Usage Differences in Electronic Banking Services Between Saudis and Non-Saudis in Saudi Commercial Banks

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This paper reports on study conducted in the Kingdom of Saudi Arabia to examine the usage differences in electronic banking services between Saudis and non-Saudis. The study compares views of Saudis with non-Saudis on their use of electronic banking services in Saudi commercial banks. The design for the study used quantitative research methodology. Data were collected by means of questionnaires adopting snowballing technique. Five hundred questionnaires were distributed to Saudis and non-Saudi banks’ respondents comprising faculty, managers, technicians, clerks, workers and students in Dhahran, Khobar, Dammam and Jubail the four major cities in the Eastern Province of Saudi Arabia for six months. The SPSS for Windows package version 18 was utilised for the analysis of the data collected from the survey. The researcher used the frequencies, crosstabulations, means, and variances, in addition to independent-samples T-test to test for statistical significance of the research hypotheses. The quantitative data provided very strong evidence to support the hypotheses that there are significant usage differences in the electronic banking services between Saudis and non-Saudis in Saudi commercial banks. Findings revealed how Saudis were more frequently using the electronic banking services than their counterpart the non-Saudis. In addition, considerable numbers of non-Saudis reported how they had never used mobile SMS, phone banking, credit cards, and Internet banking. The study provides new empirical evidence and enhances our understanding of the electronic banking technology usage in a developing country.

Keywords: electronic banking, information technology, e-banking services, technological change, developing countries, Saudi Arabia

Introduction

This study reports on research conducted in the Kingdom of Saudi Arabia (KSA) to examine the usage differences in electronic banking services in Saudi commercial banks. Initial investigation reveals insufficiency of research in the field of management of information technology (IT) and change in developing economies and that there is little information about the development and use of electronic banking services in Saudi commercial banks.
banks. Saudi Arabia is the world’s largest producer and exporter of total petroleum liquids, a key oil provider to the United States, Europe and Asia, and the world’s second largest crude oil producer after Russia. Saudi Arabia has one-fifth of the world’s established oil reserves, and upholds the world’s major oil production capacity (EIA (Energy Information Administration), 2011). The KSA’s economy remains heavily dependent on oil and petroleum-related industries, including petrochemicals and petroleum refining. Oil export revenues have accounted for around 80-90 percent of total Saudi export earnings, and above 40 percent of the Kingdom’s gross domestic product (GDP) (EIA, 2011). The oil revenues have greatly helped in the growth of the light industries in the KSA and the development of Saudi commercial banks which cater for both the national and the large number of expatriates working in the Kingdom. In general, banks operate in an information system context whereby financial institutions are critically dependent on IT activity for their daily operations. Selecting one industry sector such as Saudi banking industry, rather than different industries, offers some advantages to research since respondents in the same industry are interacting in similar surroundings and are more likely to have similar skills and backgrounds that may promote homogeneity of data. Saudi banking industry has been identified as an industry that plays a crucial role in the economic development of the Kingdom as well as providing valuable electronic banking services to both indigenous people and huge number of expatriates residing and working in Saudi Arabia. The implication of this study will be vital in helping banking practitioners to reconsider the types of electronic banking services they provide and identify methods of improving and encouraging customers to utilize services offered. Finally, the study has been structured to begin with the introduction including research objectives, then briefly examines literature on IT including e-banking, the study presents research methodology, followed by findings and discussion and eventually ending with conclusion. The next subsection presents the research objectives.

Research Objectives

The research objectives were set to examine the usage differences in electronic banking services in Saudi commercial banks. The study aims at comparing Saudi banks customers’ views with their counterpart the non-Saudi customers on their use of electronic banking services in Saudi commercial banks.

In so doing, the study aims at improving the usage of electronic services offered to bank customers comprising automated teller machines (ATMs), credit cards, telephone banking, mobile SMS, and Internet banking services in Saudi Arabia including the Eastern Province.

In investigating the electronic banking services in Saudi banks, the design for the study used quantitative research methodology. Data were collected by means of distributing questionnaires to bank customers comprising Saudis and non-Saudis. Statistical Package for Social Scientists (SPSS) for Windows package version 18 was employed for the analysis. The method of analysis consisted of descriptive statistics including mean, variance, frequencies and crosstabulations. The independent-samples T-Test were used to test for statistical significance of the research hypotheses.

