

Internet Banking Adoption Challenges In Saudi Arabia

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Abstract: The main goal of this study is identifying the perceptions and experiences of Saudis with the adoption of internet banking services. While most of the available literature centers on the Western context, some studies have focused on an Eastern context. The research applied a qualitative design to investigate the phenomenon. Purposeful sampling was used to select 57 participants, among whom were 12 middle-level bank managers from IT and sales departments and 45 customers associated with three banks - Saudi British Bank (SABB), Riyad Bank and Bank Saudi Fransi. Only 30 participants were available during the period that the research was conducted. They were interviewed and thematic analysis was used to analyze the textual data from the interview responses. The themes that arose were trust, privacy, complexity, and infrastructure. This study concludes that there is a need to train bank employees and enlighten the population on the benefits of internet banking.

Keyword: Internet banking, Qualitative design, Purposeful sampling, Thematic analysis, Interview.

1. INTRODUCTION

The use of the internet is dominant in the service industry, which includes internet banking services. Internet banking, also known as online banking or e-banking, is defined as the connection between customers and their banks through the internet [1]. This means that customers can conduct their banking transactions by using devices that connect to the internet. Internet banking services have been experienced a positive trend and they are changing over time as newer technology. There was a rapid change in internet banking in the past 15 years [2]. When the internet became more advanced, banks responded by offering more efficient services that are commensurate with the advanced internet. Indeed, internet banking has, so far, led to positive changes in the banking sector as an enhancement of the traditional financial processes [3]. With the introduction of an efficient and fast internet, the banking sector has become revolutionized and there have been secure banking services that have created market opportunities for most banks. Furthermore, the development of a secure banking system has contributed to the growth of the banking sector across the world [3]. However, the adoption of internet banking by banks is dependent on various factors that will be discussed in the literature review. Various models and theories have been used to illustrate the adoption of technology by people. The technology acceptance model (TAM) has been widely used in technology adoption studies to illustrate the capabilities and willingness of individuals to adopt new technology. TAM is the preferred model in technological studies because of its robustness, parsimony, and simplicity [4, 5, 6, 7]. According to this theory, the adoption of technology by an individual is dependent mainly on their perceptions of the usefulness of the technology or its ease of use. These factors, then, determine the behaviors of the users and their intentions to adopt the technology [8].

TAM has been identified as the most appropriate theoretical framework for use in analyzing the challenges of adopting internet banking in the Gulf countries. In this case, there is a need to review this area of study in the Eastern context, since most previous studies on the same topic have been focused on the Western context. The goal of this study is determining the challenges of internet banking adoption faced by citizens of Saudi Arabia as the representatives of the Gulf countries. Its purpose was to address the knowledge gaps in past studies regarding the specific challenges that citizens from these countries face in their adoption of internet banking, and their perceptions of internet banking. This is an area of interest as most of the previous studies have considered other aspects of banking or internet use but with little focus on the Eastern context. The structure of this paper is as follows: the following section is a literature review of past studies on the issue of internet banking in the Arab countries, focusing mainly on the challenges and theories; the theoretical background and methodology are then discussed; and, finally, there is a discussion of findings, recommendations and conclusions based on the findings.

2. BACKGROUND

One of the challenges facing the adoption of internet banking in Arab countries is cultural and subjective perceptions. Subjective perceptions are largely influenced by individual behavior and attitudes towards a given issue. As far as subjective behavior is concerned, internet banking in Arab countries is highly influenced by the level of trust that different individuals have towards the technology. A study found that trust is one of the key issues that dictate the acceptance of internet banking in Yemen [9]. Using the Beta distribution, the results ($\beta=0.251$) indicated that the higher the trust, the more likely it was for customers to adopt internet banking [9]. Underline the low trust levels for internet banking in Saudi Arabia by stating that "Lack of trust has been identified as one of the major obstacles to the spread of internet banking" [10]. One of the reasons that some Saudis have no trust in internet banking is their fear of losing money, while others are influenced by deeply held habits and perceptions that monetary transactions must involve the exchange of hard cash [10]. Another cultural aspect that has hindered the adoption of internet banking in the Arab world is the deeply entrenched culture of

