

How can eGovernment transform the Society?

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Abstract

In the information and communication technology age, all sectors are benefiting from the opportunities enabled; at least most of them are trying to capitalize on the capacities and platforms made available. This includes the private sector, the public sector as well as the government. Egypt, over the last 20 years has heavily invested in digitizing its governmental offices and agencies. However, since 1999, with the establishment of the ministry of communications and information technology Egypt placed information and communication technology at the top policy level of the cabinet attention that led to focusing on the transformation into eGovernment. Many projects have been initiated, some of them implemented. Moreover, the society at large started to realize the impact of a potential government driven by state-of-the-art information and communication technology. In July 2004, a new cabinet has been put in charge with one of its mandates going online with the government within the coming 3 years holding many future promises for Egypt. This paper provides an overall status of the current electronic government plans and the overall assessment of the challenges and opportunities. It addresses the issue of eReadiness with respect to the government organization to transform itself to a provider of fully integrated eGovernment services. The paper demonstrates the findings of a qualitative research conducted on the status and potentials of electronic government in Egypt and how it can help the nation transform itself to become more information and knowledge oriented and respectively helps it to compete in a globally competitive environment. The paper demonstrates a case implementation in the city of Alexandria reflecting the use of electronic transactions in a government institution.

Keywords: information technology transfer, developing countries, electronic government, information society, transparency, transformation, Egypt.

Introduction

Electronic government reflects the use of information and communication technology to help improve the efficiency and effectiveness with which government services and information provision are provided to the community. Such services could have direct implications on government agencies including cost reduction and improved efficiency and effectiveness as well as other community related implications including better, improved and faster services from a more responsive and informed government. Over the last few years, electronic government concepts and services have been growing at an increasing rate in many countries around the world. Studies

indicate that more than 600 billion US dollars of government fees and taxes will be processed through the World Wide Web by 2006 (James, 2000). However, although such substantial growth is taking place, there are no guarantees that the community will embrace the use of such services. This will mainly depend on the community adoption of the concepts of electronic commerce and their readiness to penetrate and diffuse the tools of the digital economy into their daily systems and procedures (Pavlou, 2003).

Electronic government means many things to many people. However, on a more macro level electronic government reflects a) making internal administrative processes more efficient; b) enhancing the delivery of public services; and, c) strengthening democratic accountability, control and collective decision making. Electronic government refers to the sum of internal processes and external relationships that public authorities maintain with citizens, business or foreign public entities (Bertucci, 2003). In other words, electronic government, besides its organization of processes and deployment of advanced technological infrastructures, focuses on empowering people and ascertain its contribution to the role it can play in their development. Electronic government implications could be categorized into two groups direct and indirect. In terms of direct implications it can include cost effectiveness in government and public operations, savings in public procurement and customs operations and better services provided to the community. As for indirect implications, it can include greater transparency and accountability in public decision making, powerful ways to fight corruption and the strengthening of democracy. It is important to note that electronic government is not limited to the developed and rich countries, some of the most innovative uses of the Internet in governance are appearing in developing nations (Lanvin, 2002). Having listed the benefits and implications of electronic government, it should be noted that it will not solve all the problems of corruption and inefficiency nor will it overcome all the barriers and challenges related to different societies on its own unless major societal transformations will help to realize such objectives. Electronic government goes beyond the installation of state-of-the-art computing and networking equipments and the development of fancy and timely websites. The success of electronic government mainly depends on planning, and the sustained dedication of resources and political will to introduce and transform the society thus requiring champions in the government and its different organizations to lead that change.

The process of introducing and diffusing electronic government goes beyond the installation of computers for government officials and/or automating old practices. The focus only on the technology aspects will not introduce or induce the targeted results. However, the transformation in the way processes are designed and executed coupled with the re-engineering of the ways bureaucrats and government officials think leading to approving that the citizen is a customer of the government and a participant in the decision making process are the key elements for the successful implementation of electronic government.