The study enhances our understanding of the usage differences in electronic banking technology in a developing country such as Saudi Arabia. The study also contributes in providing valuable insight to academics, business professional managers and banking practitioners.

Literature Review

The literature review examines studies on IT and change in the banking industry including electronic
banking services. It is worth pointing out that the terms information system (IS) refers to the flow of information, and information technology (IT) represents the technical perspective, and these terms are often used interchangeably in the literature (Peppard, 1993; Alter, 1996; O’Brien, 1999). In the last decade, computer-based information technology had become essential in most organizations, and had a major influence on the development of electronic services in the banking industry all over the world. The increase use of and rapid developments of information technology enabled fundamental changes in how companies, including banks, interact with customers (Dabholkar & Bagozzi, 2002; Bauer, Hammershmidt, & Falk, 2005). Banking organizations maintain their vitality by innovating, changing, and learning from their experiences whether they are newly established or fully mature (Hellriegel, Jackson, & Slocum, 2005; Slocum, Jackson, & Hellriegel, 2008). Although IT has attracted a number of academic researchers and banking practitioners alike (Zeithaml, 2002; Zeithaml, Parasuraman, & Malhotra, 2002; Zhang & Prybutok, 2005; Lee & Lin, 2005), there is still a considerable gap of knowledge on the usage of electronic banking services and the wider issue of technological change in the banking industry of developing countries (Parasuraman & Zinkhan, 2002). This relative lack of knowledge is particularly a problem to companies seeking to meet customer expectations and requirements by offering consistently high, favourably perceived service standards of electronic banking services in a rapidly changing technological environment. As such, the full implementation and use of IT is a major challenge facing business organizations seeking to sustain competitive advantage in dynamic business markets comprising the banking industry. This challenge is more complex in developing countries especially in the Middle East and Africa where business organizations deal with problems such as lack of involvement in the management process of new technology and change (Mahdi & Dawson, 2007).

The history of technology in banking highlights how IT has changed the methods by which the banking industry operate, for instance, 50 percent of foreign exchange business trades are done through IT (Childs, 1994). International banks as Harris (2001) points out are considered to be large investors in technology. Moreover, worldwide banks have invested heavily, for example, in telecommunications networks and SWIFT to link overseas branches with their headquarters in order to enable banks to effectively communicate financial business across the globe regardless of time and distance (Dixon, 2002; Marlin, 2004). As the banking external environments become increasingly competitive and turbulent, the most effective business organizations would be those that build change, innovation, and learning into their normal operations (Hellriegel, Jackson, & Slocum, 2005; Slocum, Jackson, & Hellriegel, 2008). Nonetheless, the issue is no longer a question of whether IT is, used or not; rather the issue is how best it is efficiently used for sustainable and competitive advantage. Moreover, the improvements in the usage of electronic banking services are not merely appreciated by customers, but have become crucial to effectively manage the process of technology and organizational change in order to achieve competitive advantage.

Prior to embarking on developing the conceptual framework for this study, it is important to define electronic banking services. The current literature lacks a comprehensive definition of electronic and or automated service. Electronic banking in its simplest form may mean the provision of information about the bank and its products by means of a page on the Internet. Daniel (1999) defines the term as “the provision of information and or services by a bank to its customers via computer, telephone or television”. A more developed service, in Daniel’s (1999) view, is one that provides the customers with the opportunity to gain access to their
accounts, carry out transactions or buy products online or using other electronic means such as TV, telephone or automated teller machines (ATMs). The research draws on Daniel’s (1999), as it provides a more general definition of automated banking services that can be extended beyond ATMs, telephone and internet banking as they are not the only automated services in the banking industry. This study would suggest that electronic banking services include ATMs, SWIFT, credit cards, telephone banking, mobile SMS, interbranch online, and Internet banking services. Therefore, the study defines electronic banking services as “the provision of information and or services by a bank to its customers through ATMs, SWIFT, credit cards, telephone banking, mobile SMS, interbranch online, and or Internet banking services”.

