Frequently Asked Questions FAQ	○	○	○	○	○
تقديم عرض تصويري لشرح خصائص الموقع البنكيDemo	○	○	○	○	○
وجود قائمة رئيسية لجميع المنتجات والخدمات البنكية المقدمة على الموقع	○	○	○	○	○
خريطة الموقع	○	○	○	○	○
توفر تفاصيل معلومات الاتصال بالبنك	○	○	○	○	○
توفر قسم المساعدةhelp desk	○	○	○	○	○
تقديم روابط hyperlinks لمواقع مالية واقتصادية أخرى	○	○	○	○	○
توفير الاستشارات المالية على الموقع البنكي	○	○	○	○	○
تقديم تقارير اقتصادية	○	○	○	○	○
توفير غرفة محادثة يقوم من خلالها موظف البنك بالرد مباشرة على استفسارات العملاء	○	○	○	○	○
عرض الإحصائيات والإشكال والجداول التي تساعد في تقييم معلومات المنتجات والخدمات المالية	○	○	○	○	○
توفير الأدوات والوسائل الإحصائية التي تساعد في التحليل المالي	○	○	○	○	○
إمكانية قياس مستوى الأمان في جهاز العميل	○	○	○	○	○
تطبيق إجراءات أمنية دقيقة عند الدخول للموقع البنكي	○	○	○	○	○
تطبيق إجراءات أمنية حازمة عند تنفيذ التعاملات البنكية	○	○	○	○	○
توفير تنوع كبير في الخدمات والمنتجات البنكية المقدمة على الموقع البنكي	○	○	○	○	○
إعطاء كل عملية منفذة رقم مرجعي يمكن الرجوع إليه	○	○	○	○	○

إظهار الصفحات اللاحقة التي تؤكد أن العمليات تم تنفيذها بنجاح	○	○	○	○	○
إمكانية طباعة ملخص تفاصيل العمليات المنفذة	○	○	○	○	○
إرسال الرسائل التأكيدية بخصوص تنفيذ العمليات بواسطة الإيميل أو رسائل الجوال	○	○	○	○	○
وجود آلية فعالة لاستقبال الشكاوى والاستفسارات والرد عليها من خلال الموقع البنكي	○	○	○	○	○
توفير الدعم التقني والفني للعملاء على الموقع البنكي	○	○	○	○	○

الصفحة التالية

المعلومات المتعلقة بالمجيب

* **الجنس**

○ ذكر ○ أنثى

* **العمر**

○ 18 إلى أقل من 25 سنة
○ 25 إلى أقل من 35 سنة
○ 35 إلى أقل من 45 سنة
○ 45 إلى أقل من 55 سنة
○ أكثر من 55 سنة

* **الخبرة في استخدام الإنترنت بشكل عام**

○ أقل من سنة واحدة

- من سنة واحدة إلى أقل من 3 سنوات
- من 3 سنوات إلى أقل من 5 سنوات
- من 5 سنوات إلى أقل من 7 سنوات
- أكثر من 7 سنوات

* **خبرتك في استخدام الإنترنت البنكي**

- أقل من سنة واحدة
- من سنة واحدة إلى أقل من 3 سنوات
- من 3 سنوات إلى أقل من 5 سنوات
- من 5 سنوات إلى أقل من 7 سنوات
- أكثر من 7 سنوات

* **الدخل الشهري**

- أقل من 4 ألاف ريال
- من 4000 إلى أقل من 8000 ريال
- من 8000 إلى أقل من 12000 ريال
- من 12000 إلى أقل من 16000 ريال
- من 16000 إلى أقل من 20000 ريال
- أكثر من 20 ألف ريال

* **أعلى درجة علمية حصلت عليها**

- أدنى من الشهادة الثانوية
- الشهادة الثانوية
- الشهادة الجامعية
- ماجستير أو دكتوراه

* **الوظيفة الحالية**

- طالب
- موظف بالقطاع الخاص
- موظف بالقطاع الحكومي

- مزاولة أعمال خاصة
- متقاعد
- عاطل
- ربة/رب منزل
- أخرى

* **كم عدد البنوك التي تعاملت معها عن طريق الإنترنت**

- بنك واحد
- بنكان
- 3بنوك
- 4بنوك
- خمسة بنوك فأكثر

* **أقوم بأعمالي البنكية مستخدما الإنترنت بشكل**

- يومي
- عدة مرات في الأسبوع
- مرة في الأسبوع
- مرتين إلى ثلاث في الشهر
- مرة في الشهر
- عدة مرات في السنة
- مرة في السنة

* **أنوي أن أستمر في استخدام الإنترنت البنكي لأنجز معاملاتي البنكية**

- موافق بشدة
- موافق
- لا أدري
- غير موافق
- غير موافق بشدة

* **من المحتمل أن أستمر في استخدام الإنترنت البنكي في المستقبل القريب**

- موافق بشدة
- موافق

- لا أدري
- غير موافق
- غير موافق بشدة

إذا كان لديك أية ملاحظة تشعر بأنها قد تساعدنا في فهم أفضل لتصميم المواقع البنكية على الانترنت وأهميتها على تبني المستهلك السعودي لمثل هذه الخدمات وترغب في إبدائها. الرجاء استخدام المساحة التالية :

إنهاء الإستبيان

Appendix VII The online questionnaire in English

Part One: Please <u>circle</u> the appropriate number to indicate your agreement or disagreement with the following statement

Q1) I believe that internet banking...	Strongly Agree		Neutral		Strongly Disagree
...offers great benefits to me	1	2	3	4	5
... enables me to manage my financial resources more effectively	1	2	3	4	5
... suits my financial needs very well	1	2	3	4	5
... is compatible with my lifestyle	1	2	3	4	5
... is very easy to use	1	2	3	4	5
... has clear and understandable procedures	1	2	3	4	5
... gives users some prestige (social image)	1	2	3	4	5
... is a status symbol	1	2	3	4	5
... is not safe for performing banking transactions	1	2	3	4	5
... is risky	1	2	3	4	5
... is trustworthy	1	2	3	4	5
... is a reliable medium for banking transactions	1	2	3	4	5
Q2) I believe that ...	Strongly Agree		Neutral		Strongly Disagree
...internet banking services should be tried out before using them	1	2	3	4	5
...it was necessary to be able to experiment with internet banking, at the beginning, to see what it could do for me	1	2	3	4	5
... my family members who are important to me strongly support the use of internet banking	1	2	3	4	5
... my decision to keep using Internet banking is influenced by my family members who are closed to me	1	2	3	4	5
... my friends who are important to me strongly support the use of internet banking	1	2	3	4	5
... my decision to keep using Internet banking is influenced by my friends who are closed to me	1	2	3	4	5
…I cannot perform transactions confidently via internet banking without obtaining help.	1	2	3	4	5
…I don't have adequate knowledge to use internet banking	1	2	3	4	5
…I have the equipment necessary to use internet banking (e.g. a personal computer and an Internet connection)	1	2	3	4	5
... sufficient resources to use internet banking are available to me when I need them	1	2	3	4	5
…banking website design contributed in my acceptance of Internet banking	1	2	3	4	5
...the simplicity of website design influenced my decision to use internet banking	1	2	3	4	5
...the effectiveness of website design affected my decision to use internet banking	1	2	3	4	5
…the contents of banking website influenced my decision to use internet banking	1	2	3	4	5

Part Two: the purpose of the following statements is to understand what you think about some banking website features. Please <u>circle</u> the appropriate number to indicate your agreement or disagreement with the following statements.