There are three phases for electronic government implementation, that are not entirely dependent on each other and that could be executed in parallel. These phases can help pave the way for a transformation from a traditional ways of running government processes into the newly emerging unconventional electronic government platform. These phases include; a) publishing information and using information and communication technology to expand access to government information; b) interacting with the community by broadening the civic participation in government; and, transacting by making government services available online (Lanvin, 2002). On

a more macro level, it is mainly a transformation process in the way the government interacts with the governed. It is a long and detailed process and more or less complicated and could not be accomplished in the short term indicating that it needs to be well planned and documented all the way through. Technology transfer and adaptation from one country to another is important to learn from the lessons encountered by other environments, but it is important to note that there is not one strategy that can accommodate all settings and there are elements that need to be adapted to the local environment including a) the process reform, b) leadership, c) strategic investment, d) collaboration and e) civic engagement (Lanvin, 2002). Following are some of the changes that have been taking place in Egypt over the last few years in preparation for more introduction of information and communication technology into government operations paving the way for electronic government deployment.

Towards an Electronic Government Environment

With the new cabinet announced in Egypt in July 2004, a confirmation and commitment of Egypt to capitalize on the evolution of information and communication technology for the purpose of government services and processes improvements were re-enhanced (Darwish et al, 2003). Since the establishment of the ministry of information and communication technology plans were being formulated for Egypt's Information Society Initiative (ESIS) which represents a major building block in realizing an information-based society. An integral part of EISI is the electronic government program that was officially launched in July 2001 (www.mcit.gov.eg).

By 2007, the government of Egypt is planning to be ready to deliver high quality government services to the community through one-stop-shop electronic services focusing on the needs of the citizen and catering for his/her needs that can only be realized through effective community participation and engagement in management, implementation and decision making as well as the efficient allocation of resources that can lead to optimizing the level of effectiveness and efficiency. This can only be realized through the introduction to modern management practices and the integration and deployment of information and communication technology. It is important to note that Egypt's electronic government program has identified a number of objectives to realize a successful implementation of electronic government and that includes; a) delivering services to the community anywhere, anytime, b) encouraging the community to share in the decision making process, c) creating a conducive environment to investors by streamlining procedures and easing access to government services, d) providing accurate and timely information to support the decision making process, e) rendering government operations more efficient and cost effective, and f) reducing government expenditure.

In Egypt, for a citizen to get a basic transaction done, such as issuing a new passport or requesting a birth or marriage certificate, he/she needs an average of 3 to 4 days (about 9 hours) to get the job done. This length of time is due to the lack of efficiency that has become in recent years more than questionable. Reasons that substantially slow down the process and therefore lead to more inefficiencies are many and includes but not limited to endless, and often unnecessary paperwork, manually written reports, uninformed and untrained employees, as well as redundant procedures. However, based on the infrastructure development and processes restructuring taking place, these logistics and procedures are expected to be changed and adjusted to better serve the community and keep pace with the developments taking place worldwide.

Electronic government, as a new platform, that capitalizes on the information and communication technology evolution has been perceived as a venue that can help pave the way into an era of efficient and effective bureaucracy. The possibility of automating the entire administrative processes, the growing penetration of mobile phones, personal computers and the Internet and an improving infrastructure could also support in developing an effective infrastructure that can add value and contribute more to an efficient and effective comprehensive system. Electronic government can dramatically enhance the availability of vital information from and to governmental institutions, businesses and the community at large. In Egypt, with the formulation for the first time of a ministry for communications and information technology in 1999, such developments are supporting in building an infrastructure that can handle the challenges and benefiting from the opportunities of the digital economy. However, it is important to note that such development did not take place from the start but after initially struggling to set up valuable and useful information and communication technology policies; Today, Egypt is gradually catching up with the efforts of developed countries to become an information-based society.

