

Evaluating User Acceptance of Mobile Banking Information Systems

An Empirical Case of Saudi Arabia



ABSTRACT

Mobile banking is the newest mode of financial banking, providing a convenient way of performing banking transactions using a hand-held device. With increasing technology advancement, slowly and steadily, the use and conceptualization of mobile banking is gaining momentum with banks and customers alike. Due to advancement and growth in mobile technology, mobile banking is now included in our day-to-day lives.

The main objective will be to identify factors that influence the adoption of mobile banking services in Saudi Arabia. The research will focus on issues such as trust, impact of culture, perceived risks, and perceived usefulness that already contradict the concepts of Technology Acceptance Model (Lee, Lee, & Kim, 2007). When trust, cultural influence, perceived risk, and perceived usefulness are properly addressed, mobile financial products have the potential to provide convenience and promptness to bank clients with the associated cost-saving benefits. The literature review section explored the concept of trust in general and with respect to mobile banking, culture in general, cultural models to determine the behaviour that is dominant in one country, and socio-cultural influence in the use of mobile banking among consumers. The literature section also examines the perceived risks and usefulness of mobile banking. The last section explores the relevant data related to mobile banking in Saudi Arabia.

The study was conducted by collecting secondary data and primary data. Secondary data was collected from books, journals, and government Web sites, whereas primary data was collected by means of a survey distributed among bank customers. In all, 50 complete questionnaires were collected out of 60 questionnaires sent out. The questionnaires were sent out using the survey distribution services of a Web site. Most of the participants in the survey were friends and relatives who used banking services in Saudi Arabia. The questionnaires were translated into Arabic for better comprehension.

The study findings concluded that security was one of the key factors when it came to acceptance of mobile banking, followed by usefulness and trust. All of the participants had mobile devices, representing the huge mobile banking market. The participants were mostly comfortable in adopting mobile banking services, and many of them were concerned about the costs involved in making use of the service. Since the participants were mostly youngsters, cultural influence in terms of mobile banking was not substantial.

The study had its own limitations in terms of data being collected due to limitations of time and resources. The findings can be generalized to the particular demographic. Further study is suggested to get more information and understanding of mobile acceptance in Saudi Arabia.



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CHAPTER 1: INTRODUCTION

Evaluating the acceptance of mobile banking in Saudi Arabia provides a crucial insight into the potential which may be thought to exist in this rapidly growing economy for new banking and financial services. Mobile banking connects customers and financial institutions in ways which are more flexible, convenient and cost-effective (Zheng and Ni 2006: 488) than in the past. The key aim of this chapter is to establish the foundation for the research topic by providing basic information about mobile banking, including factors impacting its acceptance such as trust, perceived risk, culture, and perceived usefulness. In the course of this chapter, the scope of the research topic and objectives are outlined along with the methodology and its limitations. The chapter concludes by laying out the structure of the dissertation.

1.1 Introduction

Banking is one of the most competitive of industries; with the privatization of banks, the competition among both private and national banks has increased to a great extent (Salvatore 2006: 391). In the era of globalisation driven by the internet revolution, the channels of connection between banks and clients have become more dense and diverse. As Shrivastava et al (2007) argue, "(T)he technology revolution has facilitated web-enabled financial services delivery systems" (2007: 334). Banks are competing for custom not just at branches but through the internet and on web enabled mobile phones. Mobile banking has increased convenience for customers and resulted in cost savings for the banks, but at the same time, there are great security concerns attached to the strategy of developing banking online. This concern has been ever present since the introduction of online banking in the early part of the twenty-first century and, despite lessening over time, is still prevalent in the case of newer technologies such as mobile banking and in particular in developing countries. (Howcroft et al, 2002; Laforet 2008). Security concerns associated with new technologies and practices may be expected to especially inhibit older users. Laforet and Li's (2005) research on the topic of mobile and Internet banking revealed that younger customers are more interested in online and mobile banking as compared to older customers.

The provision of online and mobile banking has become necessary for all banks, has and this has changed the practice of banking to a significant extent. Factors such as competitive cost, culture, risk factors, customer service, and demographic considerations are forcing banks to consider evaluation of their technology usage, along with the provision of mobile and online banking (Internet Banking: Comptrollers Handbook). The changes in the field of banking are taking place across the globe, but less developed countries may suffer from a lack of proper infrastructure and technology which can inhibit the roll-out of internet and mobile banking. Mobile banking which increases the distance between consumer and bank, may also expect to be subject to the distrust which has accompanied many Western technological transformations of developing countries which have occurred during the period of globalisation. As Yusuf (2003) writes, in the developing world "(T)here are those who fear that an excessive focus on material progress threatens the sustainability of development...revolutionary technological advances...whose spread is associated with the global influence of TNCs, are viewed with suspicion" (Yusuf 2003: 38/9).



According to the Saudi Arabia Communications and Information Technology Commission, Saudi Arabia, which is also the Arab World's largest economy, has more than 44 million mobile subscribers (SACITC Annual Report 2009: 20). This has brought about new opportunities in the world of electronic commerce and, in particular, in the banking industry. Mobile banking offers the convenience of viewing transactions and carrying out real-time banking transactions, which bring much added value for customers (Riivari, 2005). The number of mobile users is increasing every day, and more rapidly than the increase in customer ownership of personal computers, with which they might make use of online banking facilities.

Today, mobile technology is considered a necessity rather than a communication tool, which supposedly will affect the application of mobile banking in Islamic countries (Samad, 2004). Most of the mobile phones have the SMS support facility which can be used by the banks to serve the large number of consumers. SMS is also one of the most inexpensive facilities as compared to other data services. The convenience and cost-effectiveness of delivering information via SMS is an obvious reasons for the adoption by banks of this technology. SMS, along with other delivery modes such as mobile internet can be used to cater to the large consumer demographic in Saudi Arabia.

The main objective of this project will be to identify factors that currently influence the adoption of mobile banking services in Saudi Arabia. The research will focus on issues such as trust, impact of culture, perceived risks, and perceived usefulness that contradict the concepts of the Technology Acceptance Model (Lee, Lee, & Kim, 2007).

When trust, cultural influence, perceived risk, and perceived usefulness are properly addressed or assuaged, mobile financial products have the potential to provide convenience and promptness of service to bank clients with associated cost-saving benefits (Zheng and Ni 2006). Wireless mobile technology is rapidly expanding, and this is already changing the way in which banking transactions are being conducted (Schwartz 2005: 7/8). If mobile banking is not embraced, banking institutions in Saudi are likely to face stiff competition from their western counterparts because the latter are already saving substantially from the cost-effective service delivery mode of mobile banking. As Dar and Presley remark, "Western banks have also started offering Islamic financial products to tap the savings of the oil-rich Middle Eastern countries" (Dar and Presley 2003: 191). Financial and technological investment for the benefit of Saudi consumers and the Saudi economy is likely to be redirected to more receptive locations if domestic banks and banking law and infrastructure is seen to lag behind Western institutions.

Understanding preferences in Saudi requires evaluating consumer behaviour relating to the purchase and usage of products and services in the past and the present and surveying attitudes towards future practices. As with any new technology, the consumer must be educated about the benefits of online banking transactions and assured of the confidentiality of their personal information as ensured by the various security mechanisms installed by the financial institutions to protect their privacy and financial details.

We can assume that the customer's behavioural intention to adopt mobile banking is being driven by the usefulness of the technology in question. Our main aims and objectives are to investigate the effect of perceived risks, perceived usefulness, cultural influence, trust, and technology acceptance in the transition to this new form of conducting personal finance.



1.2 Research aim and objectives

The key aim of the study is to identify factors that influence the adoption of mobile banking services in Saudi Arabia.

The key objectives of the study are as follows:

- To explore cultural influence in Saudi Arabia on the adoption of mobile banking.
 Naturally reifying culture as an impediment or an enabler of the acceptance of
 technology is potentially problematic. The study will seek out the cultural influences
 on the sample of customers questioned their occupations, their family life, their
 interests, their political and economic views and their views of Saudi Arabia and
 Western technology.
- To analyse technology acceptance among customers. By understanding some of the cultural background of customers, it will be possible to determine upon what levels m-banking is being accepted in Saudi. Customers may accept it reluctantly or may feel empowered by the freedom which m-banking provides.
- To determine consumer-perceived risks and trust issues in the use of mobile banking
- To analyse the importance of trust in mobile banking. Trust is vital to establishing a wireless customer base, and goes beyond security concerns to encompass a sense of familiarity and ease with technological solutions to everyday problems.
- To provide brief recommendations based on study and analysis of the Saudi Arabia mobile banking industry

1.3 Research approach

The study was conducted by collecting secondary and primary data. Secondary data was collected from books, journals, and government Web sites, whereas primary data was collected by means of a survey distributed among bank customers. In order to select the participants, the study made use of the stratified random sampling method (Rao & Skinner, 1996).