Conceptual Framework

In developing a framework to study the usage of electronic banking services in Saudi commercial banks, the initial literature review reveals a number of models which can fit with this study including Technology Acceptance Model (TAM) was developed from Theory of Reasoned Action (TRA) by Davis (1989); Technology Acceptance Model (TAM2) was developed by Venkatesh and Davis (2000); the Unified Theory of Acceptance and Use of Technology (UTAUT) was introduced by Venkatesh, Morris, G. B. Davis, and F. D. Davis (2003) with four core determinants of intention and usage, and up to four moderators of key relationships. The UTAUT was formulated by theorising four constructs to play an important role as direct determinants of user acceptance and usage behaviour (Kripanont, 2007). Furthermore, the extended TAM was developed by Al-Sukkar (2005), and further developed by Al-Somali, Gholami, and Clegg (2009) with four core dependent variables of intention and usage comprising: Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use, Actual Usage, and number of independent control variable comprising Quality of electronic services, Age, Gender, Education, Income, Trust, and Culture (Al-Sukkar, 2005; Al-Somali, Gholami, & Clegg, 2009). However, Al-Sukkar (2005) and Al-Somali, Gholami, and Clegg (2009) research in Jordan and the Kingdom of Saudi Arabia respectively, could be considered as more fitting with this study, and that there are a number of elements that the researcher can draw upon from these models. In developing the conceptual framework for this study the demographics such as age, education, income, and occupation are taken into consideration and included into the framework.

Demographics are the characteristics of a work group, an organization, a specific market, or various populations, such as age, gender, education, income and occupation. Demographics play an important role in marketing, advertising, and human resources management (Slocum, Jackson, & Hellriegel, 2008). Many studies recognise that demographic characteristics impact on customer attitudes and behaviour concerning online banking (Alagheband, 2006; Lai & Li, 2005; Lassar, Manolis, & Lassar, 2005; Eastin, 2002; Burke, 2002; E. Lee, & J. Lee, 2001; Sathye, 1999). The literature shows how age has been found to be an important indicator of technology adoption and usage (Yi, Wu, & Tung, 2005, 2006). The review of the literature reveals how a typical user of online banking or Internet banking services can be classified as a relatively young, highly educated, and a wealthy person with a good knowledge of computers and especially the Internet (Karjaluoto, Mattila, & Pento, 2002; Al-Ashban & Burney, 2001). Nonetheless, the review of literature reveals having a good job and or occupation was not found to be significant (Al-Ashban & Burney, 2001). Moreover Horrigan (2007) indicates that non-internet users are expected to be older with a median age of 59 years. In addition, the literature considers that older generations are unexpected to have an Internet connection and also are expected to have less access
speed to Internet compared with the younger generation (Fox, 2005). With reference to education, the literature points out how education remains a significant predictor of ease of use of computer technology in general and the Internet usage in particular (Madden, 2006; Martin & Robinson, 2007). The study therefore, would assume that there are usage differences in electronic banking services among bank customers in Saudi banks.

Electronic banking brings a radical change in the way banks develop and maintain close relationships with their customers. The introduction of banking technology has made customers utilization of electronic banking services very significant. The study need to conceptualize the usage differences in electronic banking services in Saudi banks between Saudi indigenous and non-Saudi expatriates taking into account the demographics comprising age, education, income and occupation along with the usage frequency in order to compare between Saudis and non-Saudis in their use of electronic banking services including ATMs, credit cards, telephone banking, mobile SMS, and Internet banking services. The next section discusses the research methodology adopted for this study.

Research Methodology

In collecting primary data from financial institutions, the researcher was aware that access issues pose constraints particularly when seeking information related to personnel, customers, investors and or financial data (Mahdi, 2008; Saunders, Thornhill, & Lewis, 2009). This study was necessarily exploratory as gaining access to banks in a complex environment of a developing country such as Saudi Arabia was a major research challenge (Al-Ashban & Burney, 2001; Sohail & Shaikh, 2007). As a result, the researcher used snowballing technique for data collection and closely worked to overcome problems of access in using his personal contacts as (Bryman, 2006, 2008) suggests a number of strategies for gaining access such as using friends, contacts, colleagues, and academics to help in gaining entry, in addition to getting support of a person within the institution to act as a promoter or a supporter (Bryman, 2006, 2008; Mahdi, 2008; Bryman, Saul, & Joe, 2008).