Several studies have been conducted on how far electronic government is progressing in different countries around the world. The classification of Egypt was 49th out of 196 countries indicating that Egypt as a nation could be identified as having relatively a ready environment for electronic government introduction and diffusion as compared to other developing countries. It is important to know what efforts Egypt is taking to exploit the information and communication technology evolution and how this effort affects governmental institutions, businesses and the community at large. Based on a European Union study, there are at least 20 basic public services that have to be provided online including filing of police reports, applications for driver's licenses, registration for university classes and the declaration of income taxes amongst others to be classified as relatively electronically ready. The challenge could be formulated in the identification whether these services, including online payments, are already available online in Egypt? How the community is aware or informed? Whether such services are well maintained and secured? How does the community perceive the migration into electronic government from a cultural perspective? All these issues are important to be addressed to value whether Egypt is close enough and ready for a full-fledged penetration of the cyber economy with its different building blocks including the electronic government?

The importance of electronic government is immense in the new information and knowledge-based society that empowers the citizen and changes the rules of business, social and cultural interaction and that is because within the global economy, electronic government tends to be multi-dimensional with direct and indirect implications on economic, social and governance dimensions. The benefits of introducing electronic government are numerous as indicated (but not limited to) by the United Nations studies as indicated in table 1.

Electronic government, although it does not have a fixed definition, it does entail having all services and data provided by the government in an electronic format to improve the quality of services provided by the government. The evolution of electronic government is mainly due to the development and continuous innovation of information and communication technology. Such evolution could lead to have the services offered become more efficient, the community more electronically ready, and the access to services provision enabled on remote basis irrespective of time and geographical differences. This could be realized through a number of technologies

including Internet access, mobile phones and call centres amongst others. It is important to note that the active role of the private sector companies in deploying information and communication technology in their different businesses is vital in enticing the government to consider the implementation of the idea of electronically rendering their services available to the community whereas the private sector could play the role of the champion and the partner at the same time.

Economic impact	Social impact	Governance impact
<ul style="list-style-type: none"> - Cost-effective delivery of services - Consolidation of common internal services - Reduction of transaction expenditures - Business planning processes in place for all operations - Integrated development planning capacity with financial resource allocation processes - Increased capacity to manage resources in a sustainable way - Improved revenue collection on taxes - Increase in employment 	<ul style="list-style-type: none"> - Gender equality - IT literacy - Reduction of the internal digital divide - Increased access to and quality of education - Better delivery of and access to health services - Improved social security and social welfare - Integration and coordination of social and economic policy - Improved public safety and security - Move to development-oriented and people-centered service delivery culture 	<ul style="list-style-type: none"> - Greater accountability and transparency in public administration - Better coordination and cooperation between government agencies - Alliances and partnerships with private sector and NGOs - Increased awareness of rights of civil society and obligations of government - Greater public participation in governments' affairs - Decentralization and redefined role of local government

Table 1 – Benefits of Introducing Electronic Government (United Nations, 2003)

Electronic government transforms the operation of government. The goods and services offered by the government are made quicker and cheaper to the citizens. These gains are achieved through the reorganization of internal administration and processes and the integration of different governmental agencies' databases. However, it is important to know that electronic government is not a shortcut to economic development, budget savings or a clean, efficient government. However, it is a tool that has to be used effectively to achieve these goals. Electronic government must be about meeting the needs of the community and improving the quality of life and because it has to be customer-driven, it is important to recognize the different roles that citizens have such as taxpayers, employers, students, investors and lobbyists amongst others.

