

CHAPTER II

LITERATURE REVIEW

Universities have been at the forefront of online service provision. E-services such as enrollment, course delivery, course support, and library lending are rapidly becoming standards within the education sector (Sutarso & Suharmadi, 2011). Most universities offer web portals with an integrated front end support to provide information and applications to their students. They also ensure that these services meet quality requirements as it is essential to ensure management operations and student satisfaction. The development of electronic-based services to students was initially borne out of a need to automate and thereby optimize the process of delivering learning and administrative services more efficiently and effectively than manual. There is an increasing demand to share the process with students so that they could easily perform activities themselves and reduces university workload and involvement. Jalali et al (2011) reported that academic work covers work outside the classroom too. Quality services offered to student places emphasis not only on studying and reasoning alone. It also includes practical or technical skills to achieve the competitive elements of a university. Electronic-based services, therefore, is a win-win situation for universities and students alike (Sutarso & Suharmadi 2011).

2.1 E-services

Electronic service is accessible with electronic networks and is accessible by a person through the Internet. It is an interactive, content-centered and Internet based customer service driven by the customer and integrated with related organizational customer support processes and technologies with the goal of strengthening customer service provider relationship (Rust & Kannan, 2002). This means users have to rely entirely on information technology in an e-service encounter (Zeithaml, 2000).

As mentioned, there is no one single definition for e-services. The World Bank defines e-services as “the use of ICTs to promote more efficient and effective government, facilitate more accessible services, allow greater public access to

information, and make government more accountable to citizens (Basu, 2004). Further, e-services might involve delivering services via the Internet, telephone, community centres (self-service or facilitated by others), wireless devices or other communication systems. But e-services is not a shortcut to economic development, budget savings or clean, efficient government (Al-Sebie, 2005).

According to the World Markets Research Centre, e-services refers to the delivery of information and services online via the Internet Sharma (2004) similarly, Accenture consulting explains, e- services refers to the delivery of information and services online through the Internet or other digital means. Many governmental units have embraced the digital revolution and are putting a wide range of materials from publications and databases to actual government services online for use by the citizens (Darrell, 2007).

The United Nations holds that an e- service is not a tool limited to richer countries. Indeed, some of the most innovative uses of the Internet in governance are appearing in the Libya, as ICTs are being used to streamline government and connect it more closely with the people it is supposed to serve (United Nations,2005). The Gartner Group describes e- services as “the continuous optimization of service delivery, constituency participation, and by transforming internal and external relationships through technology, the Internet and new media”. Mark Forman, Associate Director for Information Technology and e- services at the Office of Management and Budget , has defined e- services as the use of Internet technology and protocols to transform agency effectiveness, efficiency, and service quality (Darrell, 2007).

2.2 Difficulties and Challenges in Libya

Libya is an interesting case study since it is a large country in area but has a relatively small population of approximately 5.3 million people the Libyan general organization, (2006) as mentioned earlier. In addition the population demographics are weighted towards the younger age groups, for instance approximately 2.2 million people are in the educational institutions. Accordingly there may be the capability to inform and practice e-services actively with a significant proportion of the population, by

providing ICTs courses at schools and Universities. Importantly, people in active education are the future stockholders. Furthermore, educational staff in particular Universities lectures provides expertise and communication channel to disseminate information about e- services (Nassraddeen, 2010). Libya like many other technologically developing nations, resources such as skills, manpower, finances, infrastructure, are not infinite. There is a need to identify and prioritise which e-services should be developed first and also which are the most important factors in getting adoption of the technology. Just giving people computers will not make people computer literate: people need training and understanding about the technologies and why it is important to them. Stakeholders theory is also suggested as a tool to investigate e-services transformation in Libya .