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traditional Islamic banking. there are a certain Arabs who are so highly attached to Islamic banking that they resist the transition to internet banking due to notions that internet technology is used to perpetuate Western values[11]. In most Arab countries, socio-economic systems that are deemed to be promoting Western virtues are often resisted, as they are deemed to dilute traditional Islamic teachings [12]. Therefore, the high value that is placed on sharia laws and Islamic banking are major challenges that encourage some customers to remain committed to traditional banking methods, there is also the issue of human contact. In countries such as the United Arab Emirates, certain customers refuse to switch to internet banking as they are accustomed to banking systems where they interact with fellow human beings and make inquiries [13]. It is also important to note that trust is a key pillar of Islamic banking, as seen in some of the systems such as Hawala banking [12]. Given that such a perception is highly informed by religious beliefs, it conforms to the theory of planned behavior (TPB) which states that the conduct or behavior of an individual is dictated by the subjective beliefs and attitudes that they hold towards a given subject matter [14]. In a study that was meant to investigate the influence of the TPB on the attitudes of the people of Jordan towards internet banking, asserted that perceptions play a key role, stating: 'Thus, a positive relationship between perceived behavior control and IBSA intention will increase the possibility of intention'[15]. Moreover, it is also important to note that socialization, such as the negative opinions of friends and family towards internet banking, plays a key role [15]. Therefore, it is prudent to note that subjective beliefs held by individuals and socio-cultural perceptions are major challenges that hinder the adoption of internet banking in the Arabs world. Low levels of digital literacy present another challenge that has contributed to the lower adoption of internet banking in the Gulf countries. Digital literacy refers to skills or know-how that can enable a user to understand the functionality and features of different technologies[16]. One of the reasons for the low adoption of internet banking is the lack of capability to operate some of the devices that are required to facilitate transactions over the internet [17]. In a study that was conducted to determine the factors that influence the adoption rates of internet banking in the United Arab Emirates (UAE), the technological difficulty or a lack of understanding of the technologies that facilitate internet banking are among the biggest barriers [13]. The note was taken of such barriers by stating that those who fail to adopt the system have their own opinions and explanations as to why they cannot adopt it [13], among which is difficulty in using the technology because of its complexity [18, 19]. Among the concerns that were raised include the fact that many users were not accustomed to using some of the banking applications, such as navigating through web pages and felt that it was complicated to master different commands that are needed to initiate online transactions [13]. Compared to Western countries, there are lower academic literacy levels in the Arab world that contribute to low mastery of the use of different technologies. Such a situation explains why a considerable percentage of the population struggles to use basic mobile applications that can execute online banking, while others fail to master online security such as the importance of browsing in safe modes, using anti-virus

software and keeping their authentication codes, such as passwords, confidential [20]. Citizens in the Gulf face challenges in using internet banking technology which hinders their likelihood of adopting the system of banking. This is validated by the Technology Acceptance Model (TAM) has been described: 'TAM suggests that ease of use is thought to influence the perceived usefulness of the technology'[20]. The surveyed people from UAE thought that difficulty of using internet banking technology was a major issue [13]. With a mean importance score of 3.04, it was among the highest of the other seven parameters surveyed. According to TAM theory, individuals are more likely to embrace a new technology if it will create more benefits to their socio-economic or political lives in addition to being less sophisticated to use, a provision that explains why Arabs who do not know how to use the internet banking systems (IBS) struggle to adopt the technology [21]. Therefore, based on the findings from different sources of literature, it is prudent to assert that the lack of technical awareness or knowledge of IBS is one of the major obstacles towards the higher adoption of IBS in the Arab world. Another challenge to internet banking among Arab countries is the inadequate infrastructure to facilitate IBS. In a study that was conducted to identify the obstacles that face the digitalization of different sectors of the Kuwaiti economy, such as banking, [22] noted competent infrastructure as one of the obstacles, stating that there was ineffective infrastructure in Kuwait and information on the use of information technology infrastructure. The absence of suitable infrastructure includes the lack of adequate fibre optic connections, internet connectivity and the penetration of mobile technology [22]. For example, in Oman, internet penetration is 68 %, implying that about 32 % of the population is unable to use IBS because infrastructure, such as fibre optics as well as communication masts and satellites to boost the signal strength of internet service providers (ISP) have not been established [23]. Such challenges, coupled with issues such as the fact that there exist segments of the population that have not adopted technologies such as mobile banking, reduces the penetration of IBS in Gulf countries. It is also imperative to note that many customers, for the sake of convenience, resort to online banking while navigating international markets or making online purchases, yet e-banking in some of the banks does not provide certain features, thus, discouraging customers from signing up [24]. For example, according to the Qatari National Bank [25], despite the presence of e-banking services, PayPal services in the country are limited to the withdrawal feature only, thus limiting the globalization agenda of IBS [25]. One of the reasons the infrastructure in the Arab countries is not as developed as in Western countries such as United States which can be explained by the diffusion theory of technology. Unlike the Western countries, that fall in the innovator and early adopter categories, most Arab countries can be classified in the late majority group as they embraced the technologies that support internet banking at later stages [26]. For example, despite Bahrain having higher internet penetration levels of 77% by 2018, in 2010, the country's population that had access to the internet was 55%, hence, reinforcing the reasons that some of the systems are not as advanced when compared to established electronic banking nations like Canada [27]. It is

