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Does technology use change when in a developed country? A case study of Libyans in Australia

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Keywords

Does, technology, use, change, developed, country, case, study, Libyans, Australia

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Does Technology use Change when in a Developed Country? A Case Study of Libyans in Australia

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Abstract

With developing countries now gaining access to modern banking services for their customers, research is needed to understand how developing countries will adapt to these changes. Since the 1980s, in the Arabic region, technological expansion has occurred with a focus on trade and services offered by industries – recently the banking sector has started to develop banking services through mobile devices and the Internet to improve customer relationships. In particular, the banking sector is an information intensive industry and aims to be at the forefront of advanced use of Information and Communication Technologies (ICTs). One common trend is increasing the use of self-service technologies, which are facilitated by ICTs. In particular, Libyan banks are continually looking for alternative ways to relate to customers to reducing costs and improve services. However, the current availability of technology-enabled banking services is extremely limited. This paper presents a comparative review of the use of technology-enabled banking services by Libyans, when they are in Libya and whilst they are in Australia (a foreign country furthering their education).

Keywords

Banking, Technology Adoption, Technology Use, Libya.

INTRODUCTION

In recent years technical innovations of technology-enabled banking (e-banking and m-banking) have become a common channel of choice for interactions between customers and their banking institution compared with traditional face-to-face interactions. These technologies have made it easier for both banks and customers to carry out transactions and other related banking services. The incentives for customers to use these new banking channels are: expectations of increased productivity; decreased costs; and increased added value. The value added for the customers is based on an increased availability of services, since customers have become less dependent upon time and place (Storbacka et al. 1994). With the ubiquitous nature of online banking there has been a shift in the customer relationship with their banking institution.

In the developed world the operation of Information and Communication Technology (ICT) has been most dramatic in the service sector, especially in the banking sector, with customers demanding service to be provided through the Internet and mobile phones (Akel and Phillips 2001; Jalal-Karim and Hamdan 2010). The banking sectors' operations have also been altered as they have adopted ICT applications into the banking process (Cracknell 2004; Jalal-Karim and Hamdan 2010). As a result, IT services have replaced normal straightforward face-to-face interactions with online banking services (Amin 2007). As a result, the ICT revolution has set the stage for increases in financial activity across strategies in the banking sector and it is altering a rapidly moving market place (Jalal-Karim and Hamdan 2010). This technological development has influenced the range of services and led to improved availability for increasingly larger client groups. Self-service has become one of the key concepts of technologies (Banerjee 2009). This has been achieved primarily as a consequence of the building up of services that are mediated via telephone or the Internet.

Libyan Banks have understood that customer relationships are an important factor for their success, and that the cost to acquire a new customer is always higher than to maintain a loyal customer (Lin and Wang 2006; Afsar et al. 2010). The move to greater use of ICT creates challenges for enhancing customer relationships and also maintaining customer loyalty; it requires customers to accept and adapt to new technologies, and limits the interaction between customers and service providers (Thao and Swierczek 2008). The banks must consider how to retain customers through good service and transferring risk in the interaction process with a bank; attracting a new customer in this environment is likely to be very hard and costly (Al-Hajri and Tatnall 2008). As result, there is still limited research in particular about Libyan banks benefiting from ICTs; therefore Libyan banks require a realistic strategy to embed ICT programs and applications into their business process, which in turn

will lead to supporting customer relationships. As in 2008 most Libyan banks were still using manual systems of banking and technology-enabled systems had not yet found their way to most banks (Twati 2008). In a review of Libyan banks only one bank has both online and mobile banking implemented and available for customers to use (Commerce and Development Bank) and Wahada Bank had SMS banking. Two other banks had banners on their websites advertising that online and mobile banking were 'coming soon'. This is unlike banks in developed counties (for example Australia) where all banks have forms of online and mobile banking.

