

FACTORS INFLUENCING E-GOVERNMENT IMPLEMENTATION PROGRESS IN OMAN: A DISCUSSION

Moaman Al-Busaidy, School of Information Systems, Computing & Mathematics, Brunel University, UK

Moaman.Al-Busaidy@Brunel.ac.uk

Vishanth Weerakkody, School of Information Systems, Computing & Mathematics, Brunel University, UK

Vishanth.Weerakkody@Brunel.ac.uk

Abstract

With the advancement of the Internet and supporting Information and Communication Technologies, e-government has emerged as an effective means of delivering government services to citizens. In the recent past, e-government has become popular in many developing countries. Most notably are the Middle Eastern countries that have continued to invest significantly into e-government initiatives in the last five years. The aim of this paper is to examine e-government activities in the Sultanate of Oman and to identify factors that are currently impeding e-government development and implementation in this country. While issues such as lack of legal frameworks, strategy, project plans, usability issues and information quality are identified in the published literature as impeding e-government progress in Oman, this research suggests that factors such as web accessibility and integration of various government agencies also pose a major challenge for e-government implementation in Oman.

Keywords: E-government, Developing Countries, Oman, ICT Infrastructure, Integration

1 INTRODUCTION

While commercial enterprises have been exploiting the business opportunities offered by the Internet for some time by engaging in e-business activities, public sector organizations have until recently failed to capitalize on the potential benefits of e-enabling their services. However, this notion is now beginning to change with many governments initiating e-government projects with a view of offering better and more accessible services to citizens. This shift has been facilitated largely as a result of the availability of innovative and cost effective ICT solutions and the evolution of the Internet. While developed countries have exploited the power of the Internet to successfully e-enable public services and entice citizens, developing countries have been comparatively slow in developing successful e-government strategies (Karunanada and Weerakkody, 2006; Weerakkody et al., 2007).

With the number of e-government initiatives increasing from three in 1996 to over five hundred national initiatives (Al-Kibsi *et al.*, 2001), the benefits of e-government have been highlighted by many researchers. Given that the public sector is often classified as bureaucratic, inefficient and less technology savvy, e-government can be considered as a revolution that was waiting to happen, particularly in a developing country context. Given this context, e-government has the potential to radically change public sector agencies and offer many benefits that were previously not envisaged (Moulder, 2001).

E-government is the short form for electronic government, and it is also referred to as digital government, online government and even transformational government (Riley, 2003). E-government discusses the manner in which governments make use of the exchange of information and services that are pertinent with regards to citizens, individual businesses, and other governmental agencies to name a few (Welch, 2005). When e-government is implemented successfully, it will ensure that there is improvement in processes within government agencies, efficiency is achieved, and public services are better managed and delivered (Riley, 2003).

However, for e-government implementation to be widespread and successful, exemplary strategies and practices need to be identified in addition to establishing and prioritizing processes to be e-enabled. Furthermore, every e-government programme needs to have a clear idea of the proposed benefits to citizens, what challenges need to be overcome and the level of institutional change that needs to take place for it to be successful in a given context (Hazlett and Hill., 2003). While many developed countries have identified successful strategies and overcome obstacles to pioneer the e-government concept (Jones, 2007), developing countries such as Oman have much to learn in this context. However, there has been little research done to examine, for instance, the reasons for the lack of progress since the initiation of the national e-government project in Oman in 2003. Moreover, there is very little published literature (apart from UN reports) that identifies the issues impeding e-government efforts in Oman. This paper aims to examine key issues that are currently influencing the implementation of e-government in Oman.

In order to achieve the aforementioned aim, the paper is structured as follows. The next section briefly examines the benefits and challenges of e-government as published in the literature. This is followed by a brief overview of Oman and e-government implementation efforts in that country in section three. Next, a brief overview of the research approach used for this study is offered. In section five, a comparative evaluation of Oman's e-government initiative with e-government efforts of neighbouring countries is offered. The paper then concludes by discussing the most salient issues currently influencing e-government implementation in Oman.

2 E-GOVERNMENT BENEFITS AND CHALLENGES: A LITERATURE PERSPECTIVE

The purpose of e-government according to Kostopoulos (2003) is to build a digital state where public services and information can be offered to citizens electronically. Choudrie et al., (2004) suggests that e-government has the potential to improve external and internal relationships among the various stakeholders involved in the government services delivery process (including citizens, government employees, external businesses etc) and facilitate sharing of knowledge among these stakeholders. For many governments, particularly in developing countries, reducing expenditure and cutting down the cost of running government institutions is also a major concern (Bwoma and Huang, 2003). For instance, e-government will eliminate the expenditure needed for building more physical premises and agencies around the country to provide government services to citizens. Also, mismanagement and poor organization particularly in developing countries is common and affects public expenditure. In this context, e-government can cut costs by making operations constrained online. Moreover, e-government will encourage the improved interaction and communication between governments and its citizens (Kostopoulos, 2003). Furthermore, e-government will also establish an environment where public agencies can remain open for 24/365 to serve their citizens and help establish a new line of services for the citizen (Bwoma and Huang, 2003). This environment will therefore reduce the need to directly contact government agencies thereby reducing the cost for government and improving services for the citizens (Awan, 2003; Stoltzfus, 2004; Martin, 2000).