vital to note that economic factors also play a huge role as it is costly to acquire some of the technologies such as fiber optics as well as the latest e-banking systems as they are not developed in the Arab countries but acquired from Western nations. Therefore, based on the findings, it is reasonable to argue that the lack of a competent, updated and broad infrastructure is a major obstacle to the quest of adopting higher internet banking rates in Arab countries. Just like other sectors whose key transactions are conducted over the internet, security threats are some of the biggest challenges that face internet banking in the Arab world. There was a study reported that 100 % of the women who were surveyed about their biggest issues regarding IBS stated that security is a major consideration [11]. Similar findings with a study that reported the key concerns those customers have about online banking in Oman. It was found that high security had a positive correlation with the likelihood of customers adopting IBS [28]. Another study of the most important features of the websites of Yemini Banks revealed that the ability to guarantee security was one of the key features that customers evaluated before logging in to such systems [29]. Cybersecurity risks can either be financial or non-financial, with the former category involving the loss of one's savings or money through acts such as hacking, ransomware and unauthorized access, while the latter entails the loss of personal information as a result of privacy violations that can be committed by the bank or other third parties. The risks were described as follow: Financial risk is defined as the potential for monetary loss due to transaction error or bank account misuse. Many customers resist using online banking because they fear such losses. Privacy risk refers to the potential loss of control over personal information which is used without knowledge or permeation [30]. Thus, security concerns have discouraged certain customers from embracing online banking. Despite having some of the highest internet penetration levels in the world, the citizens of Bahrain are hesitant to adopt mobile banking technology due to the fear that they will lose their money to third parties such as hackers [31]. According to [32], the security challenges in Omani banks, such as hacking and unauthorized access to customers' data, have contributed to the erosion of trust in the IBS. Many Qatari customers lose trust in IBS once security threats are reported and thus lead to a section of the country's population resisting the banking model [18]. The Arabian resistance to IBS due to security challenges is consistent with sociotechnical systems theory which argues that people are likely to adopt technological systems that operate with high efficacy to generate high-quality and excellent results or output. However, when systems are vulnerable to threats such as hacking, their levels of excellence decline and discourage consumers from adopting them [33]. Therefore, security threats such as hacking or unauthorized access to user accounts, which lead to loss of money and illegal acquisition of private data, are major obstacles in the desire for increase the internet banking adoption levels among Arab countries. The findings presented in the above-reviewed articles indicate that there are numerous challenges to adopting internet banking in the Gulf countries. The challenges include trust issues, privacy/security, low technological literacy levels, the complexity of using the system, cultural beliefs and perceptions, and inadequate infrastructure. Thus, it is

relevant to view these challenges from the TAM perspective to determine if these particular challenges are perceived by the research participants.