To achieve the study objectives, a framework for data collection and analysis was used based on quantitative approach. Data were collected by means of snowballing technique. The snowballing technique is often used in populations which are difficult for researchers to approach such as the case of females and the bank staff in Saudi Arabia. Questionnaires were distributed to banks’ respondents including Saudis and non-Saudis. The quantitative approach aimed at testing the following hypotheses: That there are significant usage differences in electronic banking services among bank customers in Saudi banks.

The hypotheses was addressed in data collected by the use of a questionnaire to provide quantitative data and an open ended question to provide qualitative data in seeking banks respondents’ opinions of both Saudis and non-Saudis. Questionnaire was formulated by identifying relevant key variables and constructs through review of relevant empirical studies including Al-Sukkar (2005) and Al-Somali, Gholami, and Clegg (2009). Pilot study was then conducted by testing and pre-testing the questionnaire with 50 randomly selected banks’ respondents. Feedback were incorporated and questions were then revised and refined. The final version of the questionnaire comprised 21 closed questions and one open ended question at the end of the questionnaire to allow for further comments and provide qualitative data in seeking banks respondents’ opinions. Snap10 was used in the design of the questionnaire and exported to Statistical Package for Social Scientists (SPSS) for Windows package.
Consequently, 500 copies of the questionnaire were distributed to bank respondents including faculty, managers, technicians, clerks, workers and students in Dhahran, Khobar, Damman, and Jubail the four major cities in the Eastern Province of Saudi Arabia for six months. Four hundred and eighteen completed questionnaire copies were collected from respondents. Data were then filtered and 36 copies of questionnaire containing missing data were excluded from data entry, leaving 382 clean and fully completed questionnaire copies which represented 76.4 percent response rate. Reliability statistics test was conducted which yielded Cronbach’s Alpha 0.711 with an item mean score of 3.217.

Initially, the study compared views of Saudi bank customers against the non-Saudi bank customers. The respondents’ different viewpoints on the usage of electronic banking services and also the respondents’ demographics formed the basis for comparison and evaluation. The SPSS for Windows package version 18 was utilised for the analysis of the data collected from the survey. The researcher used the frequencies, crosstabulations, means, and variances, in addition to independent-samples $T$-test to test for statistical significance of the research hypotheses (Kinnear & Gray, 1999, p. 171). The next section presents the research findings and the discussion.

**Findings and Discussion**

**Respondents Demographics**

This section presents findings from the study on the usage differences in electronic banking services in Saudi commercial banks. The section considers findings about the respondents’ demographics comprising age, occupation, education, income, years holding a bank account, and living area of Saudis and non-Saudis as displayed in Table 1.

Table 1 reports how one third (31.7 percent, 121) of respondents age group was between 30-39 years of which (34.9 percent, 61) were Saudis and (29 percent, 60) were non-Saudis. The table shows (26.4 percent, 101) of respondents age group was between 40-49 years, of which (33.3 percent, 69) were non-Saudis while (18.3 percent, 32) were Saudis. The results indicate how (24.1 percent, 92) of respondents age group was between 20-29 years, of which (40 percent, 70) were Saudis whereas (10.6 percent, 22) were non-Saudis. The table reveals that the least age group represented in the study were the old and the young respondents (3.4 percent, 13 and 0.5 percent, 2) had over 60 years and under 20 years of age respectively. The findings revealed how Saudis who participated in the survey were relatively young than their counterpart the non-Saudis.

As for occupation, more than one third (36.6 percent, 140) of respondents described their occupation as “faculty” members. About (17 percent, 65) described their occupation as technicians, these of course include engineers, computer specialist and lab technicians. “Managerial” category represented (13.9 percent, 53) including top, middle and line managers such as administrators and supervisors. Only smallest group (9.9 percent, 39 and 9.7 percent, 37) of respondents surveyed described their occupation as “workers” and “students” consecutively. The findings revealed that nearly half of faculty members participated in the survey (46.9 percent, 97) were non-Saudis compared with about a quarter (24.6 percent, 43) of Saudi faculty members. This is the case in Saudi higher education institutions as they heavily dependent on expatriate faculty members in their educational process.
Table 1