The result of the aforementioned developments will affect communication as well as bring about reforms on the term and conditions for using government services. The use of ICTs will improve the

whole process of government; not only how citizen will interact with such services, but also even help create greater trust between the government and their customers (Choudrie and et al., 2004). Moreover, e-government will reduce the time public sector employees have to spend in their offices, help create better polices, and improve the organizational competitiveness within all government sectors. Choudrie and et al., (2004) classifies two broad benefits of e-government, namely, improving government-citizen relationship, which talks about rapport between government and citizens, and gaining e-commerce benefits such as better cost management. As Belanger and Carter (2004) have highlighted, the main similarity between e-commerce and e-government is that, in e-commerce people exchange their goods and similarly in e-government citizens exchange information and services with the government.

Most researchers have mentioned similar type of relationships in e-government which revolve around Government to Government (G2G), Government to Business (G2B), and Government to Citizen (G2C) (Bwoma and Huang, 2003; Stoltzfus, 2004; Ndou, 2004; Chesi et al 2005). However, Bwoma and Huang (2003) noted one more type of relationship G2E, which explain the relation between the government and their employees. One of the most important issues in the G2G, G2C and G2B models is the integration between different government agencies. According to Belanger and Carter (2004) G2G can establish a standard system or network between government agencies for faster and more efficient information exchange between them. Even more, this can be done by using a common or standard computer language under a secure system to save the information within any type of online connection.

Researchers and practitioners also assert that e-government offers many benefits to citizens. Among the greatest benefits of e-government is improving IT infrastructure and reducing logistical costs, based on data integration of various government agencies (Al-Khoury and Bal 2007; United nation, 2003; Ndou, 2004; Chesi, 2005). For example, collecting all data require for citizens in one portal can ensure that citizens have the ability to explore and use all services from home or work. Moreover, there are many other benefits offered by e-government such as, improved business processes, globalization and increased use of the internet (Al-Khoury and Bal 2007).

Although there are vast advantages in implementing e-government, efforts have been obstructed by a number of challenges in developing and implementing e-government systems. Many challenges have been mentioned in different articles published in the last five years. Most common challenges are privacy and authentication (Al-Khoury and Bal, 2007; Al-Joobri, 2006; Bwoma and Huang, 2003), accessibility (Al-Joobri, 2006; Abanumy et al, 2005; Choudrie and et al, 2004; Chesi 2005), infrastructure (Al-Khoury and Bal, 2007; Bwoma and Huang, 2003; Chesi, 2005), and information mismanagement (Bwoma and Huang, 2003; Chesi, 2005). Also, Bwoma and Huang (2003) identified integration of technologies between government agencies, as a major obstacle for e-government implementation. In this context, using interoperability standards for building e-government systems will increase the flexibility of integration with other systems (Borras, 2004). However, although there is a real need for a common language to complete this process of integration, still many government agencies have their own regulatory environment and strategic priorities (Borras, 2004).

Furthermore, Abanumy, Albadi and Mayhew (2005) also note that website accessibility is a good measurement for e-government success, but at the same time serves as a barrier, because web accessibility will mean allowing universal use for the information. Thus, the success of e-government will depends on "how user-friendly government websites will be" and "what the website ability is" as well as "how familiar the users are with various web based technologies" (Kostopoulos, 2003).

Another important issue with e-government development is the technical and software infrastructure requirements. This is one of the most costly aspects of e-government as transferring traditional government processes to an e-enables state where services are reliant on efficient enterprise applications and network infrastructure (i.e. high speed Internet connections) requires huge capital

investments (UN, 2008). Moreover, accountability of limited financial resources, particularly in developing countries is an important challenge that governments need to manage well. Therefore, the stance adopted by governments should be one that is geared more towards the effective utilization of relevant resources as well as any foreign aid that is offered to finance e-government related projects (Al-Nahas, 2006).