3. METHODOLOGY

The research topic is exploratory for nature, which means that only exploratory research approaches are appropriate to enhance the process of data collection and analysis. Also, the nature of the topic informed the decision to use qualitative approaches in preference to a quantitative design. Qualitative research is any type of research that applies inquiry in the collection and analysis of data in the fields of education, social sciences, market research, and business among others. Furthermore, the qualitative research approach is mostly applicable when investigating human behavior [34]. For instance, in this study, challenges to internet banking adoption are related to human behavioral issues related to their perceptions of the technology. Qualitative studies are effective in investigating why and how a certain phenomenon takes place in a particular situation [35]. For instance, in this study, it was vital to identify evidence regarding the reasons for the challenges to internet banking adoption and how it directly affects the users and how they can be solved to address the problem. Furthermore, since qualitative approaches are inductive in nature, grounded theory played a key role in the development of theory from the collected data [36] In this case, grounded theory was used to investigate the challenges, therefore, making it possible to establish a theory that relates to the participants' perceptions of internet banking [37].

3.1 Setting and sampling

The setting of the research was Saudi Arabia, as representative of the Gulf countries. There are numerous studies on internet banking in the Gulf region, however, focusing on Saudi Arabia will enhance the literature and address some of the knowledge gaps existing in the perceptions of Saudi citizens towards internet banking services. Purposive sampling was used in the selection of the research participants. This was the most appropriate sampling technique since it was necessary to recruit specific participants with the information that is needed to respond to the specific research questions [38]. In this case, the participants were to be associated with the banking industry, which means that they have or should have experience with banking and, in some circumstances, the adoption of internet banking. Initially, a Google search was conducted to determine the list of top banks in Saudi Arabia. According to Gulf Business, a leading business magazine, the listed banks are ranked based on their total assets. The search was narrowed down to Riyadh city from where three banks were selected – Saudi British Bank (SABB), Riyadh Bank, and Bank Saudi Fransi. As mentioned earlier, these banks were selected based on their good performance which was based on the huge volume of assets that they have in their possession. This is another indication of purposeful sampling as there was a need to collect significant amounts of data that are appropriate to meet the study's objectives. In the first sampling exercise, a total of twelve mid-level managers from the IT, sales, and marketing departments were recruited from the three banks – four from each bank. The next group of participants

included customers of the banks. They were selected from within the banking halls where customers sit as they wait to be served, and also at the exit of the banks to ensure that appropriate participants were selected for inclusion in the study, each participant was initially asked to confirm whether he or she had an account with the bank. Forty-five participants were selected through this approach - fifteen customers from each of the three banks. Fifty-seven people were initially recruited. Their contact details were documented for confirmation of their availability to participate in the research based on the interview schedule.

3.2 Data Collection

Since the research was qualitative in design and applies grounded theory, the major data collection technique was in-depth interviews. The interview approach was used in the research due to its advantages, that include the ability to collect raw and rich information from the participants regarding the particular phenomenon under research [39]. Interviews are efficient, cheaper, and time-saving data collection techniques that are used in qualitative research [35]. Furthermore, interviews create room for story-telling, which enhances the collection of data by the researcher from the perspective of the participants [40]. However, subjective data is mainly collected from the participants, which, if inappropriately analyzed, is likely to lead to bias in the collected data [35]. The 57 recruited participants were contacted to participate in the interview, but only 30 were available to participate at the time of the research. The interviews took place in the precincts of each bank in rooms provided by those banks. Each interview lasted 30 – 40 minutes and only 6 participants were interviewed in a day, which means that the whole interview process took a total of 5 days to interview all 30 participants. For enhance the process of collecting more detailed information, the researcher applied an unstructured approach where the interviewees could easily express their feelings, experience, and perceptions regarding internet banking services. The leading question was what the participants thought about internet banking, with the focus being on what they believed to be the challenges faced by customers. The other relevant interview questions were on the effectiveness of internet banking compared with traditional banking approaches, and what they believed should be done to solve the challenges faced in the adoption of internet banking services. For enhance the credibility and accuracy of the data, the transcriptions were conducted on the same day of the interview and sent to the participants for identification of potential bias. The bias identified by the interviewees, was removed from the transcripts and then the information was subjected to analysis.