	Strongly Agree		Neutral		Strongly Disagree
Advertisements on banking websites are useful	1	2	3	4	5
I recognize new products and services on the banking website	1	2	3	4	5
I like promotion offers I find on Internet banking	1	2	3	4	5
I want to obtain some banking products and services that I find on the banking website	1	2	3	4	5
I rely on information I find on the banking website	1	2	3	4	5
Using Internet banking information search tools is important to me	1	2	3	4	5
The banking website enables me to obtain all the information I need	1	2	3	4	5
Website contents help me to gain new information	1	2	3	4	5
The banking website has tools that help to evaluate the information of banking products and services	1	2	3	4	5
I depend on IB to evaluate my information related to banking product and services	1	2	3	4	5
Internet banking is important to me to make financial decisions	1	2	3	4	5
Website contents help me to take the right decisions	1	2	3	4	5
I am confident in the way the website processes my transactions	1	2	3	4	5
Safety procedures on the banking website help me to feel trustful about IB transactions	1	2	3	4	5
I find all my banking needs on the banking website	1	2	3	4	5
Website contents help in reducing my concern about security issues	1	2	3	4	5
The banking website helps to reduce my anxiety when performing internet banking transactions	1	2	3	4	5
Website contents enable me to make sure I have performed my transaction correctly	1	2	3	4	5
I can obtain the support I need through the banking website	1	2	3	4	5
The banking website enables me to communicate with my bank effectively after performing transactions	1	2	3	4	5

Part Three: here are some elements that you may find on your banking website. Please indicate to what extent they are important to you.

	Very Important		Neutral		Not Important At All
Advertisements (banner Ads, pop-ups …)	1	2	3	4	5
Promotional offers (discounts, prizes, gifts...)	1	2	3	4	5
Identifying services and products	1	2	3	4	5
Sending newsletters to your e-mail	1	2	3	4	5
Reminder messages when bills are due to be paid	1	2	3	4	5

	Very Important		Neutral		Not Important At All
Frequently Asked Questions (FAQ)	1	2	3	4	5
Demo to illustrate website characteristics	1	2	3	4	5
Main index of products and services	1	2	3	4	5
Website map	1	2	3	4	5
Contact details	1	2	3	4	5
Help desk	1	2	3	4	5
Hyperlinks to related pages	1	2	3	4	5
Availability of financial advice	1	2	3	4	5
Availability of economic reports	1	2	3	4	5
Availability of live agent (chat room)	1	2	3	4	5
Statistical data, tables and figures that help to evaluate products and services information	1	2	3	4	5
Availability of statistical tools that help in financial analysis	1	2	3	4	5
Facility for testing security level of customer's computer	1	2	3	4	5
Applying strict security procedure in log in	1	2	3	4	5
Applying strict security procedure to perform transactions	1	2	3	4	5
Providing large variety of products and services on website	1	2	3	4	5
Giving each transaction a reference number	1	2	3	4	5
Confirmation pages that show the success of transaction execution	1	2	3	4	5
Ability to print out transaction details	1	2	3	4	5
Sending confirmation messages by e-mail or SMS for selected transactions	1	2	3	4	5
Providing access to inquiries and complaints	1	2	3	4	5
Providing online technical support	1	2	3	4	5

	Strongly Agree		Neutral		Strongly Disagree
I intend to keep using IB to perform my financial transactions	1	2	3	4	5
It's likely that I will keep using IB in the near future	1	2	3	4	5

Part Four: Please, mark the right choice

1. My gender is... □ Male □ Female

2. My age is.... □ 18 to less than 25 years
□ 25 to less than 35 years
□ 35 to less than 45 years
□ 45 to less than 55 years
□ Above 55 years

4. My experience in using the Internet is.....

□ Less than 1 year
□ 1 year to less than 3 years
□ 3 years to less than 5 years
□ 5 years to less than 7 years
□ 7 years or more

5. I have been using IB for....

□ Less than 1 year
□ 1 year to less than 3 years
□ 3 years to less than 5 years
□ 5 years to less than 7 years
□ 7 years or more

6. How many banks' IB services have you experienced?

□ 1 bank
□ 2 banks
□ 3 banks
□ 4 banks
□ 5 banks or more

7. My monthly income is....

□ Less than 4000 SR
□ 4000 to less than 8000 SR
□ 8000 to less than 12000 SR
□ 12000 to less than 16000 SR
□ 16000 to less than 20000 SR
□ 20000 SR or more

8. My highest educational qualification is...

□ Less than High School
□ High School
□ Bachelor degree
□ Master degree or above

9. My occupation is...

□ Student
□ Private sector employee
□ Government sector employee
□ Self-employed
□ Retired
□ Jobless
□ Housewife/Husband
□ Other (please specify) .....

Are there any comments you would like to make that you feel may help us to gain a better understanding of banking website design which can affect Saudi clients towards adoption of such services? If so, please use the space below for that purpose.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION IN THIS STUDY

عميل البنك الكريم

إن هذا الاستبيان هو جزء من رسالة دكتوراه تبحث "مستوى قبول خدمة الانترنت البنكي لدى العميل السعودي ". وللمزيد من الإيضاح فإن الإنترنت البنكي يشير إلى استخدام الانترنت كقناة الكترونية تقدم البنوك من خلالها المنتجات والخدمات المالية وغير الما لية لعملائها. وتقدم جميع البنوك السعودية في الوقت الحاضر هذه الخدمات لعملائها من خلال مواقعها على شبكة الإنترنت.

