The Prospect of E-government in the GCC.
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Abstract:

This study was conducted to compare the development of the percentage of internet integration in Kuwait Bahrain, and Qatar governments, also the population interaction for both countries for that development, it was found out that for both Kuwait and Bahrain governments the internet integration is almost the same and both countries are striving towards a healthy E-government development, But for the usage of the population, Kuwaiti have more interaction and usage [466% increase for period 200-2007] compare to Bahrain [387% increase for the same period]. For Qatar the concentration was more on education and healthcare, it is estimated that the e-learning market will increase by 350 percent, and there healthcare system is fully supported with the health information system that provides information such as finance, stores, personnel and building infrastructure that is available in the e-government website.

Introduction:

As of March 10, 2007, 1.114 billion people use the Internet according to Internet World Stats. Writing in the Harvard International Review, philosopher N.J.Slabbert, a writer on policy issues for the Washington DC-based Urban Land Institute, has asserted that the Internet is fast becoming a basic feature of global civilization, so that what has traditionally been called "civil society" is now becoming identical with information technology society as defined by Internet use.

E-Government refers to government’s use of information technology to exchange information and services with citizens, businesses, and other arms of government.

While e-government is often thought of as "online government" or "Internet-based government," many non-Internet "electronic government" technologies can be used in this context. Some non Internet forms include telephone, fax, PDA, SMS text messaging, MMS, wireless networks and services, Bluetooth, CCTV, tracking systems, RFID, biometric identification, road traffic management and regulatory enforcement, identity cards, smart cards and other NFC applications. Also in countries such as the United Kingdom, there is interest in using electronic government to re-engage citizens with the political process. In particular, this has taken the form of experiments with electronic voting, aiming to increase voter turnout by making voting easy.
ELECTRONIC COMMERCE

E-Commerce according to Person Halls book E-Commerce started in 1994 with the first banner ad being placed on a website.

Electronic Commerce consists primarily of the distributing, buying, selling, marketing and servicing of products or services over electronic systems such as the Internet and other computer networks. It typically uses electronic communications technology of the World Wide Web, at some point in the transaction’s lifecycle, although of course electronic commerce frequently depends on computer technologies other than the World Wide Web, such as databases, and e-mail, and on other non-computer technologies, such as transportation for physical goods sold via e-commerce.

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<td>80</td>
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<td>-3</td>
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Source: UNITED NATIONS GLOBAL E-GOVERNMENT READINESS REPORTS 2004-2005

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<td>700,000</td>
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<td>3.6 %</td>
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<td>Bahrain</td>
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<td>155,000</td>
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<td>Qatar</td>
<td>907,229</td>
<td>30,000</td>
<td>289,900</td>
<td>32.0 %</td>
<td>0.9 %</td>
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Source: Internet World Stats Usage and Population Statistics Web Site
M.E : Middle East
http://www.internetworldstats.com/
Table 3: comparison between Kuwait and Bahrain Ministries sites

<table>
<thead>
<tr>
<th></th>
<th>Number of ministries</th>
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<th>Static sites</th>
<th>Non Active sites</th>
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<td>15</td>
<td>2</td>
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</tr>
<tr>
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<td>14</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Qatar</td>
<td>13</td>
<td>12</td>
<td>non</td>
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Source: Kuwait Government Website & Bahrain Government Website & Qatar Government Website

E- GOVERNMENT IN KUWAIT

The vision for an e-government in Kuwait entails interconnecting the various government offices in a singlewide area network (WAN), at the same time making sure that the internal systems (central databases, payroll and HR applications, etc) of the various government agencies are accessible via the Internet. Kuwait is about halfway through its e-government project, which is scheduled to yield online version of all basic public services in 2007. Microsoft is the main consultant in the project, which is estimated by Madar Research to cost around $450 million. Kuwait’s existing national identification system will eventually make the delivery of e-government services easier than those states in the region that have not yet adopted such system, such as, the use of national identification card number of each citizen in issuing e-mail addresses for the entire population that will enable residents to use government e-services and authenticate their correspondence with public departments, banks and other organizations. Execution of the e-government plan has been rather slow. Of the 36 government departments in Kuwait that are known to have an active website, 75% have no facility for feedback except for occasional e-mail contacts, according to a Madar Research study conducted in mid 2004. Computerization of customs processing.