The questionnaire included two parts. The first part contained demographic information, while the second part dealt with each subject's perception regarding each variable using five-point Likert scales from 1 ("strongly agree") to 5 ("strongly disagree"). Some of the questions asked the participants to rate the important components in considering mobile banking. The question set was translated into Arabic and reviewed by several experts to ensure that the translated scales were completely restated to be compatible within the mobile banking context.

The study did not require any assistance from a third party or any other institution. In order to collect data, the study made use of a Web portal survey to distribute the survey and collate responses. The system was designed in such a way that the respondents had to submit all of the answers. Of the 60 questionnaires sent, 50 responses were obtained. The duration for the survey was two weeks, and a reminder mailing was sent to the respondents at the end of the first week.



The evaluation of the data collected draws on models of culture developed by Hofstede (1991) to provide insight into the cultural factors which inhibit and enable m-banking acceptance. Not only is he spread of m-banking a question of investment, logistics, marketing and trust building, it is also about creating customers who identify with the cultural model of the consumer of banking products which modern (largely Western influenced) wireless banking espouses. Mobile banking stresses convenience and individualism. The data are divided up to show the demographic backgrounds of the sample and the cultural influences upon their practice of consumption. On these bases, the influence of culture upon the stated levels of acceptance of m-banking can be drawn out.

1.4 Dissertation outline

The structure of the dissertation as worked out in the following chapters is as follows:

Chapter 2 includes the literature review in regard to user acceptance of mobile banking information systems with respect to trust, risk perspective, and perceived usefulness. Cultural models, consumer behaviour theories, and the trust perspective in mobile banking are reviewed in detail in this section.

Chapter 3 discusses the development and reception of mobile banking in Saudi Arabia in particular, and the developing world as a whole through engagement with secondary literature.

Chapter 4: The thesis then moves on to the methodology section, wherein the research model, research framework, and data collection methodology are discussed. The questionnaire method is used to collect the necessary data from the consumer.

Chapter 5: This chapter presents the data findings.

Chapter 6: This chapter evaluates the principle trends from the data, contrasts them with previous research and points out how the marketing of mobile banking may not address the needs and cultural assumptions of lower income Saudi consumers.

Chapter 7: This chapter presents the conclusion and the summary of the research process.

1.5 Summary

The chapter introduced the topic of the dissertation and specified the key aims and objectives of the research. It discussed the research approach in the form of secondary and primary data collection by means of a questionnaire and clearly stated the limitations of the research in brief. The chapter also outlined the research structure, specifying the contents of each chapter. The rapid expanse of m-banking over the past decade is still to be fully embraced in many parts of the world and in many consumer demographics. However, with a young population and growing wealth, the Saudi market has great potential. This chapter has introduced the key dynamic of the dissertation. The acceptance of new technological forms in banking is another example of the globalising process whereby domestic culture is altered and alters new technology developed elsewhere. Not only must Saudi customers



trust their banks in security matters if they are to take advantage of m-banking, they must also culturally associate themselves with the cultural model of an m-banking consumer.

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CHAPTER 2: LITERATURE REVIEW

This chapter describes the relationship between cultural acceptance of technology and consumer behaviour and trust with regard to mobile banking. Cultural models, perceived risks, technology acceptance, and the importance of trust in mobile banking are discussed at length in this section.

Banking is a field that is service oriented and hence the importance of information and data is immense (Mishkin 2007: 265-75). Banking is dependent on information technology to convey information to its customers and to provide essential financial services. The banking industry is also dependent on information technology to differentiate its products, support its branding and delineate its market niche (Lynch 1996; Engler and Essinger 2000; Donaldson and O'Toole 2007). Banks have to be constantly on the edge of innovation in order to offer different products that can lend them competitive advantage. The emergence of mobile banking has forced many banks to think about their strategic direction and innovative products. The balance of investment in physical assets such as branches is shifting.

Customers have become more aware and demanding and want much more than simple banking solutions. They increasingly demand flexibility and convenience along with powerful and easy to use financial management tools and products, as well as the more traditional banking virtues of reliability and good customer service (Birch and Young, 1997; Jaffer 2005). Internet and mobile banking enables the banks to provide services by making use of extensive public network infrastructure (Ternullo, 1997).

There is a growing amount of literature concerning "mobile banking" services with the aim of understanding the attitude of the respondents toward mobile banking (Laforet & Li, 2005). Mobile banking stands at the leading edge of banks' strategy to deliver increased individuality and convenience to its customers. Banks' embrace of technological solutions to developing practices of consumption has driven this shift toward mobile banking.

2.1 Understanding mobile banking

People can execute various applications such as m-banking, m-transfers, m-payments, and m-transfers using mobile phones (Zheng and Ni 2006: 487/8). They can operate their bank accounts, store money in an account linked to their mobile device, transfer funds, and even perform transactions related to insurance or credit cards. Thus, m-banking, or an m-payment system, is a common term used to describe the wide spectrum of practices associated with mobile banking (Donner and Camilo 2008).

The rules and regulations, structures, and purposes of m-banking change from country to country (OECD 2010: 140). Various financial applications include such activities as bill payment, payments to merchants, long-distance payments, P2P (person to person) transfers, and so on. All of these facilities are offered by different businesses and organizations. Some facilities are provided solely by banks, whereas some are offered solely by telecommunication providers, and some facilities are offered jointly by telecommunications providers and banks (Porteous, 2006).



Different countries have different regulatory factors that dictate which services can be offered by which institutions (Mortimer-Schutts, 2007). M-banking/m-payment systems allow customers to perform three fundamental operations. Firstly, storing money in an account that is accessible by the mobile device. If a customer has m-banking bank account, it may be simply linked to a bank account. If a customer does not have a bank account, he or she may open a bank account or a pseudo-bank account owned by a third party or the mobile operator. The second function is completing cash-in and cash-out transactions with the stored account. Users can perform cash-in and cash-out transactions if the account is linked to a bank account. They can also use the retail stores of GSM providers. If more services are offered, a customer can go to a store and execute transactions as an agent for the transaction system with the retailer. The third function is transferring money among different accounts; customers can move funds between two mobile phones linked with an account through menu commands or SMS and PIN numbers (Donner and Camilo 2008).

Other important mobile banking services include (Mobile Banking Association, 2009)

- · Account alerts, security alerts and reminders
- · Account balances, updates and history
- Customer service through the mobile phone
- Branch or ATM location information
- Bill paying, delivering online payments through secure agents and mobile client applications
- Transferral of funds between bank accounts
- Mortgage alerts
- Mobile services which are expected to be launched in future would include mobile commerce, contactless payment making use of Near Filed Communications (NFC), mobile payments, mobile coupons and location based services.

2.1.1 Widespread use of mobile technology

The main target market for applications facilitating mobile banking comprises users in developed countries, for, as Rhyne notes, the transition from a cash to a cash-free economy has proceeded very rapidly in more developed countries whereas in the developing world, much of the economy is still cash-based (Rhyne 2009: 121). By offering services through banking tools such as ATMs, smart cards, checkbooks, internet resources, voicemail facilities, and landline interfaces, mobile companies provide services for managing money without the involvement of cash or face-to-face interaction (Karjaluoto, 2002). However, for customers in developing countries, the introduction and appeal of m-banking/m-payment systems is concerned more with affordability and accessibility than with convenience (Cracknell, 2004). In developing countries, increasing the usage of m-banking requires wholesale changes to the demand and supply side of the financial sector. Networking to develop the ideas and structure of m-banking/m-payment services between banks, mobile providers, software and hardware providers, regulatory agencies, customers, and investors is needed in order to bolster the perception on the demand side, that mobile banking is a valuable transformation of financial practice (Porteous, 2006). Mobile phone companies have also realised that m-banking/m-payments systems are an important service; by gaining

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customers' trust, they can generate money through messaging charges ("Micro-payment Systems and their Application to Mobile Networks," 2006).

2.1.2 Advantages and Disadvantages of Mobile banking

Mobile banking provides different benefits to banks and customers. As far as banks are concerned one of the key benefits is cost savings through the ability to process a variety of client transactions almost free of charge once the fixed costs of establishing m-banking infrastructure are paid. M-banking is also a powerful platform for reaching out to different type of demographics specifically the younger customer. Brand image may reinforced by mobile internet presence and enhanced customer service and contentment may be provided by the rapidity of m-banking transactions (Baraghani, 2008). Further, in the developing world, where fewer have access to bank branches (for instance in rural areas) or to computers, mobile banking may bring millions into the formal financial system for the first time and be the only viable way to provide financial services cost-effectively (World Bank 2009:4). The advantages of mobile banking are thus increased in developing economies.