إن هذه الاستبانة صممت لتبحث العوامل التي تؤثر في قبول أو رفض العميل السعودي لمثل هذه الخدمة . كما أنها صممت بطريقة سهلة تمكن المجيب من الإجابة عليها **في أقل من 5 دقائق.**

أن هذه الاستبانة لا تطلب منكم أية معلومات سرية أو خاصة كما أننا نؤكد أن إجاباتكم ستخصص فقط لأغراض البحث العلمي لذا نتمنى أن تتحرى الدقة في إجابتكم بقدر المستطاع لأن أرائكم تمثل أهمية قصوى لنجاح هذا البحث.

بقي أن **نشكركم كثيرا على تعاونكم ومساهمتكم الطيبة** في هذا البحث والتي ستنعكس نتائجه بالتأكيد على تطوير الخدمات البنكية داخل المجتمع السعودي.

وتفضلوا بقبول أطيب الأمنيات ،،،

عبداللطيف الحديثي،مرشح لنيل درجة الدكتوراة
التسويق الالكتروني، مدرسة إدارة الأعمال
جامعة هل، يورك شير، إنجلترا

البروفسور فيليب كيتشن
رئيس مركز أبحاث التسويق
مدرسة إدارة الأعمال
جامعة هل، يورك شير، إنجلترا

ملاحظة: هذه الاستبانة مخصصة لعملاء البنك الذين **لا يستخدمون** الإنترنت البنكي

للاستفسار بخصوص هذه الاستبانة يرجى الاتصال على الباحث، جوال: 0555752911أو عبر الإيميل: Alhudaithy@hotmail.com

القسم الأول: إن الهدف من العبارات التالية هو التعرف على اتجاهاتك نحو خدمة الإنترنت البنكي وتأثير الظروف المحيطة بك على درجة تقبلك لهذه الخدمة . الرجاء وضع دائرة على الرقم المناسب الذي ترى أنه يمثل اختيارك الدقيق في العبارات التالية:

السؤال الأول: أعتقد أن الإنترنت البنكي ...	أوافق بشدة				لا أوافق بشدة
... سيقدم فوائد كبيرة لي	1	2	3	4	5
... سيمكنني من إدارة أعمالي البنكية بطريقة أكثر فعالية	1	2	3	4	5
... سيتناسب تماما مع احتياجاتي البنكية والمالية	1	2	3	4	5
... سيتماشى ويتلاءم مع أسلوب معيشتي	1	2	3	4	5
... سيكون سهل جدا للاستخدام	1	2	3	4	5
... إجراءاته واضحة ومفهومة	1	2	3	4	5
... يعطي مستخدميه بعض التميز الاجتماعي	1	2	3	4	5
... يعكس دلالة ووضع اجتماعي معين	1	2	3	4	5
... غير آمن لإجراء المعاملات البنكية	1	2	3	4	5
... يحتوي على مخاطرة في استخدامه	1	2	3	4	5
... يمكن الوثوق به	1	2	3	4	5
... يمكن الاعتماد علية لإنجاز المعاملات المالية	1	2	3	4	5
السؤال الثاني: الرجاء وضع دائرة على الرقم المناسب الذي ترى أنه يمثل اختيارك الدقيق في العبارات التالية:	**أوافق بشدة**				**لا أوافق بشدة**
أعتقد أنه يجب تجربة خدمة الإنترنت البنكي قبل استخدامها	1	2	3	4	5
أعتقد أنه من الضروري أن أكون قادرا على تجربة خدمة الإنترنت البنكي لأرى ما يمكن أن تقدمه	1	2	3	4	5
أعتقد أن أفراد عائلتي الذين يمتلكون التأثير على قراري يشجعون بقوة استخدم الإنترنت البنكي	1	2	3	4	5
أعتقد أن قراري بالبدء باستخدام الإنترنت البنكي يتأثر بأفراد عائلتي المقربين لدي	1	2	3	4	5
أعتقد أن أصدقائي الذين يمتلكون التأثير على قراري يشجعون بقوة استخدم الإنترنت البنكي	1	2	3	4	5
أعتقد أن قراري بالبدء باستخدام الإنترنت البنكي يتأثر بأصدقائي المقربين لدي	1	2	3	4	5
لا أعتقد أنه بإمكاني تنفيذ معاملاتي المالية عن طريق الإنترنت البنكي دون الحصول على أية مساعدة	1	2	3	4	5
لا أعتقد أن لدي المعرفة الكافية لكي أستخدم الإنترنت البنكي	1	2	3	4	5
أعتقد أنني أملك الأدوات اللازمة لاستخدام الإنترنت البنكي (مثل كمبيوتر شخصي، توفر اتصال بالإنترنت)	1	2	3	4	5
أعتقد أن الأدوات التي تمكنني من الوصول إلى الإنترنت متوفرة كلما رغبت في استخدامها.	1	2	3	4	5

القسم الثاني: إن الهدف من العبارات التالية هو التعرف على الأسباب التي من الممكن أن تؤثر على قرارك عدم استخدام خدمة الإنترنت البنكي . الرجاء وضع دائرة على الرقم المناسب الذي ترى أنه يشير إلى درجة موافقتك أو عدمها مع العبارات التالية:

السؤال الأول : لا أستخدم الإنترنت البنكي بسبب ...	أوافق بشدة				لا أوافق بشدة
أنا غير مهتم بتعلم الكمبيوتر أو الإنترنت	1	2	3	4	5
ليس لدي الوقت الكافي لتعلم الكمبيوتر أو الإنترنت	1	2	3	4	5
أجد القنوات البنكية الأخرى أكثر جاذبية لي من الإنترنت البنكي	1	2	3	4	5
أنا راضي عن الطريقة التي أنجز فيها معاملاتي البنكية ولا داعي لتغييرها	1	2	3	4	5
أفضل أن أتعامل مع موظف البنك مباشرة أو عبر الهاتف بدلا من التعامل عن طريق الإنترنت	1	2	3	4	5
لا أستخدم الإنترنت البنكي لأني لا أثق في تعاملات الإنترنت	1	2	3	4	5
أسعار أجهزة الكمبيوتر تؤثر على قراري استخدام الإنترنت البنكي	1	2	3	4	5
أسعار الاشتراك في خدمة الإنترنت تؤثر على قراري استخدام الإنترنت البنكي	1	2	3	4	5
مشاكل الاتصال بخدمة الإنترنت تؤثر على قراري استخدام الإنترنت البنكي	1	2	3	4	5
لا أملك معلومات كافية عن خدمة الانترنت البنكي	1	2	3	4	5
لا أملك فكرة واضحة عن خدمة الإنترنت البنكي	1	2	3	4	5
لا أستخدم الإنترنت البنكي لأن معاملاتي البنكية بسيطة جدا	1	2	3	4	5
لا أعتقد أن الإنترنت وسيلة مناسبة لأداء الأعمال خصوصا المعاملات البنكية	1	2	3	4	5
أعتقد أن الإنترنت فكرة متحررة ولا أرغب في إحضارها لمنزلي	1	2	3	4	5
لا أستخدم الإنترنت البنكي لأنني لا أستطيع فهم المصطلحات التقنية الموجودة على الكمبيوتر أو على الإنترنت	1	2	3	4	5
سأشعر بالقلق والتوجس لو استخدمت الانترنت البنكي	1	2	3	4	5
أنا متردد في استخدام الإنترنت البنكي نتيجة الخوف من ارتكاب الأخطاء	1	2	3	4	5

	أوافق بشدة				لا أوافق بشدة
أنوي أن أستخدم الإنترنت البنكي لأنجز معاملاتي البنكية	1	2	3	4	5
من المحتمل أن أستخدم الإنترنت البنكي في الأشهر القليلة القادمة	1	2	3	4	5

القسم الثالث: الرجاء وضع علامة على الاختيار الصحيح.