While the primary delivery method for e- services is the Internet, governments have been researching, designing, and implementing a number of other mechanisms, known as e-channels. For example, landlines, mobile phones, and interactive digital television are all being promoted by some governments as technologies that offer the opportunity to provide e- services to a wider swathe of the populace. The idea that some e- services can be provided and accessed through the television or/and mobile phones rather than a computer is compelling; using television as an e-channel is especially attractive for countries where there are few homes with personal computers and with people (practically elder or/and illiterate people) who are not familiar with computer usage (Nassraddeen, 2010).

Libya seems to lack much on the required and minimum standards of technology and hardware infrastructure the necessary steps have been initiated to correct this shortcoming (Khan, 2003; Sife et al., 2007; Horton, 2000; Baylor & Ritchie ,2002, Hu & Webb, 2009; Mapuva ,2009; Terterov & Wallace, 2002).

Although most Libyan academic institutions are equipped with computer laboratories, shortcomings in connectivity leave them unable to access the internet. Finally, lack of hardware and software technical support inevitably leads to increased timelines for bringing systems online and resolving after sales issues which certainly goes to disappoint users (Rhema 2005, Country Review, 2006, Agnaia & Gherian,1997).

An important focus of strategic technology management process is the identification and development of an institution's technological capability (Betz, 1993). Communication and information technology development has enhanced service quality for students with regard to the learning process, communication and administrative services. Universities keeping up with development are managing their services electronically as e-service is the key to the future of higher education and is a critical factor for the future of services development and competitiveness. The young generation is savvy at using the Internet and are adapting well to the use of e-services. Globally, the need for structural changes within institutions e-services policy is supporting education policy development.

As On-line services are continually changing and evolving, it is crucial to ensure sustainable and competitive services are provided to students. The electronic services system would increase value to their organization by saving time and money, reducing paperwork, offering quick delivery of information to students and staff, and better control and management of information (Ndou, 2004).

2.3 Availability of e-services in Libyan institutions

The technical challenges in this research may be described as the existing infrastructural (availability) outlay and channels that support the effective delivery of e-services. Examples of such infrastructures may include computers, internet, telecommunications tools and constant electricity that may power those channels. It is worth mentioning that infrastructural provision may be a crucial issue that can sometimes be costly to build and manage in a developing country such as Libya (Rogers, 2002; Bozeman, 2000; Straub & Hill, 2001; Klauss, 2000).

The problem could be complicated in a country like Libya, where there is a large area yet relatively few people, delivering such technological infrastructure could cause a strain on the financial health of the country. Even though the Libyan government is making the effort to deal with the acute technological challenges but it seems more needs to be done. For example in 2005, the Libyan Ministry of Education provided

160,000 computers to primary and secondary schools, nonetheless that was seen as a 'drop in the ocean' (Sweisi & Adams, 2006, Iahad et al., 2004; Bozeman, 2000; Straub & Hill, 2000; Klauss, 2000). Another challenge that may be interconnected with technological challenges could be the issues of security of users of e-services. Boritz, (2011) advocated that security is absolutely crucial in order to attain citizens trust. The inability to provide appropriate technologies could result in the provision of a fraud-prone e-service. For instance in the United States, which is a developed country with modern technological infrastructure claims that inappropriate technologies has led to serious security breaches on those who use the internet to deliver services. In the US, 32% of 395 IT professionals who were interviewed for a study were of the opinion that e-services programmes were not secured enough against hackers, which negatively affected the adoption of e-services (Mauser, 1996, Boritz, 2011).

Legislations related to online transactions could play an important role to avert security challenges (Mauser, 1996). For instance France has become one of the leaders in establishing such legislation to protect online users. On January 6, 1978, France passed a law that recognised the security and private rights of individuals in the automatic processing of personal data, be it in the public or private sector (Miller & Belanger, 2001). Sweisi & Adams (2006) are of the view that in order to deal with issues on internet security legislations may have to be combined with effective technological infrastructure to ensure efficient delivery of e-services.