The cost of establishing mobile banking is small compared to traditional banking since there is huge investment in terms of physical space inherent in branch banking. As per Robinson (2000) the cost of an electronic transaction is minimal as compared to physical transaction at a bank branch. Sheshnoff (2000) argues that akey factor in banks' decisions to invest in mobile banking is the requirement to increase customer retention. By providing not only branch but also mobile services to each customer, the bank increases its potential for the customer to identify themselves with the bank brand.

From the perspective of the customer, electronic banking provides convenient access to their accounts and greater flexibility in making transactions regardless of physical location or geography. They can access their bank accounts from their mobile phone while they are on the move or at home, anytime of the day. Even on Sundays and public holidays the mobile banking facility would be accessible to them since it is automated. Also the service of mobile banking can be cheap as compared to traditional services of the customer, for example bank may charge certain amount to the customer for producing a printed balance whereas mobile banking can give transaction details to the customer without any added cost. Mobile banking will also save time and energy for the customer since they do not have to travel to the bank or wait in queues, and, contrary to internet banking, they do not have to buy a computer system. Other benefits include

- The mobile banking service is easy to use and does not require any technical knowledge
- SMS it one of the most widely used messaging tools already used by customers. No extra learning is required for its use
- SMS does not require any specific software installation
- M-banking enables real time information to be given to the customer
- Banking messages in form of SMS can be retrieved any time even when the network is down. Such reliability is not assured with internet banking.



 Many banks provide the facility of erasing the important information from the handset in case the handset of the customer is stolen or lost (Mobile Banking Association, 2009)

Though there are many advantages, there are certain disadvantages as well of mobile banking (Mobile Banking Association, 2009):

- There are variety of handsets and mobile systems available in the market mobile banking facilities need to be developed to deliver usability and reliability on a variety of platforms.
- Handset limitations and variability in connectivity, particularly relating to issues of network connections in rural areas of developing countries, are likely to hamper the effectiveness of mobile banking. The technology of m-banking and its provision is dependent on other technologies and the efficient provision of such services.
- Mobile banking services may face restrictions when the telecommunication partner requires for the potential customer to participate in a fixed rate plan for their mobile usage. This is normal in developed countries but may be a great hurdle to more price sensitive demographics in poorer states.
- In some of the developing countries where the technology is not that developed price
 can be a factor, customers may not be willing to pay certain amount as a flat fee to
 make use of mobile banking services each month
- Customers in developing countries, less used to remote banking, may not trust the
 bank to send their financial details over the phone. Anyone who can view their mobile
 can also access their financial bank SMS's. Further, if banks launching mobile
 services in developing countries do not provide robust security in case of lost or
 stolen mobiles, then financial information stored in form of SMS in the handset may
 compromise customer security.
- While new customer service potential is a benefit of m-banking, there are many new
 potential pitfalls if something goes wrong with the provision of mobile technology on
 the bank side. New practices have the capacity to generate new complaints and
 service failures as well as eventual successes.

2.2 Trust

It is difficult to define the concept of trust in a standardized form, as it is influenced by different situations, contexts, environments, and frameworsk. There are different definitions of trust that are available showing the complex nature of the term. Different authors and psychologists have identified the term in different ways. According to Doney and Cannon (1997: p.37), trust can be defined as "a trustor's expectations about the motives and behaviours of a trustee." It is also defined as "a willingness to rely on an exchange partner in whom one has confidence" (Moorman, Zaltman, & Deshpande, 1992: p. 315). Whereas Morgan and Hunt (1994: p.20) believe that the existence of trust is evident when "one party has confidence in an exchange partner's reliability and integrity".

Familiarity with the person, organization, or process helps to cultivate the roots of trust. Trust is multidimensional and context-dependent by its nature, according to the Theory of Trust and Power (Luhmann, 1988), which states that familiarity is one of the crucial determinants in trust, helping to reduce the degree of risk and uncertainty through mutual understanding



developed during repetitive transactions. Researchers are trying to understand the relationship between familiarity and trust. Individuals prefer familiar investments and fear change and the unfamiliar (Arrow, 1972).

Reputation and credibility are other two factors that play a key role in gaining consumer trust in a business setting. Ganesan (1994) agrees with Luhmann's theory of trust being multidimensional, saying that credibility and benevolence are the two main dimensions of trust. In a business context, Ganesan (1994) defines credibility as the degree to which the buyer has confidence that the seller has the required expertise to effectively perform the job, while he sees benevolence as the degree to which the seller believes that the buyer has intentions and motives beneficial to the seller. Quelch and Klein (1996) argue that the reputation of a company is considered to be an important and determinant antecedent for the establishment of trust between a consumer and a merchant. Credibility, reputation of the firm, and familiarity of customer's with the standing of a company are the most important driving forces of consumer trust.

2.2.1 Importance of trust in a normal business setting

Trust in a business setting has a different implication that may vary to some degree compared to usual understandings. Within the retail environment, trust may be defined as the belief or expectation that the merchant's word or promise can be depended upon and that the seller is not trying to take advantage of consumer vulnerability (Geyskens, Steenkamp, Scheer, & Kumar, 1996). Trust in the context of business is not grounded in culture but is merely what a party has to depend on when no other form of risk amelioration strategy is available (Clarke, 2002).

As Arrow (1972) notes, "(V)irtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time." Hirsch (1978, p. 78) accentuates its importance for exchange when he explains that "trust is a public good, necessary for the success of economic transactions." Doney and Cannon (1997) label trust as an order qualifier for purchase decisions; for them, consumers place an order only in the case of a trustworthy relationship with the merchant. Trust is built up from a record of successful past transactions and the cultivation of satisfactory service relationships over time.

Trust and risk are two sides of the same coin. Trust involves uncertainty regarding the outcome and, thus, risk. Trust and risk are closely interrelated (Mayer, Davis, & Schoorman, 1995). Risk is defined as consumer's perceptions of the uncertainty and adverse consequences of engaging in an activity (Dowling & Staelin, 1994). Consumer trust in a merchant reduces the perceived risk of a a specific transaction or economic relationship..

2.2.2 Layers of trust

As discussed above, there are different levels of trust; trust needs to be examined closely, as different people with different trust levels are involved in a relationship. The trust level that is built between humans is called interpersonal trust (Boon and Holmes 1991). Normally, this type of trust is developed with time and interaction between two or more people. Gradually,



they understand each other and can make decisions about each other's intentions, character, and motives.

Trust is important for an effective market economy; it helps to build support in people who are not familiar to each other. Various reasons have been discussed with respect to why people work together even without knowing each other. Few people are of the opinion that the human role as a social entity helps them to earn presumptive trust. Here, the actual individual is not trusted, but their expertise and their role in society are trusted (Kramer, 1999). To state an example, (Kramer, 1999, p.9) says that "we trust engineers because we trust that engineers are experts in engineering and use valid principles of engineering, also through our day-to-day experience and observation when we see aircrafts flying, we believe that these principles are valid".

Relations between institutions such as political parties and individuals involve institutional trust (Mishler, 2001). Interpersonal trust is also included in institutional trust (Smith, 2007). The real image of an institution depends upon the personnel who work in an institution. To state an example, Zimmer (1972) says that the image of an institution lies with the institutional heads. To explain it in detail, Zimmer (1972) shows the impact of the Watergate scandal on the view of public trust for government. He proves that the public distrust for Nixon led to total distrust for the American government. In this sense while trust in the delivery of mobile banking services is connected to trust in the companies supplying the technology, the challenge for suppliers is also to provide the customer service to back up the technology. In other words to provide personal advice to consumers as well as the platforms for this new banking practice.

2.2.3 Importance of trust in mobile banking

One of the most common definition of trust is "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action which is important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer et al, 1995, p712). This definition centres around the fact that the trustor makes himself or herself vulnerable which shows that the trustor believes that something important will be lost because of engaging in the trusting relationship (Mayer et al, 1995). This is true in case of mobile banking. The customer potentially makes himself or herself vulnerable to security breaches or technological failures while carrying out mobile transactions. The customer would be happy to rely on the mobile technology for financial transaction if it was certain that the technology was completely reliable.

Trust is an extremely important element in social relations and in shaping the trajectory of mobile banking. Research into the field has revealed that many customers trust the bank if they are affiliated with secure mobile system applications. This shows that institutional trust relations between the customer and the mobile service provider are strong (Morawczynski & Miscione, 2008). Further research findings have suggested that interpersonal trust relations between the customer and bank in the context of mobile banking services can be weak if they do not trust the systems adopted by the bank or the people who overlook the mobile



banking operations because customers often believe that the agents could steal the customers' money if there are issues with the application (Morawczynski & Miscione, 2008).