This paper presents the recent advancements in the banking sector with the adoption of comprehensive technology-enabled services used to create improved customer relationships (Jalal-Karim and Hamdan 2010). Initially a review of the benefits that both Internet and mobile banking can bring to the customer is provided. This is then followed by an explanation of the case study of Libyan students that are in Australia to further their education and need to open bank accounts during their extended period of stay. Finally a preliminary investigation of the technology-enabled services that are used by Libyans in Libya compared to Australia is presented, highlighting the differences in use between the two counties. It is believed that this study provides the starting point for identifying the types of services that future Libyan professionals could use on their return to Libya. To achieve the goal of which technologies have the potential for improving customer relationships the following questions need to be addressed:

(i) What types of ICT technologies are used by Libyans' both in Libya (a developing country) and in Australia (a developed country)?

(ii) What are the ICT enabled banking services (ATMs, phone banking, Internet banking and mobile banking) that are used by Libyans' both in Libya and in Australia?

LITERATURE REVIEW

Information and Communication Technologies (ICTs) facilitate connections and the ability for communication between banks and their customers (Wamalwa 2006). ICT is an essential element for increasing customer relationships, because it can be used to improve customer service strategies in several ways. Individual services can be enhanced, with services and products transformed to meet new customer demands, and ICT tools being used to increase interaction with customers (Wells et al. 1999). Interactions with ICTs will reflect directly on customers' decisions about banks. Kardaras and Papathanassiou (2000) suggested that the Internet can provide businesses with a cheaper way to perform activities to access customers' views and positions about products and services. A study by Ayed Mouelhi (2009) that has covered the efficiency of Tunisian manufacturing found evidence that the communications tools of ICT that were used and helped Tunisian sectors to attract customers are the Internet, mobile technologies and email, all of which are widely used in different areas of business.

Studies by Leek (2003), Ayed Mouelhi (2009) and Costello and Tuchen (1998) have determined that up to 56% of firms in the banking sector commonly use Internet services for providing online transactions and only 38% of banks used the Internet for the purchase processes, while only 10% of financial firms used the Internet for support services for customers (Leek 2003). It can be clearly seen that ICT tools have the potential to provide useful applications in the future for both customers and the Libyan banking sector (Ayed Mouelhi 2009). Furthermore, a study by Costello and Tuchen (1998) has suggested that ICT used to facilitate communications in the Australian insurance sector involve tools such as email, electronic mediums and the Internet. They have created a huge potential for change in firms' delivery of products for clients, and as a result ICT creates market wide accessibility to service face-to-face customers. Therefore, a number of tools used in ICT (such as mobile phones, e-mail, Internet, audio and video conferencing) will likely change the future of Libyan financial firms and clients, because they are helping banks to understand products of customers and market dynamics with established basics for the 4Ps (products, price, place and promotion). These tools seek to move processes towards the individual customers (Leek et al. 2003) and make available better products and services at lower prices (Chesher and Kaura 2003). Thus, these tools are significant at reducing costs and flexibility to make stronger bridges with high quality among both financial firms and customers as well as in the integration processes of relationships (Costello and Tuchen 1998).

Computers can create business value through restructuring the banking sector to become more effective. Most firms in the banking sector now have a network of computers and related devices because the core functions of storage, processing and communication are facilitated through these devices.

Internet

Internet access includes fixed line broadband options (ADSL, wireless, high speed download) for most clients, so these tools are perceived as being convenient, easy to use and avoid of risks in the long term interaction process. Therefore, Internet users are using it to exchange information by email, audio, video or image files (Costello and Tuchen 1998).

Currently, banks can offer a range of services to clients with fewer employees through use of the Internet. Successful use of the Internet has enabled traditional organizations, in an environment where the seamless flow and sharing of orders and customer information throughout the value chain and across all channels of operation is essential, to improve services with the same or fewer employees (Yin 2002). The success of the Internet proposals of financial firms depends on customers, dealers and connection processes to engage in electronic interactions and transactions among them (Yin, 2002).