Stoodley (2007) defines culture as attitudes and perspectives shared by individuals from a specific country that shape their behaviour and the way they see the world (Stoodley, 2007). Lee & Souder (2000) added that there are various definitions of culture and argued that it is a cause of considerable confusion (Lee & Souder, 2000). The views expressed by the researchers make it appropriate to suggest that cultural familiarity is essential when implementing projects like e-services that directly or indirectly involve behavioural and attitudinal changes. Ogbu & Simons (1998) on the hand took the discussion further and identified several determinants of culture; they argued that a group of people's social structure, religion, language, education, economic philosophy, and political philosophy determine their culture (Ogbu & Herbert, 1998).

Against the background of the above findings greater awareness of the various determinants of culture is a step in the right direction to be able to effect a needed change. For example a country's religious and educational systems could serve as an avenues or channels through which changes could be effected. Libya as a country has its own unique socio-cultural as well as political characteristics which have to be considered when implementing projects like e- services which requires the support, trust and involvement of the entire citizenry.

Knowledge of developing countries such as Libya's culture as Lee & Souder (2000) said earlier is a key to be able to implement e-services which require a significant change in outlook, behaviour and attitudes. Eyob (2004) ; Dugdale et al, (2005) posited that participation in an activity depends upon the satisfaction participants derive from doing so.

The literature findings suggest that it is important for the Libyan government to gradually improve technological infrastructure while concurrently changing the existing cultural dynamics through the educational system, it could be able to build the trust of the people which may lead to increased participation of new projects such as e- services (Nassraddeen, 2010).

Due to lack of telecommunications, transport, and access to the internet it becomes difficult for people to transact business. For instance there are no state postal services in Libya as it is in the UK (Royal Mail). Consequently the people find it extremely difficult to have work done from remote. Whereas, Libyan people need to travel to the capital to get things done. For example, if someone is living in Al-Jawf (very far from Tripoli) and want incorporate a new company or renew a passport then he/she needs to travel to Tripoli to finish his/her business. In addition, most of the cities does not have airports. Therefore, they need to travel either by car or public transport, which takes two to three days in some cases. (Nassraddeen, 2010).

There are telecommunication infrastructure and access challenges. There are problems of resistance to usage of the Internet due to limited bandwidth and high cost of using new technologies. In Libya, compared with other countries, access costs are high, except for those who have Internet access at work or some other organizations. This makes it too expensive for the Internet service providers to buy large amount of bandwidth, which leads to a big lag time. This generally, has a negative effect on the efficient usability of the network within Libya. There are further challenges with landlines availability in Libya. Currently (2005) there are ten landlines to every 100 people in Libya (Woodward, 2005).

This lack in the number of telephone lines acts as one of the main barriers to Internet use. It is difficult to compete in the information age without reliable telecommunication tools. The digital divide operates at an international level. The full benefits of e- services may only be obtained when the majority of people get access to the internet and electronic services channels and fully integrated participation of people; government has to address this issue (Hossain et al., 2007). However, government can use the available channels to provide services until they are able to overcome the potential challenges, barriers and introduce full e-channels and technology infrastructures with respect to e- services. Nassraddeen, (2010) emphasise that the educational system seems to be the best avenue for initial adoption of e- services in Libya.

Although telecommunications equipment and computers are not the focus of e- services, they must be addressed in any e- services plan Bose, (2004). The level of the telecommunications infrastructure needed will depend on the e- services projects (pursued Jones et al., 2004). Significant investment in national information communication technology infrastructure may be needed for certain e-services applications. The existing information communication technology and infrastructure should be examined to identify its suitability and adequacy for the change. At the same time, the government has to identify any new required technologies and infrastructure and its compatibility with the existing ones (Krull & Praxis, 2003).