3 A BRIEF OVERVIEW OF E-GOVERNMENT IN OMAN: CURRENT PROGRESS AND CHALLENGES

Oman is located in the southeast of the Arabian Peninsula next to Saudi Arabia and the United Arab Emirates and is bounded in the northeast by the gulf of Oman and southeast by the Arabian Sea. Oman covers an area of about 119,500 square miles. According to the Ministry of National Economy, in 2003 Oman had a population of 2.34 million people and a growth of around 46800 every year; at the end of 2006 Oman had a population of 2.577 million people (www.moneoman.gov.om, 2008).

Official e-Government efforts in Oman (referred to as 'e-Oman') started in 2003 with the establishment of a government organization called 'Oman digital'. This organisation is responsible for all e-government and e-commerce services in Oman. Initially, this organization was responsible for identifying the information and technological needs for different government agencies in Oman to participate in e-government. Currently this organization is developing the infrastructure and a national web portal for e-government in Oman, sadly, a process that has taken nearly half a decade to establish.

Research by Abanumy, Al-Badi and Mayhew (2005) suggests that Oman e-government is still in the initial stage of building e-services, which concentrate on supplying information to the users (see Layne and Lee, 2001). The United Nations Economic and Social Commission for Western Asia described Oman's ICT e-participation policies and missions as average when compared with Saudi Arabia, and below average when compared with the United Arab Emirates. In 2008, the UN world e-government readiness survey showed that the Omani e-government efforts improved significantly since the 2005 survey by moving up from 112 to 84 in the rankings. Sadly, though, according to the same survey Oman's e-government project was ranked last among Gulf countries (UN, 2008).

In the light of the discussion presented above, the lack of a legal framework to identify guidelines and regulations regarding the use of electronic data is one of the main limitations of Oman's e-government concept (UN, 2005). Furthermore, according to United Nations Economic and Social Commission for Western Asia, Oman needs to provide new laws to regulate the Internet, which will control the relations between service providers and users (ESCWA, 2006). In addition, though Oman connected to the internet in 1997 the country still has only one internet provider, which means that not all towns and cities are covered by internet services (ibid). However, since of late with the establishment of 'Oman Digital' the government has ensured the formulation of national ICT strategy to enhance e-services such as e-procurement, e-payment and privacy (UN, 2005; ESCWA, 2006). Nevertheless, sceptics have suggested that Oman lacks clear detailed plans for implementing e-government, which will affect their progress (Al-Jboori et al., 2006). Moreover, there are no software industries, which can grow with Oman's e-government needs. Other researchers have also identified common issues, such as, usability and information quality as factors affecting the efficiency of e-government implementation in Oman (Abanumy et al., 2005).

4 RESEARCH APPROACH

The aim of this paper is to offer a synopsis of the key factors influencing e-government implementation efforts in Oman through a literature review of relevant publications. The paper is a research in progress study and is thus only an initial effort to collate some of the significant factors that are currently impeding the progress of the national e-government initiative in Oman. Therefore, the data collection strategy used for this paper relied primarily on reviewing published academic

literature and other relevant Omani government and United Nations publications. A few informal conversations were also held with those responsible for e-government implementation in Oman to realize a better understanding of the context of 'e-Oman'. However, the information gathered from these conversations was not analysed or used in this research in progress paper, but will form the basis for future research.

5 A COMPARISON OF E-GOVERNMENT IN OMAN WITH OTHER GULF COUNTRIES

In this section, we briefly examine e-government projects in two Gulf Countries with a view of identifying good practices and comparing and contrasting progress in relation to strategy, management and implementation of e-government services.

5.1 United Arab Emirates

The first example is the UAE. E-government within the UAE has moved rapidly, so much so that e-government services in the country have ascended towards standards that are comparable to best in the world (Siddiqi, 2001). The UAE government monitors its e-government implementation programs through a progress appraisal that is in the form of a 'wave' program, which has a number of stages within it. Each wave within projects looks at highlighting different benchmarks that have been devised for monitoring project progress. This initiative was put forward by the government to improve the efficiency and effectiveness of the UAE e-government project (Siddiqi, 2001). On the same footing, Dubai has rightly been acknowledged as the Capital of Technology by a number of world's top technology companies such as IBM and Fujitsu Siemens. These companies see various investment opportunities within the country and hence they become enticed towards the UAE. In addition, the UN e-government survey considered the United Arab Emirates e-government projects to be regional (West Asia) best practice (UN, 2008).