Continual developments in technology and the Internet have led to the ability for high speed transfer of data, especially in financial firms, such that many banks are making huge investments in IT to keep upgrading to take advantage of the process in terms of relationships with clients (lowest cost, affecting the competitive background of financial firms) and to provide new IT growth based on customers services (Ferguson 2000). For example, Internet use in North America's business during 1990–1996 saw over 85 million users, and millions of new users continue to come on line monthly. Email communication is commonplace for Internet users; it offers the capability of overcoming time and location limitations and transition processes. The Internet is a major technological business because it has the potential to change business scope and it has a significant role to play in the growth of banks. In addition, it has an important effect on the relationship process between customers and providers of services in financial firms. Therefore, the use of Internet technology between customers and banks can create positive interactions; the benefits are dependent on financial firms having effective business processes to support the use of Internet technology (Yin 2002).

The financial firms of Libya have utilized Internet connections with customers since 1998, and therefore there has often been an upgrade of technology in financial businesses (Twati 2008). The Internet has emerged as an important new business tool with the interaction of communication with customers, as it provides many types of communication among clients and banks such as single-to-single and either many-to-many or limited-to-overall reaches. The changes facilitated by the Internet are evolutionary, and influence the financial firms sector (Davison et al. 2000).

Walker and Neeley (2004) suggested that the Internet aims to create relationships with customers and it has increasing rapid value for them because the Internet allows access to each customer's position, providing specific information around receiving services, which clients like. In addition, the Internet allows giving several advantages for both banks and customers, such as reducing time cost through self-service by automated techniques. Also, it provides an opportunity for customers to check bank account information or purchase online. The Internet makes it possible for businesses to interact with large numbers of customers and build relationships with them. For example, in the year 2000, there were 414 million Internet users, 673 million Internet users in 2001 and 1.2 billion Internet users worldwide. The Internet aims to eliminate traditional banking business services, and the information technology tools (Internet, ATM network, fax and telephone) create channels that enable financial transactions to take place at a time and location determined by the customer (Patricelli 2002). Customers may use the Internet to communicate with their banks from their offices, homes, Internet cafes or from within their banks with completely dependability and confidentiality (Al-Sukkar 2005; Brown 2009).

Previous studies by Akel and Phillips (2001) and Mastoori (2009) found that the Internet represents a development tool for businesses when used effectively, because it facilitates the generation of profits. The banks use the Internet to supply activities based on the needs of clients. Internet banking provides bank customers with an application software program that operates on the customer's computers (Al-Sukkar 2005). Depending on the functionality provided by each bank, customers may then access the bank via the Internet, emails, credit card and chat.

Internet Banking

The adoption of Internet technology is occurring in developed and developing countries, and it changes the banking from traditional delivery channels to electronic delivery channels (Ahmed et al. 2009). In developed countries like the USA, UK and Australia, Internet technologies have been used by the banking industry for several years, and banks have followed strategies to encourage their clients to employ Internet banking. For example, in a study in Australia in 2009 (Evans and Sawyer 2009) reported that 37% of business delivery services by Internet access to customer's position compared to 21% of business during 2005. The slow adoption of technology to support banking in Libya is resulting in Libyan banks and their customers missing out on the usefulness and convenience of Internet technologies (Al-Hajri and Tatnall 2008). The Internet also offers opportunities for electronic banking relationships between organisations in the Libyan local marketplace (Evans and Sawyer 2009). Internet banking is one of most important forms of online dealing and relationship building with individual customers because it allows banks to provide services through the use of the Internet without traditional temporal and spatial borders (Xu et al. 2009). Therefore, the Internet can serve as an interactive channel for direct communication and information exchange between clients and bankers. It helps customers to access accounts, transfer funds and buy products online (Mastoori 2009; Al-Sukkar 2005). Elalag (2003) found,

in his sampling, that of the 4370 clients who visited web sites, 82% of them preferred to interact with banks via the Internet because of the logic and predictability of the interactions, and 22% of customers believed they were likely to get the best service for the best price because of the Internet.