Respondents’ Demographics

| Respondents’ Demographics | Saudis (175) | Non-Saudis (207) | Total (382) |
|---------------------------|--------------|------------------|-------------|
| Nationality               | No.          | Percent          | No.         | Percent          | No. | Percent          |
| Age group                 |              |                  |             |                  |     |                  |
| Under 20                  | 2            | 1.1              | 0           | 0                | 2   | 0.5              |
| 20-29                     | 70           | 40               | 22          | 10.6             | 92  | 24.1             |
| 30-39                     | 61           | 34.9             | 60          | 29               | 121 | 31.7             |
| 40-49                     | 32           | 18.3             | 69          | 33.3             | 101 | 26.4             |
| 50-59                     | 9            | 5.1              | 44          | 21.3             | 53  | 13.9             |
| 60+                       | 1            | 0.6              | 12          | 5.8              | 13  | 3.4              |
| Occupation                |              |                  |             |                  |     |                  |
| Faculty                   | 43           | 24.6             | 97          | 46.9             | 140 | 36.6             |
| Managerial                | 29           | 16.6             | 24          | 11.6             | 53  | 13.9             |
| Technical                 | 24           | 13.7             | 41          | 19.8             | 65  | 17               |
| Clerical                  | 20           | 11.4             | 29          | 14               | 49  | 12.8             |
| Worker                    | 26           | 14.9             | 12          | 5.8              | 38  | 9.9              |
| Student                   | 33           | 18.9             | 4           | 1.9              | 37  | 9.7              |
| Educational level         |              |                  |             |                  |     |                  |
| High school               | 33           | 18.9             | 7           | 3.4              | 40  | 10.5             |
| Diploma                   | 40           | 22.9             | 23          | 11.1             | 63  | 16.5             |
| Bachelor                  | 80           | 45.7             | 76          | 36.7             | 156 | 40.8             |
| Master                    | 12           | 6.9              | 54          | 26.1             | 66  | 17.3             |
| Ph.D.                     | 10           | 5.7              | 47          | 22.7             | 57  | 14.9             |
| Income (SR)               |              |                  |             |                  |     |                  |
| 1,000-5,000               | 40           | 22.9             | 48          | 23.2             | 88  | 23               |
| 6,000-10,000              | 51           | 29.1             | 80          | 38.6             | 131 | 34.3             |
| 11,000-15,000             | 61           | 34.9             | 49          | 23.7             | 110 | 28.8             |
| 16,000-20,000             | 14           | 8                | 20          | 9.7              | 34  | 9.9              |
| 21,000 +                  | 9            | 5.1              | 10          | 4.8              | 19  | 5                |
| Years holding a bank account |            |                  |             |                  |     |                  |
| Less than a year          | 8            | 4.6              | 12          | 5.8              | 20  | 5.2              |
| 1-3 years                 | 22           | 12.6             | 45          | 21.7             | 67  | 17.5             |
| 4-6 years                 | 31           | 17.7             | 49          | 23.7             | 80  | 20.9             |
| 7-9 years                 | 32           | 18.3             | 28          | 13.5             | 60  | 15.7             |
| 10 years +                | 82           | 46.9             | 78          | 35.3             | 155 | 40.6             |
| Living area               |              |                  |             |                  |     |                  |
| Ahsa                      | 0            | 0                | 2           | 1                | 2   | 0.5              |
| Dharahran                 | 26           | 14.9             | 58          | 28               | 84  | 22               |
| Khobar                    | 18           | 10.3             | 45          | 21.7             | 63  | 16.5             |
| Dammam                    | 109          | 62.3             | 48          | 23.2             | 157 | 41.1             |
| Jubail                    | 11           | 6.3              | 53          | 25.6             | 64  | 16.8             |
| Qatif                      | 11           | 6.3              | 1           | 0.5              | 12  | 3.1              |

The overall results show how the respondents were well educated (40.8 percent, 156) had bachelor degrees, (17.3 percent, 66) had master degrees, (16.5 percent, 63) had diplomas and about (14.9 percent, 57) had Ph.D. degrees and only (10.5 percent, 40) had high school certificates. Findings revealed how the non-Saudi expatriates participated in the survey were highly educated as (26.1 percent, 54) and (22.7 percent, 47) hold Master and Ph.D. degrees compared with their counterpart (6.9 percent, 12 and 5.7 percent, 10) of Saudis respectively. This is not surprising as half of respondents participated in the survey were non-Saudis who are working and holding key
positions in Saudi private and public sector organizations in the Eastern Province of the Kingdom.