5.2 Kingdom of Bahrain

The second example this paper will examine is the kingdom of Bahrain, which is located in the Gulf region. Bahrain launched the region's first e-government centre in Manama in 1996 (Al-Amer, M.A. 2003) with the assistance of IBM and Gulf Business Machines (GBM). This centre initially looked at the Bahraini government departments as well as the governments of the countries lying in close proximity of Bahrain for their motivations to using e-government. The centre was also responsible for identifying the various technologies used in government departments and their information requirements in relation to e-government and establishing a standard infrastructure for e-government services within Bahrain as well as some of the other neighbouring countries in the Middle East. Since 2003 the Bahraini government has witnessed positive changes to its governmental outlook where transparency in government processes has resulted in various stakeholders being able to see the different tasks that are carried out between different departments in a more efficient manner. Moreover, information flow between various government departments has increased resulting in process efficiency as a result of the ICT infrastructure that has been put in place for e-government in Bahrain (Al-Amer, M.A. 2003; Kostopoulos, 2003). This infrastructure has also resulted in facilitating improved interaction between Bahrain and governments of other Middle East countries (Wert, 2002).

A major challenge that the Bahraini government faced in the deployment of their e-government infrastructure was realising cross agency collaboration (Darwish, 2001). The basic aim of the e-government project in Bahrain lies in the rationale that workflow operations would be automatically checked upon as well as there will be pretty drastic reductions in the amount of activities that are paper centric (Darwish, 2001). These achievements of Bahrain's e-government efforts have been recognised

by the UN; according to the 2008 global e-government rankings Bahrain's e-government project is ranked as the second best practice among Gulf countries (UN, 2008).

6 DISCUSSION AND CONCLUSION

This research found that e-government implementation efforts in Oman are still in its initial stages and that the country is faced with a number of challenges in this respect. Among the most salient factors identified as posing major challenges to e-government implementation were lack of strategy, leadership, legal and regulatory frameworks and infrastructure related issues. Abanumy et al., (2005) explain that Oman government needs to develop a set of policies and regulations to enhance the development of accessible sites and encourage the use of ICTs that facilitate citizens needs in the context of e-government.

Researchers such as Kostopoulos (2003) have suggested that e-government awareness in Oman is relatively less when compared with other Gulf countries such as United Arab Emirates and Bahrain. Moreover, Mansar (2006) explains that the UAE have used different methods for successfully implementing e-government services in the public sector in that country. At the same time, Mansar (2006) also recognizes that huge improvement have been made in the private sector in several Gulf countries mainly as a result of responding to the investments and improvements made in the context of e-government.

However, questions that need to be addressed for implementing e-government, particularly in a developing country context is, whether the ICT infrastructure should be developed according to the country's own policies and guidelines, or should lessons be learnt from other developed countries' experiences and external solutions be introduced accordingly. When reviewing real world experiences though, the latter has caused problems for countries such as Oman where e-government efforts have been stagnating and changing in focus for many years as a result of external involvement and introduction of solutions that do not fit with the socio-cultural values and beliefs of the country. Some researchers have suggested common strengths and weaknesses that currently influence e-government implementation in Oman (table 1). As outlined in table 1, although there are a few encouraging reasons, there are also a number of significant weaknesses relating to ICT infrastructure that can hinder the e-government implementation efforts in the country.

Strengths	Literature
Good economy status and good international relations	<i>MONE, (2008); ESCWA (2006);</i>
Stable political system and peaceful society	<i>MONE, (2008); ESCWA, (2006);</i>
Government support to private sector	<i>MOMP (2008);</i>
Strategic geographic location	<i>MONE, (2008); ESCWA, (2006);</i>
Majority of population between the age group of 15-65 years	<i>MONE, (2008)</i>
Weaknesses	Literature
Lack of internet services	<i>ESCWA, (2006);</i>
Incomplete ICT infrastructure and Lack of a strong IT industry	<i>MONE, (2008); Kostopoulos (2003)</i>
Lack awareness of technology benefits	<i>Abanumy.et al, (2005); Kostopoulos. (2003); ESCWA (2006);</i>

No standard ICT applications among government organizations	<i>Kostopoulos (2003);</i>
<i>Lacks clear detailed plans for implementing e-government</i>	<i>Abanumy et al, (2005); Kostopoulos (2003)</i>

Table 1. Strengths and Weaknesses of Implementing E-government in Oman

7 RESEARCH LIMITATIONS AND FUTURE RESEARCH

This paper focused primarily on e-government literature in developing countries in the Gulf region, in particular Oman. The paper therefore does not provide a comprehensive review of general e-government literature. Furthermore, there is very little published (normative) literature on e-government implementation that has focused on Oman. Therefore, obtaining information about the Omani e-government efforts was challenging. Although a number of informal discussions were conducted with government officials responsible for e-government implementation in Oman, it was not possible to incorporate the results of these initial discussions into this paper since this research commenced only recently. However, the next step will be to offer a more comprehensive literature review of e-government in developing Gulf countries, which will be complemented with case-study-based empirical evidence in key Omani government agencies to explore the challenges, issues and complexities of e-government implementation in the country.

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