3.3 Data Analysis

Thematic analysis was used to analyze the interview data. It is one of the preferred data analysis techniques used in qualitative research. Thematic analysis entails the processes of searching, identification, and exploration of themes and codes that arise from the collected data [41]. Most importantly, thematic analysis relates the identified themes to the phenomenon under analysis. In this case, it was expected that the themes that arose would be related to the challenges faced by customers in using internet

banking services.

The five stages of the thematic data analysis process undertaken were as follows:

Step 1 - Familiarization with the data by reading through the data several times.

Step 2 - Data coding that entails coding the textual data systematically.

Step 3 - Creating a connection between codes and themes.

Step 4 - Theme reviewing by determining whether the identified themes relate to the identified codes.

Step 5 - Generation of a report of the findings by relating results to the research question and literature on the phenomenon of study.

Clusters and codes were established mainly to enhance data display. Through plausible data reduction, themes were generated from a cluster of codes generated from the textual data initially obtained from the participants. The related data were further condensed and clustered to support a particular theme that was found to be related to the data. After the inductive identification of the themes, the data were verified and triangulated. The data were read and re-read several times for verification purposes and to conclude with the phenomenon under study. In this case, the conclusions were related to the specific challenges faced by participants in the adoption of internet banking.

4. RESULTS

This section presents the results as code from the data sets arising from the questions posed to the participants. The results of the study are based on the thematic analysis that was performed on the interview data. The emerging themes that were identified after scrutinizing the data sets were trust issues, privacy, the complexity involved in the use of the new technology, and infrastructure. The following table presents the themes that arose from the research findings and associated responses from participants. The table has been partitioned to outline the responses from the clients and the managers. (Table1)

Table 1 (Results Summary)

Themes and Responses	
Trust	
Customers	<ul style="list-style-type: none"> -I don't find it appropriate to provide my financial information to third parties. -I prefer engaging with the bank physically. -I like having face-to-face interactions with bank employees while conducting monetary transactions from my account. -I don't trust the third parties that provide money transaction services. -I only trust my close family members with money matters.
Managers	<ul style="list-style-type: none"> -The clients don't trust technology when dealing with bank transactions. -Some clients have approached me to confirm whether the system can be trusted beyond reasonable doubt. -Most clients prefer coming to the banking halls physically to withdraw and deposit money in their accounts and others' accounts.
Privacy	
Customers	<ul style="list-style-type: none"> -I fear that my personal information can be accessed by third parties and used maliciously. -The details being asked by the bank are very sensitive. -Signing up for internet banking requires sensitive information that I don't feel comfortable providing. -I fear that my device might get lost and another person might access my account. -Someone might hack my account and interfere with it. -The ATM and bank counters are safer. -I always need help from another person to transact, and I think it is a risk to my data.
Managers	<ul style="list-style-type: none"> -Most clients fear that their data will be compromised by those handling the information. -Most clients fear that they will lose their money by using the online platform. -We have ensured that the systems are highly secured to prevent hacking by external sources.
Complexity	
Customers	<ul style="list-style-type: none"> -New technology is always complicated especially for money transactions. -I don't like new technology at all because it is complicated. -Technology and money issues are not related completely. -I have always found it difficult to sign up for the service. -I always don't get enough time to sign up for the service. -I have registered for internet banking services but I always find it difficult to use. -I have registered for the service but I always visit the bank physically Whenever I want to transact. -The platform is complicated and I always get lost when trying to use the services. -I always forget my password because it is too long. -I have not received any enlightenment and training on how to use the services.
Managers	<ul style="list-style-type: none"> -The system is not complex if customer well trained on how to use. -I don't face any challenge in using the system. -Many customers have reported difficulty in using the system. -Navigating the website is a challenge to most clients especially those who cannot read. -The system cannot be used by visually impaired clients unless they receive assistance from others.
Infrastructure	
Customers	<ul style="list-style-type: none"> -I don't have a personal computer to transact online. -Internet connection is a challenge for me. -I don't have a smartphone that can let me access online services. -Sometimes the services are not always available for the clients.
Managers	<ul style="list-style-type: none"> -System downtimes affect online transactions whenever they occur. -Installation and maintenance of the systems are costly and complex especially for small-sized banks that lack adequate resources. -We try as much as possible to ensure that the systems run effectively to avoid downtime.
Solutions	<ol style="list-style-type: none"> 1- Strengthen the information technology systems in banks. 2- Employ highly skilled and experienced IT experts. 3- Train employees and educate customers on internet banking services. 4- Advertise the services as much as possible in the mainstream media. 5- Propose incentives for customers who register for the services. 6- Improve internet penetration in the Kingdom. 7- Improve digital literacy. 8- Enhance the accessibility of users to internet-enabled devices.