In terms of income, more than one third (34.3 percent, 131) of respondents had an income between 6,000 and 10,000 Saudi Riyals (SR) per month, of which (38.6 percent, 80) were non-Saudis and (29.1 percent, 51) were Saudis. More than a quarter (28.8 percent, 110) of respondents had income between 11,000 and 15,000 SR per month, of which (34.9 percent, 61) were Saudis and (23.7 percent, 49) were non-Saudis. The results showed how very few respondents (5 percent, 19) had an income more than 21 thousands SR per month, of which (5.1 percent, 9) were Saudis and (4.8 percent, 10) were non-Saudis. The findings revealed how Saudis had slightly higher income than their counterpart the non-Saudis. In Saudi Arabia, Saudi employees have different salary scale and or payment packages which is slightly higher than that of expatriates. The income level was measured in Saudi Riyals (SR). During the study period 3.75 SR was equivalent to 1 $.

As for the years of respondents holding an account with their banks, the study revealed that (40.6 percent, 155) of respondents had an account over 10 years. The table reports that only few (5.2 percent, 20) of respondents surveyed were holding a bank account for less than one year. The findings showed how both Saudis (46.9 percent, 80) and non-Saudis (35.3 percent, 78) had a long relationship over 10 years holding banks’ accounts. The respondents’ long relationship with their banks, was a very good indication which showed that the respondents surveyed must have, at least, used one of the available electronic banking services, and therefore, were qualified as bank customers to respond to the questionnaire and provide useful data.

As with regard to location where these respondents live, about (41.1 percent, 157) of respondents reported that they live in Dammam, of which (62.2 percent, 109) were Saudis and (23.2 percent, 48) were non-Saudis. Less than a quarter (22 percent, 84) of respondents indicated that they live in Dhahran, of which (28 percent, 58) were non-Saudis while (14.9 percent, 26) were Saudis. About (16.8 percent, 64 and 16.5 percent, 63) showed that they live in Jubail and Khobar. Very few (3.1 percent 12 and 0.5 percent, 2) of respondents surveyed revealed that they live in Qatif and Ahsa respectively. The findings revealed how two third of Saudis live in Dammam the biggest city and a capital of the Eastern Province, while nearly a quarter each of expatriates surveyed live in Dhahran, Jubail, Dammam, and Khobar respectively.

Usage Frequency Between Saudis and Non-Saudis

Table 2 describes respondents’ (Saudis and non-Saudis) opinions about their usage frequency of electronic banking services including ATMs, credit cards, mobile SMS, phone banking and internet banking in Saudi commercial banks. The usage frequency was measured applying five-point Likert scale ranging from “Daily”, “At least once a week”, “At least once a month”, “At least once a year”, “Occasionally”, to “Never used”.

Table 2 shows the mean score of (5.23) indicates how Saudis were more frequently using the electronic banking services namely the ATMs compared with the mean score (4.45) of their counterpart the non-Saudis. The findings suggested that Saudis were more frequently using the ATMs compared with their counterpart the non-Saudis.

In terms of the credit card, the mean score of (3.35) revealed how Saudis were more frequently using the credit cards compared with the mean score (2.38) of their counterpart the non-Saudis. The mean scores suggested that Saudis were more frequently using the credit cards compared with their counterpart the non-Saudis.

As for the Mobile SMS, the mean score (3.13) of Saudis indicated that they were using the Mobile SMS
more frequently than the (1.98) mean score of non-Saudis. The findings suggested that Saudis were more frequently using the Mobile SMS compared with the non-Saudis.