1. الجنس □ **ذكر** □ **أنثى**

2. العمر
□ **18 إلى أقل من 25 سنة**
□ **25 إلى أقل من 35 سنة**
□ **35 إلى أقل من 45 سنة**
□ **45 إلى أقل من 55 سنة**
□ **أكثر من 55 سنة**

3. الخبرة في استخدام الإنترنت
□ **لا أستخدم الإنترنت**
□ **أقل من سنة واحدة**
□ **من سنة واحدة إلى أقل من 3 سنوات**
□ **من 3 سنوات إلى أقل من 5 سنوات**
□ **من 5 سنوات إلى أقل من 7 سنوات**
□ **أكثر من 7 سنوات**

4. الدخل الشهري
□ **أقل من 4 ألاف ريال**
□ **من 4000 إلى أقل من 8000 ريال**
□ **من 8000 إلى أقل من 12000 ريال**
□ **من 12000 إلى أقل من 16000ريال**
□ **من 16000 إلى أقل من 20000 ريال**
□ **أكثر من 20 ألف ريال**

5. أعلى درجة علمية حصلت عليها
□ **أدنى من الشهادة الثانوية**
□ **الشهادة الثانوية**
□ **الشهادة الجامعية**
□ **شهادة ماجستير أو دكتوراه**

6. الوظيفة الحالية
□ **طالب**
□ **موظف بالقطاع الخاص**
□ **موظف بالقطاع الحكومي**
□**مزاولة أعمال خاصة**
□ **متقاعد**
□ **عاطل**
□ **ربة/رب منزل**
□ **أخرى (الرجاء التوضيح) .....**

<u>شكرا جزيلا لكم على مساهمتكم في المشاركة في هذه الدراسة</u>

Appendix IX The non-online questionnaire in English

Part One: Please <u>circle</u> the appropriate number to indicate your agreement or disagreement with the following statements:

Q1) I believe that internet banking...	Strongly Agree		Neutral		Strongly Disagree
...will offer great benefits to me	1	2	3	4	5
... will enable me to manage my banking business more effectively	1	2	3	4	5
... will suit my financial needs very well	1	2	3	4	5
... will be compatible with my lifestyle	1	2	3	4	5
... will be very easy to use	1	2	3	4	5
... has clear and understandable procedures	1	2	3	4	5
... gives users some prestige (social image)	1	2	3	4	5
... is a status symbol	1	2	3	4	5
... is not safe for performing banking transactions	1	2	3	4	5
... is risky	1	2	3	4	5
... is trustworthy	1	2	3	4	5
... is a reliable medium for banking transactions	1	2	3	4	5
Q2) I believe that ...	Strongly Agree		Neutral		Strongly Disagree
...Internet banking services should be tried out before deciding to use them	1	2	3	4	5
...it is necessary to be able to experiment with internet banking to see what it can do for me	1	2	3	4	5
... my family members who are important to me strongly support the use of internet banking	1	2	3	4	5
... my decision to start using Internet banking is influenced by my family members who are closed to me	1	2	3	4	5
... my friends who are important to me strongly support the use of internet banking	1	2	3	4	5
... my decision to start using Internet banking is influenced by my friends who are closed to me	1	2	3	4	5
…I cannot perform transactions confidently via internet banking without obtaining help	1	2	3	4	5
…I don't have adequate knowledge to use internet banking	1	2	3	4	5
…I have the equipment necessary to use internet banking (e.g. a personal computer and an Internet connection)	1	2	3	4	5
... sufficient resources to use internet banking are available to me when I want to use them	1	2	3	4	5

Part Two: the purpose of the following statements is to know the reasons behind your decision not to use internet banking services. Please <u>circle</u> the appropriate number to indicate your agreement or disagreement with the following statements:

	Strongly Agree		Neutral		Strongly Disagree
I am not interested in learning about computers or the Internet	1	2	3	4	5
I do not have time to learn about computers or the Internet	1	2	3	4	5
I find other banking channels are more appealing to me	1	2	3	4	5
I am satisfied with the way I perform my banking business	1	2	3	4	5
I would prefer to deal with banking personnel, face to face or by phone, rather than using the Internet	1	2	3	4	5
I don't use IB because I don't trust internet transactions	1	2	3	4	5
Computer prices affect my decision to use Internet banking	1	2	3	4	5
Internet connection prices affect my decision to use Internet banking	1	2	3	4	5
Internet connection problems affect my decision to use Internet banking	1	2	3	4	5
I do not have enough information about Internet banking	1	2	3	4	5
I do not have a clear idea about Internet banking service	1	2	3	4	5
I do not use Internet banking because my banking business is very simple	1	2	3	4	5
I do not think that the Internet is for performing business such as banking transactions	1	2	3	4	5
The Internet is a liberal idea and I do not want to have it in my house	1	2	3	4	5
I do not use IB because I cannot understand technical terminology I may find on the internet	1	2	3	4	5
I feel apprehensive about using internet banking	1	2	3	4	5
I hesitate to use IB for fear of making mistakes	1	2	3	4	5

	Strongly Agree		Neutral		Strongly Disagree
I intend to use IB to perform my financial transactions	1	2	3	4	5
It's likely that I will use IB in the near future	1	2	3	4	5

Part Three: Please, mark the right choice

1. My gender is... □ Male □ Female

2. My age is....

□ 18 to less than 25 years
□ 25 to less than 35 years
□ 35 to less than 45 years
□ 45 to less than 55 years
□ Above 55 years

3. My experience in using the Internet is.....

□ I don't use this technology
□ Less than 1 year
□ 1 year to less than 3 years
□ 3 years to less than 5 years
□ 5 years to less than 7 years
□ 7 years or more

4. My monthly income is .....

□ Less than 4000 SR
□ 4000 to less than 8000 SR
□ 8000 to less than 12000 SR
□ 12000 to less than 16000 SR
□ 16000 to less than 20000 SR
□ 20000 SR or more

5. My highest educational qualification is....

□ Less than High School
□ High School
□ Bachelor degree
□ Master degree or above

6. My occupation is...

□ Student
□ Private sector employee
□ Government sector employee
□ Self-employed
□ Retired
□ Jobless
□ Housewife/Husband
□ Other (please specify) .....