The Interior Ministry’s Information and Computer Systems Centre (ICSC) has designed and developed 13 applications relating to key areas such as immigration, residency and visa processing, driving license application and renewal, vehicle registration, border control and criminal records management, and an automated fingerprint identification system. Kuwait has adopted E-Mirsal, which is a complete shipping and customs solution developed by Dubai Customs that allows agents, shippers, transport companies and other organizations in the cargo business to submit and process their customs clearing documents and payments over secure Internet connection 24 hours a day. The solution is likely to be adopted by all GCC states after its deployment in Kuwait and Oman. Kuwait's General Warehouses Co. (KGWC), which manages Kuwait's Free Zone, signed 9 an agreement to deploy E-Mirsal in Kuwait City. KGWC has been Kuwait's Customs' partner in using IT systems to serve Kuwaiti cargo and shipping companies that are trading with other countries. The system has been customized to meet the requirements set by the Kuwaiti government to boost its international trade exchange.
Government web sites do not all offer Arabic content, which is a must for an Arab e-government Web site, and vice versa for non-Arabic speaking researchers finding difficulty to access Arabic only information on the government agencies’ basic services websites.

Furthermore, only 25% of the Web sites have a search engine. None of the government Websites to date offers transactional functions such as online payment of traffic fines or utility bills. Two websites, www.e.gov.kw and www.kuwait.kw service as e-government services as a government portal. Both Web sites are in Arabic and English.

**Education**

Students constitute around one fifth of the population. In 2002, the Ministry of Education (MOE) initiated the 25-year plan to modernize the education system, in particular, installing electronic education ‘Education Net’ to link public schools and libraries to a single network, and aim to increase the use of PCs in the classroom in all 620 public schools, 34 % of which were covered by the Ministry of Education and the Kuwait Foundation for the Advancement of Science (KFAS). Short-term goals include covering elementary schools in 2003, and achieve a ratio of one PC for every eight students by 2006-2007.

In May 2002 the Kuwaiti Minister of Education issued a decree to ensure for all teachers hold International Computer Driving License (ICDL) in Kuwait by academic year 2007/2008. Plans are also underway to pilot UNESCO’s TEAM educational framework in Kuwait for secondary and higher education and continuous learning, focusing mainly on science and technology. Computers in schools

The government has been subsidizing projects with the aim to achieve a ratio of 1 PC per 8 students in public schools and private learning institutions by 2006-2007. Some schools have prerequisite units on Computer Science. The new Omar Center at the Kuwait National English School has a 1:1 student-computer ratio and a fully networked environment. Some private organizations like the Kuwait Foundation for the Advancement of Science6 (KFAS) provide computers to schools and colleges to support efforts for scientific development.

Kuwait University has five main campuses with the installation of a converged network that provide distance learning. The digital library provides students with a video on-demand facility where all the live lectures are recorded and backed up to an online library, including a portal to register for academic courses and receive information through the Internet. In addition, Kuwait University has integrated e-business solutions for payroll, supplier payments and human resources solutions.
Meanwhile, 24 public intermediate and secondary schools in Kuwait will serve as pilot sites for an e-learning module. The Ministry of Education hopes to integrate projects for intermediate and secondary schools by school year 2006-2007.

**Healthcare**

Current public expenditure on health is 3.5% of GDP 2003. Databases for national healthcare.

The state-wide electronic filing system adopted by Kuwait's Ministry of Health is a forerunner for the state’s clinics and hospitals to eventually link up in a single network and a central database for more efficient patient record management system, according to the ministry.