The Internet has led to the explosion of the development of activities in the financial services sectors and the economic development of most nations (Al-Hajri and Tatnall 2008). Characteristics which have impacted on the rate of Internet banking adoption include reputation, protection, social desirability, compatibility, convenience and proficiency (Mastoori 2009). These factors can be considered as drivers of Internet banking adoption by customers. Internet trust and security have also been found to play a serious role in Internet banking adoption, with negative perceptions of these issues creating challenges for customers' online banking adoption (Xu et al. 2009). Therefore, when managed well, these characteristics of the Internet can lead to increased efficiency and competition of banks to services clients.

Jordanian banks have reported two main benefits of using the Internet (Al-Sukker 2005). Firstly, bankers can deliver a great level of information about the bank's services showing full costs via the Internet in a short amount of time. Customers and potential customers can use it to identify deals, and for self service after they have made a decision about which product is suitable for their needs. Secondly, Internet banking allows interaction between the bank's systems and clients, with a high degree of flexibility of communications and interaction. In fact, the Internet is an important element for banks to create relationships and attract non-customers when it has sent voice or electronic messages (e-mail). The e-mail is one of the most effective technologies in providing good opportunities for fast business and very high value for customers. Employees can use e-mail for personalised communication, or to send a message to all customers at the same time. Although they do not trust the system result because part of the communication quality may be lost, they can save and read their e-mails at will (Al-Sukker 2005).

Akel and Phillips (2001) found evidence that the Internet has been used and developed in banks to offer their services to a wide range of customers over a broad geographic area. For example, banking via the Internet can provide services for customers with a high degree of convenience, speed, low price, high value and it does not rely on the opening hours of banks or the place of customers (Mastoori 2009; Ahmed et al.2009). Most customers have looked to delivery of high quality services to them with less effort by Internet technologies because it has offered an arrangement of data, process, and technique packaged together, in order to interact with customers and support relationship processes (Karim 2010).

Brown (2005) has shown that customer satisfaction with banking services has several dimensions such as support satisfaction for clients, ease of use, security, transaction, payments, information content, customer trust and innovation. Thus, these factors help clients to make positive decisions towards adopting online services with banks over a long period. Moreover, the Internet has removed many barriers of interaction among customers and bankers by eliminating the obstacles created by geography, time, location and creating smooth business (Alyabis 2000). Financial firms are able to use the Internet to establish advantages and minimise the issues when they interact with customers (Day and Bens 2005).

Indeed, Internet banking has presented competitive advantage via cost reduction, positive word-of-mouth communication, better satisfaction, trust and loyalty of clients. Evans and Sawyer (2009) identified that the Internet has given banks the ability to communicate with customers in a personalised way without the need for face to face, saving communications costs with generation of revenues when communications occur through e-mails and live chats (Ahmed et al. 2009). In reality, it has led to an increase in service efficiency of banks, with lower costs of operations towards customers and avoiding losing customers who probably would have switched to another bank (Mastoori 2009; Xu et al. 2009; Ahmed et al. 2009). The Internet has offered wonderful potential for expanding the marketplace, creating new clients, reducing costs and improving profit margins for banks (Alyabis 2000). Internet banking can improve banking management for most processes of relationships with customers and it provides opportunities to expand a bank's marketplace compared to other banks (Xu et al. 2009).

Mobile Banking

The broad reach of mobile banking technology across the developing world has shown it to be one of the most significant technologies for customers (Donner and Tellez 2008); however in developing nations, such as Libya, there has been little demand for mobile banking (m-banking) services in the banking sector (Dewan et al. 2009). Libyan banks have traditionally delivered services through face-to-face interactions with customers at branch offices. Recent modernizations in telecommunications have enabled the start of new access methods for banking services. One of these is mobile banking. It is defined as, 'a channel whereby the customer interacts with a bank via a mobile device, such as a mobile phone or personal digital assistant' (Laukkanen and Pasanen 2007). m-banking is a term used for performing check balances, account transactions, payments via a mobile device and so on. It is most often presented via SMS, mobile voice and mobile banking applications. m-banking has the

potential to save banks money, and provides an overview of accounts, loans and other available opportunities for customers.