THANK YOU VERY MUCH FOR YOUR PARTICIPATION IN THIS STUDY

Appendix X Pearsons' correlations

The Pearson's correlation matrix of independent variable for IB users' sample

		uPRA1	uPRA2	uPC1	uPC2	uPE1	uPE2	uPI1	uPI2	uPT1	uPT2	uPT3	uPT4	uPTr1	uPTr2	uSN.fa1	uSN.fa2	uSN.fr1	uSN.fr2	uSE1	uSE2	uRFC1	uRFC2	uPWC1	uPWC2
uPRA1	Pearson Correlation	1	.680(**)	.603(**)	.530(**)	.498(**)	.438(**)	.227(**)	.229(**)	.281(**)	.256(**)	.340(**)	.425(**)	.108(**)	.020	.150(**)	.189(**)	.160(**)	.165(**)	.412(**)	.444(**)	.431(**)	.382(**)	.263(**)	.172(**)
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.006	.617	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPRA2	Pearson Correlation	.680(**)	1	.577(**)	.485(**)	.393(**)	.343(**)	.227(**)	.173(**)	.295(**)	.253(**)	.290(**)	.366(**)	.132(**)	.065	.147(**)	.189(**)	.150(**)	.159(**)	.400(**)	.403(**)	.371(**)	.300(**)	.245(**)	.178(**)
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.096	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPC1	Pearson Correlation	.603(**)	.577(**)	1	.686(**)	.429(**)	.389(**)	.273(**)	.236(**)	.310(**)	.247(**)	.313(**)	.516(**)	.187(**)	.088(*)	.243(**)	.246(**)	.186(**)	.201(**)	.412(**)	.284(**)	.280(**)	.254(**)	.203(**)	.123(**)
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.025	.000	.000	.000	.000	.000	.000	.000	.000	.000	.002
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPC2	Pearson Correlation	.530(**)	.485(**)	.686(**)	1	.383(**)	.346(**)	.217(**)	.226(**)	.230(**)	.193(**)	.296(**)	.452(**)	.146(**)	.081(*)	.187(**)	.236(**)	.171(**)	.188(**)	.380(**)	.308(**)	.386(**)	.322(**)	.220(**)	.153(**)
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.040	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPE1	Pearson Correlation	.498(**)	.393(**)	.429(**)	.383(**)	1	.733(**)	.242(**)	.243(**)	.341(**)	.288(**)	.321(**)	.367(**)	.088(*)	.005	.131(**)	.192(**)	.123(**)	.179(**)	.424(**)	.386(**)	.316(**)	.328(**)	.130(**)	.173(**)
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.025	.904	.001	.000	.002	.000	.000	.000	.000	.000	.001	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPE2	Pearson Correlation	.438(**)	.343(**)	.389(**)	.346(**)	.733(**)	1	.333(**)	.325(**)	.365(**)	.338(**)	.395(**)	.389(**)	.103(**)	.026	.187(**)	.211(**)	.152(**)	.199(**)	.432(**)	.393(**)	.288(**)	.335(**)	.133(**)	.138(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.008	.505	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPI1	Pearson Correlation	.227(**)	.227(**)	.273(**)	.217(**)	.242(**)	.333(**)	1	.817(**)	.391(**)	.340(**)	.321(**)	.294(**)	.288(**)	.218(**)	.361(**)	.371(**)	.370(**)	.378(**)	.246(**)	.198(**)	.172(**)	.194(**)	.137(**)	.027
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.484
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPI2	Pearson Correlation	.229(**)	.173(**)	.236(**)	.226(**)	.243(**)	.325(**)	.817(**)	1	.386(**)	.315(**)	.307(**)	.285(**)	.269(**)	.244(**)	.335(**)	.352(**)	.377(**)	.380(**)	.216(**)	.190(**)	.189(**)	.248(**)	.162(**)	.028
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.480
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPT1	Pearson Correlation	.281(**)	.295(**)	.310(**)	.230(**)	.341(**)	.365(**)	.391(**)	.386(**)	1	.681(**)	.644(**)	.444(**)	.104(**)	.066	.279(**)	.297(**)	.288(**)	.334(**)	.359(**)	.292(**)	.244(**)	.255(**)	.132(**)	.099(*)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.008	.091	.000	.000	.000	.000	.000	.000	.000	.000	.001	.012
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPT2	Pearson Correlation	.256(**)	.253(**)	.247(**)	.193(**)	.288(**)	.338(**)	.340(**)	.315(**)	.681(**)	1	.652(**)	.424(**)	.139(**)	.088(*)	.287(**)	.288(**)	.271(**)	.300(**)	.334(**)	.274(**)	.278(**)	.317(**)	.128(**)	.076
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.024	.000	.000	.000	.000	.000	.000	.000	.000	.001	.053
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPT3	Pearson Correlation	.340(**)	.290(**)	.313(**)	.296(**)	.321(**)	.395(**)	.321(**)	.307(**)	.644(**)	.652(**)	1	.555(**)	.084(*)	.017	.269(**)	.318(**)	.284(**)	.351(**)	.445(**)	.412(**)	.345(**)	.355(**)	.198(**)	.169(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.032	.661	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPT4	Pearson Correlation	.425(**)	.366(**)	.516(**)	.452(**)	.367(**)	.389(**)	.294(**)	.285(**)	.444(**)	.424(**)	.555(**)	1	.143(**)	.044	.255(**)	.247(**)	.193(**)	.248(**)	.459(**)	.368(**)	.387(**)	.374(**)	.208(**)	.099(*)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.262	.000	.000	.000	.000	.000	.000	.000	.000	.000	.012
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPTr1	Pearson Correlation	.108(**)	.132(**)	.187(**)	.146(**)	.088(*)	.103(**)	.288(**)	.269(**)	.104(**)	.139(**)	.084(*)	.143(**)	1	.628(**)	.248(**)	.244(**)	.213(**)	.248(**)	.032	.060	.107(**)	.104(**)	.183(**)	.074
	Sig. (2-tailed)	.006	.001	.000	.000	.025	.008	.000	.000	.008	.000	.032	.000		.000	.000	.000	.000	.000	.413	.126	.006	.008	.000	.058
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uPTr2	Pearson Correlation	.020	.065	.088(*)	.081(*)	.005	.026	.218(**)	.244(**)	.066	.088(*)	.017	.044	.628(**)	1	.281(**)	.237(**)	.232(**)	.219(**)	-.031	-.005	.024	.102(**)	.108(**)	.027
	Sig. (2-tailed)	.617	.096	.025	.040	.904	.505	.000	.000	.091	.024	.661	.262	.000		.000	.000	.000	.000	.433	.903	.540	.009	.006	.492
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uSN.fa1	Pearson Correlation	.150(**)	.147(**)	.243(**)	.187(**)	.131(**)	.187(**)	.361(**)	.335(**)	.279(**)	.287(**)	.269(**)	.255(**)	.248(**)	.281(**)	1	.782(**)	.746(**)	.660(**)	.182(**)	.110(**)	.170(**)	.140(**)	.095(*)	.078(*)
	Sig. (2-tailed)	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.005	.000	.000	.016	.045
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uSN.fa2	Pearson Correlation	.189(**)	.189(**)	.246(**)	.236(**)	.192(**)	.211(**)	.371(**)	.352(**)	.297(**)	.288(**)	.318(**)	.247(**)	.244(**)	.237(**)	.782(**)	1	.772(**)	.754(**)	.214(**)	.156(**)	.175(**)	.168(**)	.099(*)	.122(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.011	.002
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uSN.fr1	Pearson Correlation	.160(**)	.150(**)	.186(**)	.171(**)	.123(**)	.152(**)	.370(**)	.377(**)	.288(**)	.271(**)	.284(**)	.193(**)	.213(**)	.232(**)	.746(**)	.772(**)	1	.847(**)	.165(**)	.152(**)	.151(**)	.153(**)	.139(**)	.107(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.006
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uSN.	Pearson	.165(**)	.159(**)	.201(**)	.188(**)	.179(**)	.199(**)	.378(**)	.380(**)	.334(**)	.300(**)	.351(**)	.248(**)	.248(**)	.219(**)	.660(**)	.754(**)	.847(**)	1	.220(**)	.169(**)	.191(**)	.170(**)	.169(**)	.143(**)