Table 2

| Electronic Banking Services | Usage frequency between Saudis and non-Saudis | No. | Mean     | Std. deviation |
|-----------------------------|----------------------------------------------|-----|----------|----------------|
| ATMs                        | Saudi                                        | 175 | 5.23     | 0.800          |
|                             | Non-Saudi                                    | 207 | 4.45     | 1.249          |
| Credit cards                | Saudi                                        | 175 | 3.35     | 1.593          |
|                             | Non-Saudi                                    | 207 | 2.38     | 1.635          |
| Mobile SMS                  | Saudi                                        | 175 | 3.13     | 2.078          |
|                             | Non-Saudi                                    | 207 | 1.98     | 1.589          |
| Phone banking               | Saudi                                        | 175 | 3.17     | 1.712          |
|                             | Non-Saudi                                    | 207 | 1.85     | 1.422          |
| Internet banking            | Saudi                                        | 175 | 4.14     | 1.728          |
|                             | Non-Saudi                                    | 207 | 2.94     | 1.863          |
| Usage frequency             | Saudi                                        | 175 | 3.80     | 0.976          |
|                             | Non-Saudi                                    | 207 | 2.72     | 1.048          |

With phone banking, the mean score of (3.17) reported how Saudis were more frequently using the phone banking compared with (1.85) mean score of their counterpart the non-Saudis. The mean scores suggested that Saudis were more frequently using phone banking compared with the non-Saudis.

Regarding Internet banking, the mean score (4.14) of Saudis revealed how they were more frequently using the Internet banking compared with the mean score (2.94) of non-Saudis who were using the Internet banking services. The findings suggested how Saudis were more frequently using the internet banking compared with the non-Saudis.

Overall, the aggregate mean score of (3.8) revealed how Saudis were more frequently using all electronic banking services namely ATMs, credit cards, mobile SMS, phone banking and the Internet banking compared with the mean score (2.72) of their counterpart the non-Saudis.

### Usage Differences in Electronic Banking Services Between Saudis and Non-Saudis

Table 3 displays respondents, namely Saudis and non-Saudis, opinions about their usage frequency of electronic banking services including ATMs, credit cards, mobile SMS, phone banking and Internet banking. The null hypotheses had been presented for testing as follows:

- $H_0$: that there are no significant usage differences in the electronic banking services between Saudis and non-Saudis in Saudi commercial banks.
- $H_1$: that there are significant usage differences in the electronic banking services between Saudis and non-Saudis in Saudi commercial banks.

An independent samples $T$-test for statistical significance was used to test for significant usage differences in the electronic banking services between Saudis and non-Saudis in Saudi commercial banks applying $p < 0.05$ as statistical level of significance. $T$-test results ($p$-value 0.000, less than the critical value $p < 0.05$) for all services indicates highly significant differences.

Table 3 reveals how there were highly significant usage differences in electronic banking services between Saudis and non-Saudis in Saudi commercial banks. The findings suggested how Saudis were more frequently
using the electronic banking services comprising ATMs, credit cards, mobile SMS, phone and the Internet banking compared with less use by their counterpart the non-Saudis (p-value: 0.000, 0.000, 0.000, 0.000, 0.000 respectively) in all electronic banking services indicate highly significant differences. Saudis were more frequently using the electronic banking services than their counterpart the non-Saudis. Overall, the findings from the survey in Saudi commercial banks revealed how Saudi bank customers were more frequently using all electronic banking services namely ATMs, credit cards, mobile SMS, phone banking and the Internet banking compared with their counterpart the non-Saudi expatriates.

Table 3

| Electronic banking services | Levene’s test for equality of variances | t-test for equality of means |
|----------------------------|----------------------------------------|------------------------------|
|                            | F          | Sig. | T  | df | Sig. (2-tailed) |
| ATMs                      |            |      | 21.109 | 0.000 | 7.120 | 380 | 0.000 |
| Credit cards              |            |      | 0.905 | 0.342 | 5.856 | 380 | 0.000 |
| Mobile SMS                |            |      | 63.238 | 0.000 | 6.097 | 380 | 0.000 |
| Phone banking             |            |      | 21.949 | 0.000 | 8.204 | 380 | 0.000 |
| Internet banking          |            |      | 19.381 | 0.000 | 6.487 | 380 | 0.000 |
| Usage differences         |            |      | 1.838 | 0.176 | 10.377 | 380 | 0.000 |