This shows that the trust component in terms of mobile banking is highly reliant on the usage of systems, the mobile systems, the third parties involved in the provision of mobile banking services, and the banking agents who oversee the mobile banking services. Fraud and theft are one of the perceived risks and, hence, a hindrance when it comes to trust in mobile banking services.

2.3 Culture

Culture is a difficult and complex concept used in various ways depending on the context. Acceptance or rejection of new social practices - especially in the developing world when the new practices derive from the developed West, such as is the case with mobile banking - is patterned by local culture. In this way, the results of questionnaires which weigh the levels of acceptance of m-banking must be interpreted with reference to cultural templates. Naturally, the questionnaire format itself does not explicitly inquire into the cultural bases for consumer decisions, but the patterning revealed can only be partially explained if cultural assumptions are not brought into the interpretative equation. Further, it is not enough for companies to create the technological, corporate and logistical structures required for m-banking. The culture of m-banking usage must be fostered, and cultural expectations which are barriers to trust in this new system must be removed if the sector is to meet its potential. Thus, culture is a vital concept in the evaluative work of this study.

The word "culture" derives from a Latin word, "colere," which means "to care for" or "to cultivate." The thought behind a cultural phenomenon is cultivation, or something that is derived from the human interaction that gives rise to culture. For Hall (1973), culture stands for the way of life of groups of people: the sum of their learned behaviour patterns, attitudes, and material things. Culture is an orientation system that is universal but highly typical of a society, organization, or group (Boli, 1997).

Hofstede (1991) describes culture as the software of the mind that distinguishes the members of one group or category of people from another. He indicates that culture is cultured, not inherited, people acquire patters of thinking, feeling, and potential action from their surroundings. He further argues that culture is not reliant on heredity but is influenced by the social environment in which people intermingle. Hofstede (1991: p.5) extends his definition of culture as a distinctive "collective programming of the mind, which distinguishes the members of one group or category of people from another."

All of the above definitions of culture have the common background of how people behave, as influenced by their environment. Such a sphere of culture might describe a city, country, or organization. The implication of culture and its use as an abstract entity involve a number, of collective and shared artefacts, behavioural patterns, values, or other concepts that, taken together, form the culture as a whole (Dahl, 2006).

Culture is like an onion peel: there are layers within layers. In fact, there are often cultures within cultures. The company might have its organizational culture as well we small groups within it defining their own culture. Various small communities at different times and places



define their own culture. People unavoidably carry several layers of mental programming, such as gender, age group, education, profession, language, and religion (Hofstede 1991). To this, Bourges-Waldegg (2000), who views culture as an organization of social factors such as values, traditions, religion, language, conventions, and social behaviour, argues that it is, at times, not possible to specify the bounds of one particular culture in the layers of mental programming, as many of these cultural attributes are not unique and cultural boundaries are not generally neat.

Culture influences human behaviour to a large extent and encompasses interaction with other people, decision-making processes, and perception of others. Del Galdo (1996) says that culture is a learned behaviour of a group or society, induced by their immediate environment and surroundings, the history and traditions they have grown accustomed to, and their social rules and communication practices. Krober and Parsons (1958) argue that culture creates patterns of values and ideas that shape human behaviour. If the culture affects human behaviour, it can be concluded that it would also affect the trust of online consumers.

2.3.1 Cultural effects - Hofstede's Model of Culture

Cultural studies generally encompass cultural models to compare the similarities and differences of two or more cultures or sub-cultures by using cultural variables, which are categories that organize cultural data (Hoft, 1996). Researchers have proposed models based on questionnaires, interviews, surveys, extensive research, and observation. This section examines Hofstede's (1991) model.

Hofstede's (1991) cultural model is the one considered in this thesis, as it is highly influential in many fields of social science research (Pavlou & Chai, 2002). Hofstede concludes his research and develops his model using questionnaires distributed among IBM professionals. The questionnaire was designed to evaluate work values and, thus, has more applicability in that field. According to Hofstede, his survey encompass results from employees working in local subsidiaries of a large multinational organization, but individuals span different nationalities.

Hofstede (1991) identifies five cultural variables based on his research and survey of IBM employees as follows:

- Power distance, which refers to one's outlook on authority and power
 Collectivism versus individualism, which refers to one's outlook on group membership
- Femininity versus masculinity, which refers one's outlook on work goals depending on gender
- Long-term versus short-term orientation, which refers to concerns about the present, past, and future
- Uncertainty avoidance, the degree to which individuals feel threatened by the unknown



Hofstede identifies the prevalence of these cultural variables in different parts of the world as follows:

- Power distance: Prevalent in Latin American, France, and Asian countries where the distribution of power is unequal.
- Collectivism versus individualism: The United States and Germany are individualistic; people look out for themselves, whereas Asian countries such as China and Japan have a collectivistic culture.
- Femininity versus masculinity: This is, in general, a difference between western and eastern culture. Western culture has generally equal status among men and women compared to Asian and Arabic countries. Arab countries are masculine-oriented; the role of women in making important decisions is very trivial, but this is changing with the changing times.
- Long-term versus short-term orientation: This difference occurs in various parts of the world.
- Uncertainty avoidance: Egyptian culture is found to have strong component of uncertainty avoidance whereas Great Britain has weak uncertainty avoidance. This reflects upon the relative traditionalism or conservativism of a culture.

Walsham (2002) criticizes Hofstede's (1991) model as rather crude and simplistic when the same model is applied to information technology; he argues that this model views culture as a static phenomenon, while the culture is generally reflexive and easily changeable. He also claims that Hofstede (1991) describes aggregate differences between cultures but provides no link to cross-cultural contradiction and conflicts. Further, he argues that the model's cultural variables are incapable of easy translation for work patterns. Hofstede (1991) agrees that profound cultural differences based on region or social stratum may emerge within a single nationality, but most of the criticisms of his work focus on his implicit assumptions about the homogeneity of national culture (Walsham, 2002).

Another criticism of the model comes from Spector and Cooper (2002), who question the ability of Hofstede's (1992) scales due to their poor internal consistency reliability; they are incapable of assessing a single homogeneous construct. Hofstede (2002) clarifies that the model was intended to compare and contrast country-specific data and admits that his scales might produce low reliability scores at the individual level.

2.4. Cultural influence on m-banking

For widely acceptance of mobile banking, the social surroundings and culture of users are important. A high level of acceptance of the use of the latest technology affects the acceptance of mobile banking (Samaneh Barati, 2009). Cultural and social factors corresponding with mobile banking will give an optimistic view of the behavioural intention to use mobile banking and vice versa (Samaneh Barati, 2009).

There is a long-standing discussion on m-banking/m-payment use from a social and cultural perspective. Both cultural and social factors on the macro and micro levels have been discussed among friends and families, especially when money is involved (Zelizer, 1994). As illustrated in a survey conducted in Manila (Donner, 2007) people normally prefer to transfer



money as a gift to a family member, but they do not like to transfer money to a stranger or less familiar person.

In a technical sense, the working procedures for both are similar, but socially, they are different. Policy-makers and practitioners intend to legalise m-transactions related to particularly common behaviour ("Micro-payment Systems and Their Application to Mobile Networks," 2006) where two users are using the same mobile device. However, few recommend that m-banking/m-payment systems should change the system related to family transfers, which give more authority and independence to women in managing household savings (von Reijswoud, 2007).

2.5 Perceived risks and perceived usefulness

Perceived risk is defined as "the possibility that online businesses might use personal information inappropriately hence invading a consumer's privacy" (Nyshadham, 2000). With respect to perceived risk, two categories need to be defined – performance and psychosocial – with the risk category also having several additional dimensions: performance, financial, opportunity/time, safety, and psychological loss (Cunningham, 1967). Recent research suggests that customers are highly concerned with the disclosure of their private information such that businesses might take advantage and inappropriately invade a customer's privacy (Sathe, 1999).. Perceived risk is also influenced by trust, with trust working as an automatic mechanism in reducing a client's perceived risk. Privacy risk is important when consumers make payments online or using a mobile device. They are not sure if the important data will be secure in the hands of the institution when they engage in mobile banking transactions. This variable is important for the banks to understand, as there is a growing need to build up trust to reduce the perceived risk of the customer.

Perceived use' is defined as "the degree to which a person believes that using a particular system would enhance his of her job performance, while 'perceived ease of use' is defined as the degree to which a person believes that using a particular system would be free of effort" (Samaneh Barati, 2009). Research by Koivumaki et al suggests that increased user skills would trigger a more positive response and perception toward mobile services and increase the probability of constant service use. Thus, the importance of spreading awareness of the need for advanced technology skills among the general public cannot be overstated (Koivumaki, Ristola, & Kesti, 2008).