The Ministry of Health has in the last couple of years started implementing a number of ICT projects that aim to fully automate national healthcare delivery and management through a centralized database and an Internet-based network. The projects, which are at different levels of completion, come under the ministry's overall plan to institute e-government in the healthcare domain. The major projects, which will run on a UNIX/LINUX operating systems, in addition to Windows NT and Oracle relational database system, are the setting up of Electronic Medical Records, a Primary Health Care System, Hospital Management Information System (for both General and Specialized Hospitals), Administrative and Financial Affairs system, Decision Support Systems, Health Registration System, Health Insurance System, Birth & Death Information System, and Warehousing and Portal Systems.

The Primary Health Care System (PHCS), which was developed in-house by the ministry’s Department of Information, is installed in all primary healthcare centers in Kuwait, and all users such as doctors, pharmacists, and nurses have been trained on the system. The new PHCS system is helping the ministry to create and maintain a main database. The system is reported to be saving processing time, helping reduce drug waste and allowing physicians to spend more time with patients. The system is also leading to the creation of a single electronic healthcare file, which is shared, between all MOH hospitals.
E- Government in Bahrain

The government of Bahrain has pursued a proactive strategy of economic diversification, including substantial emphasis on ICTs. These efforts have resulted in significant outcomes, giving the Kingdom of Bahrain a relatively high e-Government readiness rating of 0.5101. Bahrain ranked as the top in the latest UN E-Government Readiness Report 2004 and ranked 46th globally. Bahrain’s overall Index Value of 0.532, according to the report, is higher than the World Average Index of 0.413. (Source: UN E-Government Readiness Report 2004) Bahrain has also embraced a diversification policy with regard to technology, choosing Linux as the foundation for its e-Government program.

The current level of telecommunication services is one of the highest in the ESCWA region, helping to provide the infrastructure for future success. Economic liberalization and privatization initiatives are proceeding, bringing the benefits of increased competition and openness to the country.

In support of this vision, Bahrain has generated an e-Government Program’s detailing their strategy. This framework contains six main project priorities:

• National Smart Cards.
• Security Strategy.
• Business Systems.
• National Data Services.
• Government Data Network.
• Central Servers.

These projects are framed by a master plan, which details interdependencies, project milestones, and a plan for the future. Regular updates of project status are publicly available, rendering this e-Government initiative one of the most open and transparent in the ESCWA region.

In addition to its efforts in e-Government, the Kingdom of Bahrain has pursued a policy of economic diversification and promotion of commercial activity. To accomplish this goal, the country has sought free trade agreements within the Gulf Coast Country region, and with other nations, including the United States.

Bahrain's efforts to integrate ICTs into its public administration infrastructure have yielded significant results. Initially installed in 1996, the Government Data Network project has provided the necessary physical communications infrastructure to support the e-Government plans in the country. This network, which has been consistently upgraded
and modernized, current links government agencies through an advanced network of Gigabit Ethernet, WiFi, infra-red laser, and microwave technologies.

**National Smart Card System**

A pivotal component of the Bahrain E-Government Strategy is a national smart card system that would allow every citizen to transact with government agencies and other business establishments electronically.

**Ministry of Commerce and Industry**

(www.commerce.gov.bh) is currently one of the first websites providing online delivery of government services such as commercial registration and its renewal. The website’s One Stop Shop for Business feature allows business owners to renew, update, amend or cancel their commercial licenses online.

**Ministry of Interior**

The Directorate of Traffic and General Directorate of Immigration and Passports, which are run by the Ministry of Interior, are developing applications where online services for traffic and visa processing could be made available.

**E-government plans**

Building on this foundation, the government is actively pursuing automation and modernization initiatives improve efficiency, attract direct foreign investment, and establish Bahrain as a center of ICT excellence16. As part of this strategy, the government has placed emphasis on promoting open-source methodologies. Through a public private partnership, these technologies are being used to form the backbone of the Government Data Network17. In addition, initiatives are underway to incorporate Linux into the curricula in the national university.