5. DISCUSSION

There are four main themes emerged related to challenges in using internet banking services: trust, complexity, infrastructure, and privacy issues. The results are related to the model of the TAM as they elaborate on the issues associated with the adoption of new technological devices or services. The purpose of use and ease of use of technology are the leading elements of the TAM and they

were corroborated in this study [8]. For instance, trust is the leading challenge in the adoption of internet banking services in Saudi Arabia, and it validates the application of TAM as the lens of view in the analysis of the results. Trust issues have been confirmed to be the leading challenges in the adoption of banking technology in the Gulf countries [9, 10, 11, 18, 32]. In this study, the corroboration of the findings of previous studies indicates that trust is a major

challenge in the adoption of internet banking in Saudi Arabia. Hence, the focus should be on how to enhance trust and ensure that the customers trust the systems unconditionally. The participants of the research also demonstrated the challenge of privacy in the adoption of internet banking services. This finding is also consistent with findings in the online banking literature [30, 31, 32]. This implies that Saudis would be likely to adopt online banking if they are assured that their privacy will not be compromised. It also means that, if their trust is won, then most of them would consider adopting internet banking services. The third challenge reported in the study is complexity or difficulty in using the new technology. Most participants declared that they were unable to use the system because it is complex, while some of them declared that they were unable to navigate the online platform [13, 18, 19, 20]. In this respect, most Saudis find it a challenge to navigate the system as they believe that it is complicated and out of their reach. Lastly, the theme of infrastructure was also significant in the responses. It was found that inadequate infrastructure and the ineffectiveness of the available infrastructure was a challenge to the attainment of the purposes of internet banking. The theme of complexity as a challenge to the adoption of internet banking has been addressed in previous studies [22, 23, 24]. The implication is that the banking industry should focus on developing its infrastructure while the government should ensure that the citizens can access the internet and internet-enabled devices to facilitate their adoption of internet banking. Some solutions to the challenges were suggested by the participants. They included training and education of bank employees and customers, marketing of the services through promotion and advertisements, and development of infrastructure. Marketing has been acknowledged as an appropriate approach to enhance consumer loyalty for online banking services [42, 43]. This would also be consistent with enhancing digital literacy [16, 17]. All the suggestions are relevant and they should be implemented in Saudi Arabia to improve internet banking services.

6. LIMITATIONS AND RECOMMENDATIONS

Although the findings of this study are essential to addressing the issue of internet banking in Saudi Arabia and the rest of Gulf countries, the study had various methodological limitations. For instance, it applied a qualitative approach that used the interview technique for data collection, which means that the findings cannot be generalized to other populations. The small sample size of participants also limited the generalization of the study. Future research should consider applying a more rigorous methodology such as quantitative approaches and recruit a large number of participants to enhance the generalization of the findings. Moreover, any future research should test the relationship between solving the suggested challenges and the adoption of internet banking by Saudis.

7. CONCLUSIONS

Among the many challenges of internet banking adoption, this study identified trust, privacy, complexity, and inadequate infrastructure as the leading challenges facing Saudi bank customers. The findings are consistent with the findings of previous studies on the adoption of internet banking based on the TAM. This means that the results

corroborated previous findings; the findings are strengthened even further. Based on the findings, there is a need to change perceptions among the bank users, so that their trust in internet banking services is enhanced, to prove for customers that privacy can be managed by the financial institutions and they should adopt the technology to enhance the efficiency of bank transactions.

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