fr2	Correlation																									
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
uSE1	Pearson Correlation	.412(**)	.400(**)	.412(**)	.380(**)	.424(**)	.432(**)	.246(**)	.216(**)	.359(**)	.334(**)	.445(**)	.459(**)	.032	-.031	.182(**)	.214(**)	.165(**)	.220(**)	1	.629(**)	.414(**)	.338(**)	.209(**)	.208(**)	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.413	.433	.000	.000	.000	.000		.000	.000	.000	.000	.000	
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	
uSE2	Pearson Correlation	.444(**)	.403(**)	.284(**)	.308(**)	.386(**)	.393(**)	.198(**)	.190(**)	.292(**)	.274(**)	.412(**)	.368(**)	.060	-.005	.110(**)	.156(**)	.152(**)	.169(**)	.629(**)	1	.482(**)	.431(**)	.207(**)	.196(**)	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.126	.903	.005	.000	.000	.000	.000		.000	.000	.000	.000	
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	
uRFC1	Pearson Correlation	.431(**)	.371(**)	.280(**)	.386(**)	.316(**)	.288(**)	.172(**)	.189(**)	.244(**)	.278(**)	.345(**)	.387(**)	.107(**)	.024	.170(**)	.175(**)	.151(**)	.191(**)	.414(**)	.482(**)	1	.658(**)	.246(**)	.156(**)	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.006	.540	.000	.000	.000	.000	.000	.000		.000	.000	.000	
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	
uRFC2	Pearson Correlation	.382(**)	.300(**)	.254(**)	.322(**)	.328(**)	.335(**)	.194(**)	.248(**)	.255(**)	.317(**)	.355(**)	.374(**)	.104(**)	.102(**)	.140(**)	.168(**)	.153(**)	.170(**)	.338(**)	.431(**)	.658(**)	1	.235(**)	.168(**)	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.008	.009	.000	.000	.000	.000	.000	.000	.000		.000	.000	
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	
uPWC1	Pearson Correlation	.263(**)	.245(**)	.203(**)	.220(**)	.130(**)	.133(**)	.137(**)	.162(**)	.132(**)	.128(**)	.198(**)	.208(**)	.183(**)	.108(**)	.095(*)	.099(*)	.139(**)	.169(**)	.209(**)	.207(**)	.246(**)	.235(**)	1	.351(**)	
	Sig. (2-tailed)	.000	.000	.000	.000	.001	.001	.000	.000	.001	.001	.000	.000	.000	.006	.016	.011	.000	.000	.000	.000	.000	.000		.000	
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	
uPWC2	Pearson Correlation	.172(**)	.178(**)	.123(**)	.153(**)	.173(**)	.138(**)	.027	.028	.099(*)	.076	.169(**)	.099(*)	.074	.027	.078(*)	.122(**)	.107(**)	.143(**)	.208(**)	.196(**)	.156(**)	.168(**)	.351(**)	1	
	Sig. (2-tailed)	.000	.000	.002	.000	.000	.000	.484	.480	.012	.053	.000	.012	.058	.492	.045	.002	.006	.000	.000	.000	.000	.000	.000		
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The Pearson's correlation matrix of independent variable for IB non-users' sample