2.6 Summary

This chapter included a literature review with respect to user acceptance of mobile banking information systems based on trust, risk perspective, and perceived usefulness. The chapter explored the trust factor in detail in the normal business setting and in the context of mobile banking. Culture is important in determining consumer behaviour with respect to technology since it tends to differ from one culture to another. Culture was explored using Hofstede's (1991) cultural model to consider the impact of culture on consumer adoption of mobile banking. Perceived usefulness and perceived risk are important factors when it comes to the selection and adoption of mobile banking. These factors were explored in detail in this section.

CHAPTER 3: MOBILE BANKING IN SAUDI ARABIA

3.1 The Dynamics of Introducing New Mobile Technology

In an early article on the subject, Al-Ashban and Burney make the observation that the increase in mobile banking in countries such as a Saudi Arabia is made inevitable by the maturation of financial markets in the developing world and their increasing integration into the global economy. They write that: "(O)wing to increased competition, banks, - both in Saudi Arabia and globally – have become far more similar institutions and have come to compete in an increasing number of areas...As many markets mature, the amount of competition becomes more intense and the need for effective differentiation even greater" (Al-Ashban and Burney 2001: 191).

Saudi Arabia is a nation with the demographic profile to become an increasingly important consumer of mobile and internet banking solutions. Naturally, in contrast to many other developing countries, Saudi Arabia benefits from plentiful financial resources which may be deployed for domestic investment in new technology and infrastructure. Further through its resource-rich economy, it supports a class of consumers made up of wealthy Saudis and international expats, who demand levels of financial service as sophisticated as is available in any country in the world. Of course, not all Saudis have benefited from the oil economy to such a degree, and many face financial obstacles to signing up for mobile banking.

Saudi Arabia also has experienced a population boom since the growth of oil revenues from the 1970s onwards. A particular feature of the present Saudi demographic make-up as a result of this surge is that the country has an extremely young population (Cordesman 2003: p6). As the Governor of the Saudi Communications and Information Technology Commission reported in 2007, over 50% of the population was under the age of twenty in 2007. (Al-Suwaiyel 2007: p9). A youthful population is likely to be a vehicle for rapidly changing national culture and cultural expectations, while an aging population is likely to hold faster to values enshrined in the past. A great part of the Saudi population has not only grown up in the age of globalisation, the internet and the large-scale import of Western technology, but also have opened or will open their first bank accounts in a period where remote banking is increasingly the norm. Thus, the association of undue risk with mobile banking, and a resistance to change from branch banking may be expected to decline since younger generations will not maintain these cultural baselines.

3.2 Research Precedents: Investigating Early Tele-Banking

Several of the assumptions outlined in the previous chapter with respect to the relationships expected between demographic factors and the uptake of new forms of banking, were confirmed in the early part of the present decade by Al-Ashban and Burney (2001). In general terms the conclusions of the their research accord with the notion that the greatest inhibitor to widespread mobile technological development in the banking sector is the income inequalities which prevail in Saudi Arabia. They note that "technology-driven delivery systems specially attract the affluent, educated... segment of customers" (Al-Ashban and Burney 2001: p198) and that usage "frequency is significantly and positively related with the income level and age of the customer" (2001: p197).



In other words, a great many people in Saudi simply cannot afford to use such services or, given the state of their finances, see little reward in signing up for tele-banking services. Indeed, 58% of respondents used tele-banking services for inquiries only — balances, exchange rates, recent transactions. Those on limited incomes are unlikely to have a great deal of important financial transactions to make on a daily or monthly basis and the extra convenience of mobile or tele-banking would bring little benefit to them. They would not be expected to hold multiple accounts for checking, savings, bonds, shares and so on, and thus, the need of poorer consumers for constant and rapid contact with their bank is much lower than for richer clients.

The greater contact between rich customers and banks is likely to increase familiarity and acceptance of new forms of banking within that demographic. As Al-Ashban and Burney write: "(A)s the exposure of a customer increases...he develops the understanding and trust in the service and consequently, his usage frequency increases" (2001: p197). This effect is enhanced by the fact that companies are most likely to offer trials of new services to their most valued customers. Further, while the utility of tele-banking and mobile banking may be restricted for poorer customers, research into tele-banking recorded significant enthusiasm for further developments in mobile banking across demographics, demonstrating the openness to change which might be expected of a youthful population and a growing economy.

3.3 Current Patterns

A recent survey was conducted by KPMG revealed some important findings related to mobile banking. The findings of the survey concluded that even though 59% of the global customers state that mobile banking is important to them, they are not happy about paying for the use of the service. Tared Al Sadhan, Managing Partner at KPMG in Saudi Arabia comments that: "(P)artly fuelled by the arrival of smart phones, consumers worldwide are showing strong demand for bundled services and mobile banking is part of this equation. The next challenge will be to allay consumers' concerns over privacy and security in order for mobile banking to succeed and be financially viable and profitable for banks in the future" ("Consumers Not Prepared to Pay for Mobile Banking: Study," 2009). The survey further revealed that in the Middle East, around 67% of Saudis said that "they were 'very or somewhat comfortable' with using a mobile phone for financial transactions but only 39% of South Africans said the same" ("Consumers Not Prepared to Pay for Mobile Banking: Study," 2009).

In the same survey, 86% of respondents replied that, to date, they have not participated in mobile banking transactions to buy a product from a vending machine, whereas 90% replied that, to date, they have not participated in any retail transactions using their mobile, which further confirms the fact that there is a lack of comfort and awareness in terms of mobile banking with respect to making payments and other banking transactions over the phone. On the other hand, this situation presents a huge opportunity for Saudi Arabian banks to tap into the mobile banking market through the provision of a safe, secure, and convenient environment for customers to complete transactions over the phone ("Consumers Not Prepared to Pay for Mobile Banking: Study," 2009).



Low usage of mobile banking for retail purchases should not be taken as a significantly discouraging sign. Such practices are extremely novel. As Al-Suwaiyel (2007, p13) notes, 3G mobiles capable of processing such transactions were only made available in Saudi Arabia in 2006. Further, akin to the point made in the previous section about the low utility of mobile banking for poorer customers, Al-Somali et al (2009) note that in the current period, perceived utility is still the most pertinent factor in explaining patterns of mobile banking uptake and the most prevalent banking method remains the ATM for most consumers (2009: p4/5). Most consumers' simple transactions are not ones for which mobiles could be necessary. Instead they just involve the withdrawal of small sums of cash for the purchase of everyday articles.

Thus while there is clearly great potential for mobile banking development in Saudi Arabia, the ability of mobile banking to meet the needs of the diverse types of Saudi consumers is still in question. Upon this basis, the following chapter describes how the current research project investigating client perceptions of banking and mobile banking was devised.

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CHAPTER 4: METHODOLOGY

The research project uses various practical and theoretical methods to do full justice to the research. The practical methods encompass the use of a Web-based questionnaire distributed among Saudi banking customers. The chapter discusses the various research methods and their importance. The chapter also provides the justification for choosing a particular research method. The chapter explains the questionnaire design as well.

4.1 Overview

There are a variety of research approaches available, and there is no standardized method to go about the research. It is acknowledged that many approaches to the generation and analysis of qualitative data are available in studying information systems, in this case mobile banking, due to their complex, multidisciplinary nature. This chapter intends to demonstrate the research methodology used in the dissertation to scrutinize the main concepts that constitute the intersection between trust, perceived risk, and technology acceptance within mobile banking.

4.2 Importance of selecting an appropriate research approach

Information systems are a multidisciplinary endeavour, as contributions to its study come from a variety of disciplines. In that sense, there is no single framework that covers all of the domains of knowledge that are essential for its study.

4.3 Research methods

"There's no such thing as qualitative data. Everything is either 1 or 0"; these are the words of Fred Kerlinger stated in the book *Qualitative Data Analysis* by Miles and Huberman (1994)(year) in defence of quantitative analysis. Denzin and Lincoln (1994, p. 2) describe qualitative analysis as "multi method in focus, involving an interpretive, naturalistic approach to its subject matter." The vagueness of this statement can be further clarified by the thoughts of Kaplan and Maxwell (1994), who argue that "the goal of understanding a phenomenon from the point of view of the participants and its particular social and institutional context is largely lost when textual data are quantified."

My opinion is that both methods have their own relevance and can be applied depending upon the elements involved in the research. To reinforce my claim, I shall list a few differences that I perceive between the approaches. First, we can say that quantitative analysis is an inductive approach, as it requires a hypothesis to begin a research study, whereas qualitative analysis is more deductive in its approach. Another major difference lies in the fact that quantitative analysis makes the researcher an observer, whereas the qualitative approach makes him a participant in the research.