The findings revealed how the non-Saudis who participated in the survey were well educated holding Master’s and Ph.D. degrees compared with their counterpart the Saudis. However, the overall findings revealed how Saudis who participated in the survey were relatively young and had slightly higher income than the non-Saudis. In Saudi Arabia, Saudi employees have different salary scales and or payment packages relatively higher than that of the non-Saudi expatriates. The literature shows how age has been found to be an important indicator of technology adoption and usage. The literature indicates how a typical user of electronic banking services can be categorized as relatively young and wealthy person with a good knowledge of computers and especially the Internet (Karjaluoto, Mattila, & Pento, 2002; Al-Ashban & Burney, 2001; Yi, Wu, & Tung, 2005, 2006; Madden, 2006; Martin & Robinson, 2007).

Nonetheless, considerable number of bank customers who were holding bank accounts for more than ten years reported how they had never used mobile SMS, phone banking, credit cards and Internet banking services. Professional bank managers and the electronic banking services providers, alike, need to reconsider the provision of these services to their bank customers. A number of respondents complained about the difficulties of getting credit cards. Students for example, could not get credit card services from Saudi banks due to low level of their income. As respondents commented that: “As student it is very difficult to get a credit card from Saudi banks. Only one bank, here, in Saudi Arabia provides special type of credit cards to us”.

A number of students pointed out how it was difficult to get a credit card from any of Saudi bank. Great
number of students described themselves as having very low income, which might explain why they were unable to get credit cards, as they were unable to satisfy Saudi banks’ requirements.

Other respondents commented that:

The process of issuing new cards is very slow. Credit cards for example, should be issued in the bank branches instead of bank headquarters and that there is no need to wait very long for the delivery of a credit card from the main branch.

Respondents believed that some services need to be reconsidered and some banking procedures need to be revised and simplified, for example, the delays which normally occur in the renewal of resident permits (IQAMA) result in the deactivation of the customers bank accounts. The renewal of resident permit, therefore, should be processed by the relevant government departments and or sections much faster.

**Conclusion**

The study conducted in the Kingdom of Saudi Arabia examined and presented findings from survey data on the usage of electronic banking services in Saudi commercial banking sector. Findings revealed that there were highly significant differences in the usage of electronic banking services between Saudis and non-Saudis. The quantitative data presented very strong evidence to support the hypotheses that there are significant usage differences in the electronic banking services between Saudis and non-Saudis in Saudi commercial banks. The findings suggested how Saudis were more frequently using the electronic banking services comprising ATMs, credit cards, mobile SMS, phone banking and the internet banking compared with less usage by their counterpart the non-Saudis. The findings also indicated how considerable numbers of non-Saudis reported how they had never used mobile SMS, phone banking, credit cards and Internet banking. Vast majority of students surveyed were unable to obtain credit card services from Saudi banks, and as such, were unable to make full usage of the available electronic banking services as they were classified as having the lowest income level.

A considerable number of surveyed respondents, specifically the expatriates, complained about the difficulties of getting credit cards. We would argue that the level of income specified by banks to obtain electronic banking services is one of the factors impacting on getting electronic banking services, particularly, credit cards. Another crucial issue is related to resident permit (IQAMA). In Saudi Arabia residents, both Saudis and non-Saudis would not be able to open a bank account in general, or they could not be offered electronic banking services without having a valid resident permit (IQAMA). Should the resident permit expired, customers bank accounts including electronic banking services would be disabled. Respondents believed that some of customer services need to be revised and some banking measures need to be improved. For example, the resident permit renewal should be processed much faster, and while customers are doing so, Saudi banks should allow them to access their bank accounts and enable the use of any electronic banking services they hold. We would urge that the bank practitioners need to accelerate the provision process of electronic banking services and promote the usage of mobile SMS, phone banking, credit cards and Internet banking to both Saudis and non-Saudi expatriates.

Finally, we would argue that the insufficiency of literature in the area of electronic banking services and banking technology in developing countries mainly in the Middle East and Africa becomes central for academics to conduct further research in this field. The bulk of the studies on banking technology services are based on
mature developed industrial countries with a well-established infrastructure, extensive education system, and relatively stable political economy. A further study in developing countries that examines this area of banking technology is considered to be crucial, for example, the impact of culture on the usage of electronic services (with focus on gender) is an area in need of further investigation.

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