Mobile banking has provided a significant opportunity for banking institutions to introduce new services to customers (Amin 2008). Mobile banking is becoming the first communications technology to have more users in developing countries than in developed ones, e.g. more than 800 million mobile phones were sold in developing countries in 2003 (Ivatury and Pickens 2006). Numerous studies have determined that m-banking has had a positive influence in relationship processes between banks and customers via SMS, voice message and cell phones. Mobile banking has been strongly established as the most important distribution and communication channel for retail banking. As a result mobile banking has significantly changed the way in which many customers access their bank account (Pousttchi 2004).

Current channels through which the mobile banking services have the ability to create interactions with banking and customers will be discussed. Currently, most banks worldwide have provided diverse services and solutions for customers through mobile banking (Mobile Marketing Association 2009). According to a report by the Mobile Marketing Association (2009), mobile banking provides diverse services including customer service, account balance, mortgage alerts and transaction information. These services are delivered via mobile channels such as SMS, mobile applications and mobile web; each banking platform can send simple SMS notes to most customers because they already have similar functionality for sending by mobile banking.

Banking tasks for individual consumers vary from standard transactions to unique services. Standard services are executed according to constant rules and unique services are created for each situation. Standard services could be, for example, view account balances or pay rent, if that is based on a fixed price. Unique services, in turn, could be offered; for instance, a loan application or an investment. In practice, many services fall in between these two extremes. Many routine transactions are like standard services, except that some inputs vary for each transaction. Withdraw money from an account, transfer money from one account to another or pay a phone bill, are good examples (Dewan et al. 2009).

Mobile banking is one way to reach customer channels and it offers some services, for example, checking an account balance, receiving information on previous money dealings and checking credit card information by telephone, face to face or SMS (Scornavacca 2006; Laukkanen and Pasanen 2007). Mobile banking can offer services such as: access to loan statements; monitoring of term deposits; one to one payments; bill payment processing; domestic and international fund transfers; status of requests for credit, including mortgage approval, and insurance coverage; loyalty-related offer based services; exchange of data messages and email, including complaint submission and tracking; and, general information such as weather updates and news.

CASE STUDY

In most developed countries, technology is a central element to deal with challenges in modern banking, such as lowering costs and enabling efficiency improvements. Certainly, most banks worldwide are highly successful at utilising ICT to provide efficient banking services to their customers. Since 1993, Libya created a new law allowing the establishment of private-sector banks. New rules allowing Libyan banks to seek foreign partnerships have paved the way for greater foreign investment in the local banking sector. However, as with other sectors of the economy, it is expected the business environment will remain a disincentive for foreign banks, due to regulations and the unpredictable nature of government policy. The development of banking sector is essential for Libya's economic reform (Twati 2008). In 2008 most Libyan banks were still using manual systems of banking and technology-enabled systems had not yet found their way to most banks (Twati 2008). Although banks in Libya are given the opportunity to differentiate on a low cost model some banks have focused on achieving excellence through customer service. For example, the Commerce and Development Bank has benefited by serving their customers through adoption of ICT technologies since their inception. Recently, the government of Libya introduced laws enabling greater financial liberalisation and introduced a flexible banking system, albeit, in a cautious fashion (Central Bank of Libya 2006). Libyan Banks get most of their funding (83%) from customer deposits. Thus, the Libyan banking system is currently undergoing a substantial modernisation program to upgrade available services, and, deal with the use of non-cash payment instruments (credit and debit cards) used in most parts of the world.

According to the Central Bank of Libya Annual Reports (2005; 2006) most banks in Libya have adopted new ICTs. Some Libyan banks have adopted core banking systems with automated cheque processing; Visa card, Master card and ATM machines, management system and communication and networks. These ICT programs aim to be about introducing self-service for customers. For Libya to keep up with the rest of the world it is in the process of introducing the SWIFT system of transferring money through the use of ICTs worldwide (Twati 2008; Twati and Gammack 2006).