In quantitative analysis, the numbers help in the representation of values and different levels of theoretical concepts. The numbers can interpret strong scientific evidence in the occurrence of the phenomenon. A quantitative positivist researcher might use archived data or gather it through structured interviews. In qualitative analysis, the qualitative researcher sees the world as a social construction and reveals major variances that depend on the



observer and the analyst for the phenomena. I personally do not agree with Fred Kerlinger (1994 in light of the fuzziness involved in various recent studies and characteristics, proving that everything does not have to be either a 0 or a 1.

4.4 Justification of the research approach

Both methods have their own strengths and weaknesses, and the study made use of both methods as the need arose. In order to collect quantitative data, primary information was collected through the medium of a questionnaire. The questionnaire was sent to friends and relatives who made use of various banking services in order to learn about the perceived risk, trust, and technology acceptance in order to determine mobile banking acceptance in the Saudi banking industry. A qualitative research method was used to study the unstructured information collected through secondary data collection from journals, government Web sites, and bank reports. This helped in understanding the competitiveness of the local and international banks in Saudi Arabia and their readiness to face future challenges.

4.5 Data collection

This section gives information on various data collection methods and the tools used for data collection.

4.5.1 Primary data

In general, there are various techniques through which primary data can be collected such as face-to-face interviews, telephone interviews, questionnaires, observations, etc. This study made use of an online questionnaire in order to collect primary data. The questionnaires focused on getting socio dynamic information about the respondents. This method was selected because of its ease of use and comprehension in terms of results derivation. Primary data is extremely important when it comes to satisfying the various research objectives.

4.5.2 Secondary data

Secondary data is easier to collect since it is already available in a format that is easy to understand and organize. Information was collected based on the credibility of the authors. Journals, books, and magazines were used to collect facts and literature to support and analyse the findings of the study.

4.6 Questionnaire development

Questionnaires are generally used to collect quantitative data. Questionnaires were selected as the tool to collect data since they fit within the financial budget of the research and due to the easy interpretation of the answers, unlike the content of interviews which can have different interpretation and also it would not be possible to interview 50-60 people. At the same time with interviews it can be difficult to analyse the responses from the various participants. Hence the questionnaire method was selected because of standard response option. The types of questions that can be used in questionnaires include open-ended,



closed-ended, indicated response, and any response. In this case, questionnaires were given to customers of the bank to get more information about consumer behaviour, challenges, and opportunities and the future of mobile banking in Saudi Arabia.

Some of the advantages of using a questionnaire are as follows (Zikmund, 2003):

- Cost-effectiveness
- Data can be gathered from a large number of groups
- Easy interpretation of information
- Possible response to each question

Some of the disadvantages of using a questionnaire are as follows (Zikmund, 2003):

- Inflexible compared to interviews
- Lack of detailed information
- · People may not give it much importance

4.6.1 Design of the Questionnaire

The questionnaires were in electronic form, and around 60 questionnaires were e-mailed to potential participants. If a customer did not have an e-mail address, questionnaires were submitted through a survey Web site. Most of the survey participants were university friends and near and distant relatives. After sending the questionnaire, a reminder was sent after two days to make sure that the participants filled out the necessary information. The turnaround time for the questionnaire was around one week. The participants were advised in writing that the information was being collected for the purpose of research only and would not be used for any other purpose. In total 60 questionnaires were sent out via email. 50 responses were received. The questionnaire design is attached in the appendix.

In order to make the questionnaire look easy and efficient, it was divided into two parts as follows:

Section I: Personal Information

This section of the questionnaire asked the participant to fill out necessary personal information such as age, gender, occupation, monthly income, etc.

Section II: Perspective toward and performance evaluation of Mobile Bankin

The respondents were asked to rate the important factors for mobile banking and to give details regarding their awareness of mobile banking, their comfort level in terms of using mobile banking, and the cost factor involved with the use of mobile banking.

4.7 Limitations

Most of the respondents were Arabic individuals; hence, the findings are limited to Arabic speaking demographics. Also, due to constraints of time and resources, limited number of survey responses was obtained. Of the 60 surveys sent out, 50 were returned completely filled in. It is believed that if the study were conducted on a larger scale including more



dynamic demographics, then the results might vary. So generalization about the larger population cannot be made here.

4.8 Summary

This chapter gave information on the research method and approach used for the study. The chapter discusses the importance of selecting correct research approach and its impact on the overall analysis. Qualitative and Quantitative approaches are discussed in length and

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CHAPTER 5: DATA ANALYSIS AND FINDINGS

5.1 Introduction

This chapter will include the analysis of the data collected using the questionnaires. The questionnaires, as stated earlier, were divided into three parts: personal information, rationale for selecting banking services, and performance evaluation of the bank. In total, 60 online surveys were sent out by e-mail to friends and relatives, and 50 completed questionnaires were returned. The system was designed in such a way that all the questions had to be answered by the participant. There were 10 questions in all; the first part of the questionnaire contained four questions related to the demographics of the participants, while the next 6 questions were related to the respondent's perspective toward mobile banking.

5.2 Demographic information of participants

Gend	er	Age	range			Occu	pation				Income			
Fe	Male	18-	29-	39	Abov	Stu	Hous	Busin	Empl	Other	Less	10,000-	15000-	More
mal		28	38	-	e 49	dent	ewife	essm	oyee		than	15000	20,000	than
е				48				an 🦯	- O'		10,00	Riyal	Riyal	20,00
											0			0
							4	\$	•		Riyal			Riyal
48	52%	56	36	4	4%	25	18%	15%	35%	7%	10%	60%	20%	8%
%		%	%	%		%	50							

The above table shows that 48% of the survey respondents were women, whereas 52% were men. Both genders showed equal participation in giving opinions about the use of banking services and technology acceptance in Saudi Arabia, although in Saudi Arabia, the position of women is mostly confined to the house. However, societal norms are changing with the times, and this can be seen in the gender participation of the survey. Women today are taking a more active role when it comes to shouldering responsibilities and taking charge of finances.

The table also gives information about the respondents' age group. We can see that the major participation was from the 18-28 and 29-38 age groups. These two age groups, in total account for almost 92% of the total participation. The age factor here shows that the participants are mature and have their own opinions when it comes to selecting and accepting technology for financial services, however the greater part of their adult experience has been in the age of the internet, mobile communications and globalisation. They are familiar with technological advancements, are likely to have considerable 'computer self-efficacy' (Al-Somali at al 2009: p3) and are open to using the various banking choices offered to them. Also, the large participation from the 18-28 age group could be attributed to their use of the Internet since the survey was sent online, and the younger generation is familiar with the newest forms of technological advancement and is capable of comparing products online and making informed decisions. Another reason for the high



percentage among those two groups could be their use of bank accounts for their salaries. People who are working generally have at least one bank account for the purpose of withdrawal, deposit, transfers, etc. Students, too, these days manage their own bank accounts by starting to work early.

The above table also provides important figures regarding the occupations of the respondents. Students and employees comprise 75% of the total respondents, whereas housewives account for 18% and the remaining 7% fall in the "other" category. This shows that people making use of the banking facilities are educated and, in most cases, have stable incomes, as shown by the large percentage of employees and businessmen.

The final portion of the table provides information about the income of the respondents. The figure shows that the average income of the sample falls in the bracket of 10,000 to 15,000 Riyals. Given IMF statistics¹ which list GDP per capita as being in the range of 15-20,000 USD for the years 2007-9 (45-70000 Riyals), the sample represents low-middle income earners in the main.

5.3 Perception toward mobile banking

This section will explore the respondents' perception toward mobile banking. One of the major analyses of this section is the acceptance and readiness of the consumer toward mobile banking services in Saudi Arabia. In this section, there were a total of 6 questions.

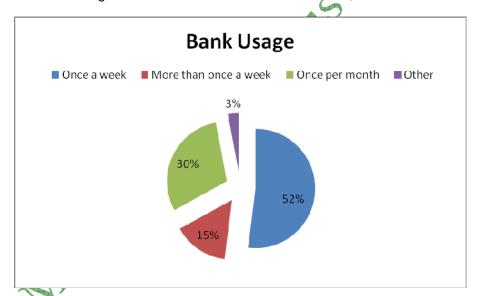


Figure 1. Bank Usage

Figure 1 shows the frequency of bank usage from once a week to once a month. 52% of the respondents visit the bank once a week, which is a very traditional pattern of bank visits.

See IMF country report, Saudi Arabia. Available at: <a href="http://www.imf.org/external/pubs/ft/weo/2009/02/weodata/weorept.aspx?sy=2006&ey=2009&scsm=1&ssd=1&sort=country&ds=.&br=1&c=456&s=NGDPD%2CNGDPDPC%2CPPPGDP%2CPPPPC%2CLP&grp=0&a=&pr.x=70&pr.y=2. Accessed on 25/6/2010.



Most of the customers still prefer visiting the branch to making use of internet or mobile banking. However, it is only a matter of time before branch banking is replaced by internet and mobile banking.