**Government Portal**

A bilingual Arabic-English e-government web portal (www.bahrain.gov.bh) is in place, allowing online submission of surveys and user feedback. The portal currently provides a few layers of Web pages and offers links to ministries’ homepages. The process of integrating government departments into the portal is still at an early stage. (Source: Madar Research Group E-Government Report 2005).
Computerization of customs processing

The General Directorate of Customs and Ports is developing a web-based system in order to streamline its business processes and increase the quality of its [customer-facing] services. A bilingual website (www.bahraincustoms.gov.bh) is undergoing development and will integrate electronic payment of customs duties and taxes through online banking facilities (I-Net) and an electronic data interchange (EDI) system.

Education

The Ministry of Education has applied information and communication technology (ICT) in the teaching process in the primary education. Initially this project was applied in 8 primary school since 2001/2002 but during the 2002/2003 period it was expanded to 47 primary schools for boys and girls. In 20 schools computer laboratories have been equipped with computers, computer teachers and technicians in each school. The number of PCs in Bahrain Schools exceeded 7,500, were are available for all students at all stages. Every School in Bahrain has at least 3 Computers connected with the Internet (Ministry of Education, 2003) with the aim of reaching 12 connected PCs for each school.

In 2001, The Ministry of Education put forward an ICT Plan, and in collaboration with UNESCO, the Bahrain Government formed a National Taskforce headed by H.E. the Minister of Education as a focal point to implement the recommendations of UNESCO. One of the most important outcomes is the King Hamad's Schools of the Future Project. The aim of the project is to invest in the developments of ICT in the educational field to elevate the standards of education. The first phase of the project will provide 11 schools with advanced ICT infrastructure and with the Cooperation of Batelco, the schools will be linked together. In addition, the project aims to establish an educational portal to provide e-learning services.

Healthcare

The Ministry of Health is spearheading the single most ambitious and costly project in the e-government drive in Bahrain. Running at a cost of BD20 million ($53 million), and approved in September 2001, the Strategic Health Information System will allow clinics, physicians and health officials to share healthcare related information and have instant access to tens of thousands of updated medical records over an intranet, which is also connected to the Internet. The project, launched in April 2002, will pass through four phases over a period of six years.
Phase One, which was completed in 2003, focused on setting up a new infrastructure and basic health information services. Existing legacy systems are being replaced – after historical data are retrieved and new applications installed. Subsequent phases will deal with patient records and other end products before the entire medical information system is made available online.

The Ministry of Health maintains a website (www.moh.gov.bh) where forms can be completed and submitted online, in addition to online directories.

The aggressive adoption of IT in improving health administration is also evident in a number of hospitals in Bahrain. The Bahrain Defense Force (BDF) Hospital, for instance, implemented the Oracle Collaboration Suite in early 2004. One of the key incentives behind the project, according to BDF, was the capability of the application to consolidate the hospital’s communication requirements around a single server, thereby reducing costs and lessening the impact on network bandwidth. (Source: Ministry of Health website www.moh.gov.bh)

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<td>Government Maternity Hospitals</td>
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<tr>
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<td>1189</td>
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<tr>
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<td>As % of Government Expenditure</td>
<td>7.7</td>
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**Internet Backbone**

In an effort to improve the Internet infrastructure of Bahrain, Batelco has pursued a strategy of investment in the national network. This investment has enabled the country to acquire the necessary capacity in support the deployment of further services for its citizens.
QATAR

Qatar, being an oil-producing country, is ranked 3rd in the world of natural gas reserves. With a small population of around 760,000 in 2004 (where 57% live in Doha, the capital city), Qatar has the highest per capita income (GDP per capita around 38,000 USD in 2004) in the Arab region, with the GDP real growth rate of 14.62%. Despite Qatar’s diversification efforts, the economy is still dominated by oil and gas (62% of GDP) and the industry continues to be the main source of revenue. In 2003, services accounted for 30.9% of Qatar's GDP of which only 3.3% are from transport and communications services.