The number of Internet users in Libya was about 323,000 in 2009, and the population of Libya was estimated at about 6,324,357 (Internet World Stats 2009). This reflects that approximately 5.5% of the Libyan population

uses the Internet, is very low percentage, even for a developing country. As a result, some banks have considered this low level of adoption as a reason not to provide technology-enabled banking services via the Internet. However, telephone and mobile banking is a service that is starting to be used, with estimates that over 5 million mobile phones are in service (CIA World Factbook 2011). Libyan banking often rely on traditional channels for banking service for existing customers, As a result, this is one of the many reasons bank suffer from an inefficient manual way of banking. In summary, the Libyan banking industry is in the process of undergoing dramatic change to adopt modern banking technologies.

METHODOLOGY

As this paper focused on Libyan's that are in a foreign country (Australia) and use both banking systems in Libya and Australia it is important to consider the population of this sample. The present population of Libyans that are studying in Australia is 2,601 (753 higher education & ELICOS 1.848) (Australian Education International 2011). Students are the idea sample group for this study as typically they intent to return back to Libya at the completion of their studies, as part of the scholarship that they are studying under and they would have a bank account in Libya and in Australia.

A random sample of eligible participants was taken. This refers to that technique of sampling in which each possible sample has the same probability of being selected from population. It means that every element in the population has known and equal chance of being selected as a subject (Lind et al. 2004). The sample is randomly chosen from the Libyan community (students) who live in different cities in Australia. It has sent with a cover letter in Arabic (Official Language of Libya) explaining the importance of the study and requesting a response from the respondent. This paper presents the results from the questions asked to participants about the technologies that they used when they were in Libya before coming to Australia to further their education and the technologies that they currently use while they are in Australia. Questions were asked about their interactions with their bank in both Libya and Australia. Participants were asked to state whether the particular technology was available at their bank and if it was whether they used or did not use the technology. Participants were asked if they used the traditional method of going to a teller to complete their transactions and then were asked about a number of technologies. The technologies that were focused on were: Automatic Teller Machines; telephone banking; Internet banking; and mobile banking. Descriptive analysis of the data was conducted using SPSS 18 and there were 141 responses that were suitable for analysis from the 384 surveys sent (approximately 36.7% valid response rate).

RESULTS

The following section of the paper presents the results from the study. Initially the descriptive statistics are presented of the participants demographics. This is followed by an analysis of the responses to technology use and banking technology use by participants in both Libya and Australia.

The descriptive analysis of data is important to understand the sample of participants and how this relates to the overall population.

Table 1: Demographics for participants

Measure	Item	Frequency	Percentage %
Gender	Male	104	73.8
	Female	37	26.2
Total		141	100
Age	18 – 24	2	1.4
	25 – 34	74	52.5
	35 – 44	53	37.6
	45 – 54	8	5.7
Total		137	97.2
Missing		4	2.8
Education Level	High school	3	2.1
	High diploma	34	24.1
	Undergraduate	46	32.6

	Postgraduate	53	37.6
Total		136	96.5
Missing		5	3.5

From the frequency distribution of the respondents, Table 1, it can be seen that there was a total of 141 respondents were 141. The results showed that of 74 % of the respondents were males and 26 % of respondents were females. Although this does not reflect the Libyan population (CIA World Factbook 2011) the figures may reflect the population that is being educated in Australia. In terms of age, 1.4 % of the respondents were 24 years and less. The age group analysis shows that the majority of the respondents are the age groups of 25- 34 years old, which reflected huge respondents' percentage 52.8 % and then age 35-44 years old 37.3 %. Only 5.6 % of the respondents exceed the age 45. In Libya 62.7% of the population are in the age range of 15-64 years and the median age of a Libyan is 24.4 years (CIA World Factbook 2011) so the sample is slightly above the national average, but this is the age range that is most likely to engage in e-banking and m-banking on their return to Libya. With respect to the level of education, respondents were primarily people with high education. In 2003 Libya had a 'school life expectancy' of 17 years of education (CIA World Factbook 2011). Although, this sample size is above the national average, studies in other countries have shown that professionals are more likely to engage in online activities (Ahmed et al. 2009; Donner and Tellez 2008; Jalal-Karim and Hamdan 2010).