		PRA1	PRA2	PC1	PC2	PE1	PE2	PI1	PI2	PT1	PT2	PT3	PT4	PTr1	PTr2	SN.fa1	SN.fa2	SN.fr1	SN.fr2	SE1	SE2	RFC1	RFC2
PRA1	Pearson Correlation	1	.696(**)	.662(**)	.570(**)	.478(**)	.479(**)	.352(**)	.354(**)	.417(**)	.391(**)	.342(**)	.470(**)	.212(**)	.199(**)	.312(**)	.293(**)	.231(**)	.305(**)	.374(**)	.360(**)	.342(**)	.238(**)
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PRA2	Pearson Correlation	.696(**)	1	.674(**)	.548(**)	.494(**)	.544(**)	.425(**)	.429(**)	.437(**)	.457(**)	.423(**)	.491(**)	.251(**)	.337(**)	.330(**)	.311(**)	.289(**)	.298(**)	.456(**)	.373(**)	.410(**)	.307(**)
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PC1	Pearson Correlation	.662(**)	.674(**)	1	.630(**)	.490(**)	.505(**)	.450(**)	.404(**)	.421(**)	.410(**)	.393(**)	.515(**)	.215(**)	.223(**)	.321(**)	.289(**)	.257(**)	.325(**)	.432(**)	.439(**)	.391(**)	.315(**)
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PC2	Pearson Correlation	.570(**)	.548(**)	.630(**)	1	.510(**)	.485(**)	.356(**)	.356(**)	.362(**)	.389(**)	.347(**)	.463(**)	.197(**)	.261(**)	.272(**)	.295(**)	.238(**)	.246(**)	.413(**)	.418(**)	.421(**)	.312(**)
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PE1	Pearson Correlation	.478(**)	.494(**)	.490(**)	.510(**)	1	.711(**)	.363(**)	.297(**)	.438(**)	.441(**)	.462(**)	.452(**)	.195(**)	.233(**)	.257(**)	.263(**)	.228(**)	.298(**)	.444(**)	.442(**)	.340(**)	.309(**)
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PE2	Pearson Correlation	.479(**)	.544(**)	.505(**)	.485(**)	.711(**)	1	.397(**)	.328(**)	.486(**)	.431(**)	.478(**)	.522(**)	.200(**)	.248(**)	.260(**)	.316(**)	.276(**)	.280(**)	.430(**)	.417(**)	.348(**)	.325(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PI1	Pearson Correlation	.352(**)	.425(**)	.450(**)	.356(**)	.363(**)	.397(**)	1	.710(**)	.352(**)	.350(**)	.348(**)	.371(**)	.296(**)	.282(**)	.320(**)	.374(**)	.384(**)	.390(**)	.345(**)	.287(**)	.249(**)	.264(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PI2	Pearson Correlation	.354(**)	.429(**)	.404(**)	.356(**)	.297(**)	.328(**)	.710(**)	1	.376(**)	.358(**)	.323(**)	.331(**)	.249(**)	.303(**)	.320(**)	.333(**)	.353(**)	.391(**)	.355(**)	.293(**)	.262(**)	.260(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PT1	Pearson Correlation	.417(**)	.437(**)	.421(**)	.362(**)	.438(**)	.486(**)	.352(**)	.376(**)	1	.698(**)	.672(**)	.609(**)	.097	.131(**)	.274(**)	.307(**)	.233(**)	.305(**)	.398(**)	.346(**)	.289(**)	.219(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.050	.008	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PT2	Pearson Correlation	.391(**)	.457(**)	.410(**)	.389(**)	.441(**)	.431(**)	.350(**)	.358(**)	.698(**)	1	.738(**)	.578(**)	.125(*)	.115(*)	.325(**)	.324(**)	.244(**)	.307(**)	.373(**)	.335(**)	.272(**)	.264(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.011	.020	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PT3	Pearson Correlation	.342(**)	.423(**)	.393(**)	.347(**)	.462(**)	.478(**)	.348(**)	.323(**)	.672(**)	.738(**)	1	.698(**)	.071	.185(**)	.343(**)	.361(**)	.263(**)	.321(**)	.438(**)	.351(**)	.320(**)	.293(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.150	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PT4	Pearson Correlation	.470(**)	.491(**)	.515(**)	.463(**)	.452(**)	.522(**)	.371(**)	.331(**)	.609(**)	.578(**)	.698(**)	1	.131(**)	.201(**)	.366(**)	.362(**)	.264(**)	.321(**)	.512(**)	.373(**)	.347(**)	.314(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.008	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PTr1	Pearson Correlation	.212(**)	.251(**)	.215(**)	.197(**)	.195(**)	.200(**)	.296(**)	.249(**)	.097	.125(*)	.071	.131(**)	1	.648(**)	.261(**)	.223(**)	.220(**)	.233(**)	.194(**)	.104(*)	.209(**)	.215(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.050	.011	.150	.008		.000	.000	.000	.000	.000	.000	.036	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
PTr2	Pearson Correlation	.199(**)	.337(**)	.223(**)	.261(**)	.233(**)	.248(**)	.282(**)	.303(**)	.131(**)	.115(*)	.185(**)	.201(**)	.648(**)	1	.287(**)	.264(**)	.211(**)	.263(**)	.284(**)	.202(**)	.320(**)	.306(**)

	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.008	.020	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
SN.fa1	Pearson Correlation	.312(**)	.330(**)	.321(**)	.272(**)	.257(**)	.260(**)	.320(**)	.320(**)	.274(**)	.325(**)	.343(**)	.366(**)	.261(**)	.287(**)	1	.700(**)	.553(**)	.561(**)	.354(**)	.224(**)	.178(**)	.193(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
SN.fa2	Pearson Correlation	.293(**)	.311(**)	.289(**)	.295(**)	.263(**)	.316(**)	.374(**)	.333(**)	.307(**)	.324(**)	.361(**)	.362(**)	.223(**)	.264(**)	.700(**)	1	.646(**)	.613(**)	.327(**)	.204(**)	.199(**)	.228(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
SN.fr1	Pearson Correlation	.231(**)	.289(**)	.257(**)	.238(**)	.228(**)	.276(**)	.384(**)	.353(**)	.233(**)	.244(**)	.263(**)	.264(**)	.220(**)	.211(**)	.553(**)	.646(**)	1	.750(**)	.317(**)	.201(**)	.197(**)	.226(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
SN.fr2	Pearson Correlation	.305(**)	.298(**)	.325(**)	.246(**)	.298(**)	.280(**)	.390(**)	.391(**)	.305(**)	.307(**)	.321(**)	.321(**)	.233(**)	.263(**)	.561(**)	.613(**)	.750(**)	1	.392(**)	.249(**)	.240(**)	.260(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
SE1	Pearson Correlation	.374(**)	.456(**)	.432(**)	.413(**)	.444(**)	.430(**)	.345(**)	.355(**)	.398(**)	.373(**)	.438(**)	.512(**)	.194(**)	.284(**)	.354(**)	.327(**)	.317(**)	.392(**)	1	.558(**)	.414(**)	.382(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
SE2	Pearson Correlation	.360(**)	.373(**)	.439(**)	.418(**)	.442(**)	.417(**)	.287(**)	.293(**)	.346(**)	.335(**)	.351(**)	.373(**)	.104(*)	.202(**)	.224(**)	.204(**)	.201(**)	.249(**)	.558(**)	1	.492(**)	.406(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.036	.000	.000	.000	.000	.000	.000		.000	.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
RFC1	Pearson Correlation	.342(**)	.410(**)	.391(**)	.421(**)	.340(**)	.348(**)	.249(**)	.262(**)	.289(**)	.272(**)	.320(**)	.347(**)	.209(**)	.320(**)	.178(**)	.199(**)	.197(**)	.240(**)	.414(**)	.492(**)	1	.684(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409
RFC2	Pearson Correlation	.238(**)	.307(**)	.315(**)	.312(**)	.309(**)	.325(**)	.264(**)	.260(**)	.219(**)	.264(**)	.293(**)	.314(**)	.215(**)	.306(**)	.193(**)	.228(**)	.226(**)	.260(**)	.382(**)	.406(**)	.684(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409	409