To the question, "Do you have a mobile device?" all fifty respondents responded "yes,". This proves the fact that mobile devices nowadays are not a commodity but a necessity and that there is a huge market for mobile banking services provided that the banks cultivate a trustworthy and secure environment to utilize the opportunity.

The next question asked the respondents whether their banks were secure in terms of service provision through mobile technology. The customer had the choice of "strongly agree," "agree," "not sure," "disagree," and "strongly disagree." As shown in the figure below, the results for this question were divided such that around 55% of the respondents have faith in the security of their banking services, whereas 32% do not have faith, 13% of the respondents were not sure, which shows that there is a need for the bank to spread awareness about the security mechanisms they have adopted to protect customers' privacy and sensitive information.

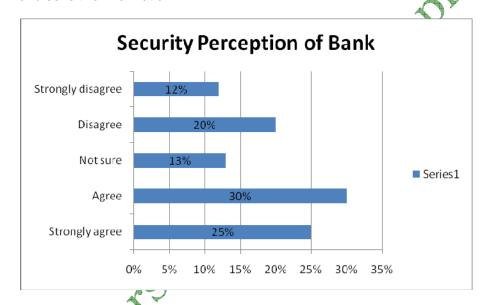


Figure 2. Security Perception of Bank

In response to the question, "Do you know what mobile banking is?" 75% of the respondents said "yes," whereas 25% of the respondents said "no." This reveals the gap in terms of awareness about mobile banking.

The next to last question asked the respondent, "Would you be ready to conduct financial transactions over the phone (mobile)?" The customers again had five choices to select from: "strongly agree," "agree," "not sure," "disagree," and "strongly disagree." The figure below gives information on the same question. Around 73% of the customers were comfortable and happy to make use of mobile banking, 7% of the customers were not sure, and only 20% stated that they were not ready to make use of mobile devices for their financial services.

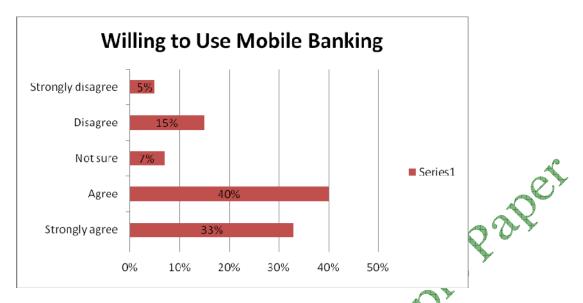


Figure 3. Willing to Use Mobile Banking

The last question asked the participants what was the most important, important, and least important criteria when selecting mobile banking services offered by a bank.

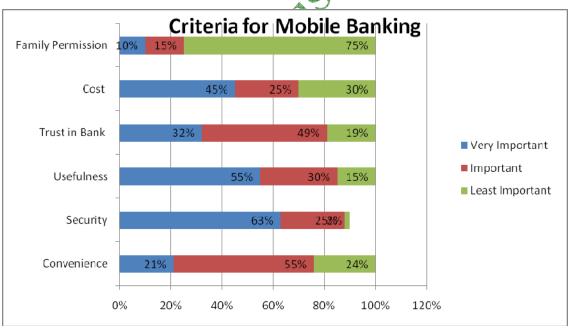


Figure 4. Criteria for Mobile Banking

The above figure provides details about the important criteria for adopting or accepting mobile banking by consumers; the respondents rated each criteria from very important to least important.

Convenience



Convenience was rated as important but not "very important" in the selection benchmark of the respondents, as shown in the figure. Only 21% of the respondents considered the criteria to be vital, whereas 55% stated that it is important. 24% of the participants stated that the criterion was least important to them. This shows that most of the customers do still make use of the branch services and that mobile devices would make banking transactions convenient.

Security

Security was one of the most important criteria when it came to banking services, with 63% of the respondents treating it as very important; 25% of the respondents thought it important, and only 2% of the respondents termed the criteria as least important. This reveals the need for a holistic view toward the provision of security in mobile banking services.

Usefulness

This criterion was kept in mind with respect to the various services offered through the channel of mobile banking. Banking involves a variety of services, and usefulness, here, measures the various kinds of useful services that mobile banking can offer through a particular bank. A staggering 55% of the respondents stated the usefulness of the service as extremely important, 30% termed it useful, only 15% termed it not important.

Trust in bank

Trust was rated very important by 32% of the respondents. 49% of the respondents termed it an important criterion for accepting mobile banking services from a bank. This shows that if the customer does not have trust in the bank, the chances of accepting mobile banking services are very low.

Cost

The cost of the mobile banking services was another important selection criterion, with almost 70% of the respondents terming it extremely important and important criteria. Only 30% of the respondents termed it not important, meaning that there was only a small population that was not concerned about the fees charged by the bank for the use of mobile banking services, whereas 70% of the respondents were concerned about the cost.

Permission from family

Family permission was not an important criterion for mobile banking selection, as is evident from the data shown in the figure. Most of the respondents were independent in terms of their choice of financial products and services. However, 25% still termed it important, reflecting the culture of collectivism wherein the family makes most of the decisions, even when a decision is small.



This chapter explored the data findings collected by means of questionnaires obtained from 50 participants. The study findings concluded that security was one of the key factors when it came to acceptance of mobile banking, followed by usefulness and trust. All of the participants had mobile devices, representing the huge mobile banking market. The participants were mostly comfortable in adopting mobile banking services, and many of them were concerned about the cost involved in making use of the service. Since the participants

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CHAPTER 6: EVALUATIONS

6.1 Security and the Expansion of Mobile Banking

Contrary to the findings of Somali et al (2009) one of the most critical messages to come out of the above data is that lower-middle income banking customers rate security and not utility as the factor which they most regularly deem of high importance when assessing their own propensity to use mobile banking. In many ways, lower income customers have more to lose from breaches of security. Even though their accounts may contain less funds, they are more likely to worry about security failure since they are unlikely to have backup accounts with other banks if the privacy of their main account is compromised. Further, they are less likely to be able to successfully lobby for compensation, or to meet their financial obligations in case of loss of funds due to security lapses.

Thus, if mobile banking is to appeal to the wider consumer public in Saudi Arabia, issues of the potential for security risks must be addressed and awareness of the true extent to which banks can protect the security of clients must be raised.

6.2 Culture and Convenience

Striking in the above results is the small levels of support attached to the ability of mobile banking to improve the convenience of the banking process for many customers. While banks advocate new technology-based approaches to banking as a revolution in consumer convenience, many of the lower-middle income Saudis who participated in this study did not seem particularly moved by this supposed benefit. In this disconnect, the question of culture comes to the fore. As Thomas Tierney (1993) has noted, the Western industrial revolution and the consumer goods revolution of the early to mid twentieth century, bred a culture of convenience and tied Western consumers' life goals, and even identity, to a pursuit of greater convenience. Thus, while it is certainly possible that more affluent Saudis, accustomed to foreign travel and to Western patterns of consumption are swayed by such marketing strategies, many lower-income consumers have not adopted this Westernised mode of consumption and convenience culture.

While many respondents noted that convenience was 'important' more than twice the number (45% compared to 21%) rated cost as a 'very important' criterion upon which uptake of mobile banking might depend. This indicates a sample set where necessities are deemed of greater importance than simple wants or desires. For mobile networking to be fully embraced for banking transactions, fuller profiles of consumer usage of banks needs to be taken into account. Marketing in favour of convenience may attract high-income consumers who are acculturated to Western emphasis on consumer convenience, but is unlikely to attract those without these assumptions about the purposes of consumption, and neither is convenience likely to attract those who only have small accounts and make infrequent use of banking facilities. After all, 30% of the respondents in the above survey only used their bank once a month. Adopting mobile technology will provide minimal added convenience for customers whose relationship to their bank is so distant.



6.3 Individual Choice and Mobile Banking

Though it has been noted that the preferences of family members made the lowest impact upon potential consumer decisions about uptake of mobile banking, this study has recorded that at least 1 in 4 respondents would consider the wishes of family members (principally, it is to be expected, authority figures such as parents and spouses) in making choices about committing to mobile banking. Thus, unlike in the individualist West, where mobile banking was developed, 25% of customers may be expected to face a collectivist cultural obstacle to a wish to use mobile banking.

Thus, it may be profitable for banks seeking to expand such technology in countries like Saudi Arabia, to seek to develop plans of mobile accounts for couples or families who could share access to mobile accounts. Assumptions as to the cultural patterning of Western consumption cannot be uncritically transferred to authoritarian Muslim nations like Saudi

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CHAPTER 7: CONCLUDING DISCUSSIONS

This chapter summarises the main points of the dissertation, presents the research contributions made, and discusses possible future research and development that can evolve from the dissertation.