Table 2: ICT device use in Libya and Australia

	Telephone		Mobile Phone		Computer		Internet	
	Libya	Australia	Libya	Australia	Libya	Australia	Libya	Australia
Not Available	32	26	13	0	14	0	14	0
Don't Use	16	34	8	5	11	2	5	0
Use	89	55	119	133	113	136	119	139
Total	137	115	140	138	138	138	138	139
Missing	*4*	*26*	*1*	*3*	*3*	*3*	*3*	*2*

The Above table, Table 2, shows a comparison of the use of technologies by participants in both Libya and Australia. The results indicate that there is greater use of most technologies when they were in Australia studying all participants stated that they used the Internet while in Australia. The exception is with the traditional telephone with a large number of participants stating that they did not use that technology in Australia. The Computer and Internet usage differs greatly from the national average of Libya where only 5.5% of the population currently have access to the Internet (Internet World Stats 2011), this may lie in the fact that they are in Australia furthering their education and that this is not a normal cross-section of the overall Libyan population.

Table 3: Banking technologies used in Libya and Australia

	At a teller		ATM		Phone Banking		Internet Banking		Mobile Banking	
	Libya	Australia	Libya	Australia	Libya	Australia	Libya	Australia	Libya	Australia
Not Available	28	11	78	0	79	3	93	2	82	6
Don't Use	4	36	37	4	42	76	35	14	37	75
Use	106	75	19	136	12	48	6	118	13	46
Total	138	122	134	140	133	127	134	134	132	127
Missing	*3*	*19*	*7*	1	*8*	*14*	*7*	*7*	*9*	*14*

The above table, Table 3, shows the results of the usage of banking technologies in both Libya and Australia by participants. It is shown that there is increased usage of technology-enabled banking services while participants are in Australia compared with how they conducted their banking in Libya. This identifies areas that Libyan banks should focus their attention on when reviewing the technologies that they are implementing. As Twati

(2008) focused on the low level of ICT adoption in Libya. These results are of interest as it shows a technology that is taken for granted in Australia, such as the Automatic Teller Machine, is not available to a large majority of Libyans when they bank in Libya. The results also show that traditional face-to-face interactions with a bank teller (used by 106 participants in Libya compared with 75 participants in Australia) are used less by Libyans when other technology-enabled services are available.

DISCUSSION AND CONCLUSION

As shown in the section above, ICT has the potential role for Libyan banks to attract new customers and create positive relationships by utilising technology-enabled services, as these services are used by Libyans when they are in other countries. This issue has previously been highlighted in the literature where technology-enabled services can offer customers an enhanced range of services at very low cost and as a result in banks having the potential to provide advantages to their customers (Cracknell 2004). However, the low level of ICT infrastructure in developing countries like Libya is a barrier to develop these technology-enabled services. A significant barrier is the lack of uniform e-payment systems, in Libya credit cards are not common because of ICT infrastructure limitations and trust issues. As a result, many customers have not been able to fully profit from technologies and banks cannot develop better relationships with thier customers (Twati 2008; Thao and Swierczek 2008).

This study's findings have important implications for banks using ICT applications in Libya. It should support Libyan banking staff to better understand what key aspects of ICT applications they must to be focused on in order to improve satisfaction and improve their services. Effective ICT has become absolutely necessary to support customer relationships. As result some studies in literature have reported that ICT could improve banks efficiency, usefulness, flexibility, cost saving and service quality of interactions with customers. ICT has changed their business process of banks and the way they operate, result from it can offer benefits for banks such as better management of customer relationships, collection of customers' database and receive competitive advantages.

The results from this paper present preliminary findings into the technology usage of Libyans before they left Libya to further their studies compared to while they are studying in Australia. The data from this paper can contribute a new knowledge to fill the gap in literature of technology adoption while a person is in a foreign county for an extended period of time. Further research is needed to understand this relationship between what a person does when living in a developing nation compared to how they interact when they are in a developed nation for an extended period of time and their expectations upon returning to the developing nation.

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