Economic growth has contributed to the development of Information Communication Technology (ICT) society, in areas of communication infrastructure. Both the government and the private sector are using the nationwide spread of an information system. Information Technology (IT) at public and private schools and universities is being taught and utilized.

E-government plans

Qatar (e-government readiness index 0.411) has put a plan in effect to develop their e-government programs by giving support to the public access to electronic information, such as rules and regulations.

This electronic service is designed to speed up transaction processing. Qatar has higher e-government readiness than many in the Africa or South-central Asia regions. As of 2002, e-government services were implemented as part of the plans to integrate government services on the Internet.

The Ministry of Interior is the first to cooperate and utilize the electronic system "Qatar's Electronic Gate" to provide their services electronically. The state e-government committee, E-Government Qatar, is implementing an integration program for all government agencies.

The E-Government programme plans to initiate a promotion campaign to spread awareness among the public of this service once the necessary infrastructure has been established.

Services such as visa applications, traffic fines, water and electricity electronic payment transactions and the Zakat Fund, have been completed, and work currently is being done to introduce 37 new services that include 20 major ones accounting for 74% of the total.
governmental transactions, The infrastructure shall be established with view to providing a mechanism such as the "Smart Card".

**Education**

Students constitute around one fifth of the population. In 2002, the Ministry of Education (MoE) initiated the 25-year plan to modernize the education system, in particular, installing electronic education ‘Education Net’ to link public schools and libraries to a single network, and aim to increase the use of PCs in the classroom.

34% of the public schools in Qatar were covered by the Ministry of Education and the Kuwait Foundation for the Advancement of Science (KFAS). Short-term goals include covering elementary schools in 2003, and achieve a ratio of one PC for every eight students by 2006-2007.
E-learning

A branch campus (Medical College in New York) opened in Qatar to use distance-learning technology to deliver their presentations using technology to broadcast lectures, seminars and medical rounds from New York to Qatar with real-time interaction, and an electronic library. In addition, a branch of the Cornell University Medical Faculty opened in Qatar and provides distance learning over a bandwidth estimated at 310 mhz.

Madar Research estimates the e-learning market to be $2 million by end 2004 and it is expected to reach $6.5 million by end 2009, growing at a compound average growth rate (CAGR) of 26 percent.

A study conducted by the Council of Higher Education shows the following:

- 60% of students in Qatar have Internet websites;
- 30% of students in preparatory school and 43% in secondary school use email in education;
- 60% of students in preparatory schools and 61% of students in secondary schools use the Internet

Healthcare

The health program has been developed with goals to improve health information systems, provide a mechanism to support systems such as finance, stores, personnel and building infrastructure with an e-government website.

Achievements have been made to modernize network linkage between health centres and central databases. The Hamad Medical Corporation manages four highly specialized hospitals, has completed the installation of an Information Systems Internet linking all local area networks (LANs), and implementing the Digital Card project, which will include a summary of public Health.
Conclusion

According to the data available the E-Readiness in Bahrain has increased 15% increase from 2004-2005, hence for Kuwait a 25% increase for the same period.

As far for as internet Usage a 466% increase for Kuwait for the period 200-2007 for Bahrain 387% increase of internet usage for the same period. The ministry Site’s development for both countries are almost the same, hence Kuwait is advancing more in the internet usage. This is probably due to the better economic conditions in Kuwait and the increasing population in the last five years.

Qatar in the other hand accomplished huge strides in e-learning and health care, it is expected that from 2004-2009 the e-learning market will increase by 350 percent, and in the health care section it is expected that Qatar will surpass most of the gulf region countries in the network organization and information system.
References