7.1 Summary of dissertation

Chapter 1: Chapter 1 encompassed the introduction to the topic, followed by a brief background of the research topic. This beginning chapter also discussed the aims and objectives of the research, followed by the structure of the thesis. Furthermore, this chapter also gave information about the research approach adopted and the limitations of the research.

Chapter 2: This chapter included the literature review with respect to user acceptance of mobile banking information systems based on trust, risk perspective, and perceived usefulness. The chapter explored the trust factor in detail in a normal business setting and in the context of mobile banking. Culture is important in determining consumer behaviour toward technology since it tends to differ from one culture to another. Culture is explored by using Hofsede's (1991) cultural model and considering the impact of culture on consumer adoption of mobile banking. Perceived usefulness and perceived risk are important factors when it comes to the selection and adoption of mobile banking. These were explored in detail in this section. The final section of the chapter focused on the use of mobile banking in Saudi Arabian countries.

Chapter 3: This chapter outlined the processes by which the growth of mobile banking technology might be expected in a nation with spare capacity and strong growth, such as Saudi Arabia. Previous examples of studies into tele-banking uptake were considered along with anticipations of current trends in respect of mobile banking developments.

Chapter 4: The thesis then moved on to the methodology section wherein the research model, research framework, and data collection methodology were discussed. A questionnaire was used to collect the necessary data from consumers. The questionnaire design was explained in this section.

Chapter 5: This chapter explored the data findings collected by means of the questionnaire from 50 participants. The study findings concluded that security was one of the key factors when it came to acceptance of mobile banking, followed by usefulness and trust. All of the participants had mobile devices, representing the huge mobile banking market. The participants were mostly comfortable in adopting mobile banking services, and many of them were concerned about the cost involved to make use of the service. Since the participants were mostly young, cultural influence in terms of mobile banking was not substantial.

Chapter 6: This chapter evaluated the differences noted from the results of the survey with comparison to the conclusions of previous research. Lower income Saudis cannot be treated as individualistic, and convenience-motivated globalised consumers. While many Saudis are open to mobile banking, their patterns of bank usage do not make it a cost-effective option, and many are concerned still about security and the preferences of their family.



Chapter 7: This chapter presented the conclusion, which included a summary of each chapter, followed by a presentation of the research contribution, scope of further research, and development the field and personal reflection.

7.2 Presentation of research contribution

The academic use of the findings can be as follows:

- Further research can be conducted based on some of the findings stated in the research.
- Students in the coming year can narrow down the focus, perhaps to cultural influence,

The practical use of the findings can be as follows:

- If the banks provide a more secure environment to reduce the perceived risk, one of the most important factors in technology adoption, there will be a huge market that Saudi Arabian banks can cater to.
- Cultivation of trust between consumer and banks will go a long way in encouraging use of the newest technology to increase convenience for customers.
- The banks need to spread more awareness about the usefulness of mobile banking, its cost-effectiveness, and its convenience.

7.3 Future research and development

7.3.1 Limitations of the research

The study was limited to the primary and secondary information collected from the data sources. The data findings were limited to the primary data collected from 50 questionnaires online. It is believed that the findings would be different if the sample demographics were different. The population did not represent all classes of the population since they were students, who are more likely to be familiar with technology. The data could be different if more working women or employees were included in the population.

The research was not able to get information regarding the influence of culture on adoption of mobile banking since most of the consumers were students who already have been exposed to western culture.

7.3.2 Future Development

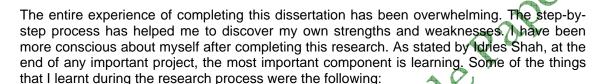
Some of the future questions in the area that need research are as follows:

- Research on participants from cities and rural areas of the country with respect to comprehension of the technology
- Focus on social-cultural influences in technology acceptance, specifically in Saudi Arabia



- Inclusion of more varied data in the form of housewives, working men or women, and students
- Focus on the different economic strata and technology acceptance, such as the question of whether people from low socio-economic backgrounds are more ready to adopt technology or whether people from a higher social strata are more open to mobile banking
- Role of education in adoption of technology

7.4 Personal reflections



- Time management, due to lack of proper planning I devoted majority of the time for research of the data, after which I realised the need to properly plan my time for various steps of the research
- Conceptualization, it was challenging to get the report in a specific format or in a flow so that it looks professional and academically sound. But I learnt after doing some good amount of research on the topic of dissertations.
- Effective questionnaire design, there was a need to design the questionnaire in such a manner that maximum information is collected in the most efficient manner without causing any confusion to the customer.
- Importance of interpersonal relationships with friends and colleagues. My supervisor, friends and family have lend important support during the research. The research has made me understand the importance of interpersonal relationship.
- Research is narrow and focused on a single topic, it is important to ensure that the
 research topic is narrowly focused instead of trying to cover a wide variety of topic

During the research process, I also better understood my strengths and weaknesses, which are as follows:

Strengths

- Collecting information from various credible sources, I had a map in place to collect information from various source.
- Division of information into parts. I could successful divide the information into specific research parts which made it easy to filter it at later stage.
- Research on the topic, I am use to surfing internet for longer hours without getting tired, this helped me carry out extensive research on the topic
- Formatting is one of my strength when it comes to using Microsoft word
- Data collection from various sources such as Journals, Management review papers, internet, books and other academic reports.

Weaknesses



- Inability to identify important information from a pool of information. There was one point of time where I had 30,000 words in a word document and I had no clue how to filter the most relevant information from the pool of information
- Formatting references in a specific style. I am not very good when it comes to referencing I had to refer to the Harvard referencing guide every now and then in order to ensure proper citation practice for my research
- Questionnaire design, it was difficult to get the right questions and again format them in specific way so as to make it easy for the customer to answer them
- Data interpretation, with large data at disposal it was difficult to get correct interpretation of the data.

In order to overcome the weaknesses stated above, in the future, I will devote more time to the weak areas. This research, to some extent, has helped me to improve in the aforementioned areas, and I intend to work harder on them by seeking help from a supervisor and paving more attention to it

Masters Writings to Sample



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APPENDIX

Appendix A: Ethical Approval

The information related to the treatment of human participants was based on U.S Code of Ethics for Research (Kanter, 2009)

- There was no pertaining risk to the human participants who were involved in the research process through the medium of the survey.
- The participants were advised that the information that was being collected was for the purpose of study only and that there would not be any misuse of the information.
- In order to minimize the identity risk, the participants were not asked to give out sensitive information such as mobile phone number or name and surname; basic demographic data was collected to get general information such as age, occupation, monthly income, and so forth.
- The demographic information was being collected in order to understand the survey participants, who were mostly young people and students. This helped to determine the perspective toward mobile banking from the point of view of young banking customers in Saudi Arabia.
- In order to ensure privacy and security, a Web service was used that had secure procedures in place to collect the data in a safe manner.
- Information was included in the mail indicating that if the mail reached an incorrect email address or person, the recipient should either revert back or delete the e-mail since the data was only for the intended recipient.
- The participants were mostly friends and family members from Saudi Arabia making use of various banking services:



Appendix B: Questionnaire Design

Note: The information collected will be used only for the purpose of study.

Section I: Personal Information

1.	Please Male□	check the appropriate gender] Femal⊡	,
2.	iviale_		
۷.	a.	What is your age? Under 18	
		19-28	
		29-38	
		19-28	
		Over 49	
3.		What is your occupation?	
	a.	Student	
	b.	Housewife	
	C.	Businessman □	
	d.	Employee	
	e.	Other	
4.		State your monthly income:	
	a.	Under 10,000 Riyal	
	b.	10,000 − 15,000 Riyal	
	c.	15,000 – 20,000 Riyal	
	d.	Over 20,000 Riyal	
Section	n II. Pa	tionale behind	
Sectio	11 11. 126	itionale benind	
5.	Freque	ency of bank visits; please check the most appropriate option.	
		Once a week	
	b.	More than once a week □	
	C.	Once a month	
	d.	Other	
4			
6		Do you have a mobile device?	
1	a .	Yes	
×	b.	No \square	
7.		Your bank provides the most secure service.	
	a.	Strongly agree	
		Agree	
		Not sure	
		Disagree	
	e.	Strongly disagree	



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8.	Do you know what mobile banking is?	
	a. Yes	
	b. No	
	<u> </u>	
9.	Would you be ready to conduct financial transactions over the pho-	ne
(me	bile)?	
	a. Strongly agree	
	b. Agree \square	
	c. Not sure	
	d. Disagree	p
	e. Strongly disagree	
10.	Select the criteria that are important to you in considering mebile banking.	
10.	Select the chiena that are important to you in considering mobile banking.	
	Very important Important Least important	
	a. Convenience	
	b. Security	
	c. Risk	
	d. Usefulness	
	e. Trust in bank	
	f. Cost	
	g. Permission from family \square \square	
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