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The Pearson's correlation matrix of independent variable that measure the five stages of decision-making process in relation to IB users

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
Q1	Pearson Correlation	1	.547(**)	.629(**)	.509(**)	.417(**)	.408(**)	.386(**)	.432(**)	.350(**)	.358(**)	.289(**)	.302(**)	.257(**)	.241(**)	.250(**)	.303(**)	.295(**)	.284(**)	.324(**)	.305(**)
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q2	Pearson Correlation	.547(**)	1	.664(**)	.541(**)	.542(**)	.509(**)	.431(**)	.526(**)	.457(**)	.487(**)	.366(**)	.395(**)	.323(**)	.307(**)	.294(**)	.365(**)	.401(**)	.284(**)	.372(**)	.297(**)
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q3	Pearson Correlation	.629(**)	.664(**)	1	.688(**)	.505(**)	.465(**)	.396(**)	.505(**)	.450(**)	.494(**)	.387(**)	.382(**)	.285(**)	.278(**)	.290(**)	.339(**)	.356(**)	.278(**)	.412(**)	.332(**)
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q4	Pearson Correlation	.509(**)	.541(**)	.688(**)	1	.539(**)	.512(**)	.408(**)	.467(**)	.396(**)	.451(**)	.387(**)	.374(**)	.322(**)	.312(**)	.249(**)	.298(**)	.328(**)	.271(**)	.386(**)	.327(**)
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q5	Pearson Correlation	.417(**)	.542(**)	.505(**)	.539(**)	1	.519(**)	.436(**)	.525(**)	.401(**)	.490(**)	.441(**)	.431(**)	.375(**)	.369(**)	.268(**)	.387(**)	.406(**)	.328(**)	.349(**)	.321(**)
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q6	Pearson Correlation	.408(**)	.509(**)	.465(**)	.512(**)	.519(**)	1	.459(**)	.563(**)	.459(**)	.500(**)	.409(**)	.418(**)	.343(**)	.368(**)	.255(**)	.387(**)	.410(**)	.289(**)	.350(**)	.323(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q7	Pearson Correlation	.386(**)	.431(**)	.396(**)	.408(**)	.436(**)	.459(**)	1	.732(**)	.618(**)	.580(**)	.475(**)	.513(**)	.425(**)	.441(**)	.529(**)	.438(**)	.412(**)	.431(**)	.563(**)	.502(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q8	Pearson Correlation	.432(**)	.526(**)	.505(**)	.467(**)	.525(**)	.563(**)	.732(**)	1	.674(**)	.622(**)	.525(**)	.559(**)	.415(**)	.413(**)	.444(**)	.450(**)	.452(**)	.401(**)	.556(**)	.494(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q9	Pearson Correlation	.350(**)	.457(**)	.450(**)	.396(**)	.401(**)	.459(**)	.618(**)	.674(**)	1	.735(**)	.559(**)	.607(**)	.435(**)	.400(**)	.480(**)	.515(**)	.522(**)	.414(**)	.563(**)	.494(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q10	Pearson Correlation	.358(**)	.487(**)	.494(**)	.451(**)	.490(**)	.500(**)	.580(**)	.622(**)	.735(**)	1	.682(**)	.686(**)	.459(**)	.430(**)	.453(**)	.513(**)	.509(**)	.426(**)	.512(**)	.435(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q11	Pearson Correlation	.289(**)	.366(**)	.387(**)	.387(**)	.441(**)	.409(**)	.475(**)	.525(**)	.559(**)	.682(**)	1	.864(**)	.441(**)	.385(**)	.421(**)	.447(**)	.435(**)	.407(**)	.503(**)	.470(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q12	Pearson Correlation	.302(**)	.395(**)	.382(**)	.374(**)	.431(**)	.418(**)	.513(**)	.559(**)	.607(**)	.686(**)	.864(**)	1	.503(**)	.426(**)	.448(**)	.468(**)	.470(**)	.424(**)	.530(**)	.506(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q13	Pearson Correlation	.257(**)	.323(**)	.285(**)	.322(**)	.375(**)	.343(**)	.425(**)	.415(**)	.435(**)	.459(**)	.441(**)	.503(**)	1	.755(**)	.505(**)	.612(**)	.604(**)	.585(**)	.431(**)	.452(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q14	Pearson Correlation	.241(**)	.307(**)	.278(**)	.312(**)	.369(**)	.368(**)	.441(**)	.413(**)	.400(**)	.430(**)	.385(**)	.426(**)	.755(**)	1	.512(**)	.666(**)	.616(**)	.577(**)	.441(**)	.412(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q15	Pearson Correlation	.250(**)	.294(**)	.290(**)	.249(**)	.268(**)	.255(**)	.529(**)	.444(**)	.480(**)	.453(**)	.421(**)	.448(**)	.505(**)	.512(**)	1	.541(**)	.520(**)	.541(**)	.564(**)	.530(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651

Q16	Pearson Correlation	.303(**)	.365(**)	.339(**)	.298(**)	.387(**)	.387(**)	.438(**)	.450(**)	.515(**)	.513(**)	.447(**)	.468(**)	.612(**)	.666(**)	.541(**)	1	.832(**)	.628(**)	.529(**)	.444(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q17	Pearson Correlation	.295(**)	.401(**)	.356(**)	.328(**)	.406(**)	.410(**)	.412(**)	.452(**)	.522(**)	.509(**)	.435(**)	.470(**)	.604(**)	.616(**)	.520(**)	.832(**)	1	.658(**)	.501(**)	.446(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q18	Pearson Correlation	.284(**)	.284(**)	.278(**)	.271(**)	.328(**)	.289(**)	.431(**)	.401(**)	.414(**)	.426(**)	.407(**)	.424(**)	.585(**)	.577(**)	.541(**)	.628(**)	.658(**)	1	.467(**)	.487(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q19	Pearson Correlation	.324(**)	.372(**)	.412(**)	.386(**)	.349(**)	.350(**)	.563(**)	.556(**)	.563(**)	.512(**)	.503(**)	.530(**)	.431(**)	.441(**)	.564(**)	.529(**)	.501(**)	.467(**)	1	.701(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651
Q20	Pearson Correlation	.305(**)	.297(**)	.332(**)	.327(**)	.321(**)	.323(**)	.502(**)	.494(**)	.494(**)	.435(**)	.470(**)	.506(**)	.452(**)	.412(**)	.530(**)	.444(**)	.446(**)	.487(**)	.701(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651	651

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

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