Libya Telecom and Technology (LTT) Company is the sole legal Internet Service Provider in the country, providing and managing all internet connections. Accessing Internet using dial-up setups is considered the prevailing, cost effective mode of using this technology and is very popular (Young, 1999), with around 55,000 registered users as per LTT records and data. Access servers are conveniently spread across the country in most major cities, including the likes of Tripoli, Zawia, Benghazi, AL-Beda, and Sabha, . While lines and connections are generally efficient and reliable, with Tripoli residents being offered 33 kbps regularly, exceptions do occur at times due to humidity accumulating in the lines or outright disconnections, which could be true anywhere in the country. However, most urban areas seldom observe issues in connectivity and services, although rural areas may face downgraded service levels at times due to landline and ICT infrastructure issues (Terterov & Wallace, 2002).

2.4 Libyan students' awareness of electronic services

Since there is no single definition of awareness it could be described as individuals or a group of people noticing what is happening around them or happening in the place where they live. Abdulrazzaq, et al. (2003) contends that awareness among students of a country like Libya is the most important factor that must be in place for the successful implementation and adoption of projects such as e- services in higher education. Nassraddeen, (2010). argued that creating people's awareness and informing them of the potential benefits they may derive from a new project such as e-services will enhance their preparedness to embrace the change rather than resisting it.

Lack of new technology awareness is often the first challenge in the implementation of e-services (Abdulrazzaq et al., 2003). Libyan government launched its website in June 2005, initially targeting a few key services such as providing information about legislative, law, and Prime Minister Activities. The director of the Libyan e- services set a questionnaire on their website asking people about how they value the e-services website. The results of this inquiry revealed that majority of people in Libya does not know what e-commerce, e-business, e-services, and ICTs are. Furthermore, the Libyan government still has not formulated e-services and e-business laws such as incorporating digital signatures. Moreover, government officials

are not always impartial in sharing information with each other and the majority of their customers (Dwivedi et al., 2006).

Generally speaking, awareness is a function of attitude and “positive attitude towards ICTs is widely recognized as a necessary condition for the effective implementation (Woodrow, 1992; Sife et al., 2007). Developing nations lag behind in the ICT awareness and in use e-services options, with Libya being no exception since computer usage has very low penetration in the general public, educational establishments and amongst educators in higher education. All this, unfortunately, leads to resistance in accepting ICT methodologies in the country. Computer usage is low, and the elite accessing internet does so primarily for simple amusement and basic communication purposes. To the detriment of students, they feel overly anxious and reluctant in using computers for educational purposes since they perceive themselves incompetent in using the machines with ease and convenience (Rhema 2005).

For the current generation of young students, using computers for amusement, accessing on-line chat rooms and downloading entertainment media is enjoyable. This leads credence to motivation levels affecting capabilities in youngsters: “Highly motivated students perform well in most cases whereas de-motivated students tend to drop out” (Andersson & Grönlund, 2009). Hence, the level of individual interest is a huge factor in determining the realization of integration ICT targets. Researchers have commented on the ICT contributing to academic accomplishment since they go to increase skills and introduce new notions, allowing students to set the pace of their own learning (Nassraddeen, 2010).

Unfortunately, for perhaps the majority of Libyan students, lack of computer familiarity, which has an adverse effect on their incentive levels to deal with the ICT on an academic forum (Rhema ,2005). A significant number of participants (84.1%) indicated that they are aware of e-services. However, in the subsequent question that followed to find out about the benefits users derive from accessing e- services as well as the cost, 13.4% of respondents said they find an e-services website useful, 7.3% said they do not see the benefit of the facility a huge 79.3% were of the view that there are some kind of benefits from using the e-services. It must be noted that the question did not particularly refer to the current e- website and the services it provides in Libya.

The respondents' views were a representation of the general awareness and benefits of e-services. From the findings respondents were of the view that there is reasonable justification of government investing in e-services in Libya (Nassraddeen, 2010).

Study of e-services adoption reported that, a significant number of participants proved to be aware of e- services. Less than sixteen percent showed to be unaware of e- services, which is a very small number. More than half of the students are proved to be aware of e- service s (Nassraddeen, 2010).