Challenges Identified and Opportunities Created

There are a number of challenges that were identified for electronic government deployment in Egypt and that included the lack of the following elements a) authentication over networks and the absence of a legal framework hindering the conduct of transactions over the Internet; b) payment online, c) automation due to no presence of standards, d) trust with respect to online methods, e) overlapping responsibility among some government agencies, f) government communications network infrastructure, g) an efficient delivery of government services, and, h) low Internet access, computer penetration and computer literacy. To be able to overcome the challenges faced, a number of solutions were created to turn them into opportunities and that included a) the issuance

of a digital signature, b) the development of alternative payment methods creating a hybrid of payment techniques, c) the organization of awareness campaigns, d) the formulation of standards and procedures, e) the development of new workflows and business cycles, f) the installation of an Intranet allowing for efficient, timely and secured flow of information and improve government communication and interaction, g) the formulation of a government portal for a one-stop-shop services, and h) the development of programs to help increasing access to the Internet and computers including the free Internet initiative, the PC for every home and the technology clubs. Some of these programs are already in place and have been successfully implemented. The results of which have had positive implications on the increase in the number of PCs, Internet users as well as contributed to the increase in the level of awareness of information and communication technology among the community.

Among the efforts implemented by the programs formulated by the government of Egypt is the electronic government program with a number of sub-projects identified including a) development of the basic infrastructure (information and communication technology, legal and regulatory issues, standards, public key, electronic readiness, and the government gateway; b) digitizing the service delivery (catering for community and citizens needs, customer relationship management and encouraging investors, c) developing back office automation (introducing enterprise resource planning to government operations including payroll, accounting, budget, personnel, inventory and procurement), and d) updating and enhancing economics databases and decision support (making information publicly available to decision makers). Among the services offered For example, electronic billing of the telephone through Telecom Egypt, which is the national telephone service provider, was introduced in October 2001. The service is an online invoice query and payment via credit cards. The project is successful with over 150000 queries a month and around 10% payment online considering the awareness and the cultural barriers. Other services being launched include the possible request of a birth certificate online through the ministry of Interior, electricity bill query, as well as high school and university grades (Darwish et al, 2003). This is only sample examples of many other citizen services that are gradually being offered online.

According to the plan set by the government of Egypt and the guidelines it follows; electronic government programs worldwide includes seven different levels. These levels include; (1) availing information about various services, (2) query services, (3) full transactions over the Internet, (4) integration of different information systems, (5) push versus pull strategies, (6) dynamic reconfiguration of government services according to the needs of the community and (7) getting citizens to share in the decision making process. Table 2 demonstrates examples from each level. According to the minister of state for administrative development, the minister in charge of introducing and diffusing electronic government, Egypt is currently in level three. This belief stems from the fact that currently the government offers a number of online services including: (a) requesting the birth certificate, (b) requesting the national ID number, (c) accessing a one-stop-shop portal offering a variety of government services, (c) paying telephone and electricity bills, (d) checking airline flight details, and (e) providing information on university enrolments and admissions.

Level	Example(s)
(1) Availing information about various services	Cost and renew dates of driving license
(2) Query services	Information that does not require authentication or payment such as university grades, airlines and

	trains schedules
(3) Full transactions over the Internet	Order services over the Internet and receive it such as birth certificates
(4) Integration of different information systems	Inter-organizational collaboration via the Internet
(5) Push versus pull strategies	Where citizens should not ask for the service, but it is the government that notifies people the expiry date of the driving license, etc...
(6) Dynamic reconfiguration of government services according to the needs of the community	Using IT to better customise services according to citizens' needs
(7) Get citizens to share in the decision making process	Formulating polls about how effective or ineffective the government is

Table 2 – Levels of Electronic Government Penetration

Case: eGovernment: A Case from Egypt

The Centre for Technological Development (CTD) is a typical government building revamped as a private company in terms of layout. The centre serves decision makers, investors and the community at large in the city of Alexandria. The city is divided into a number of districts and the structure of the building is divided according to these districts. The focus of this case is the digitisation of the services offered to the district of (Sharq). The layout included an information desk; a counter and the back office structure included four units. Each unit contained a number of computers ranging from three to four depending on the number of employees. The overall theme of the location related more to a high-tech company than to a government office. The reason this location was selected because of its proximity to the downtown of the city of Alexandria and also because of the willingness of its staff to collaborate in information sharing and provision.

Idea Formulation

The role of the CTD is to help whoever is concerned issue a construction license for establishments, open a new shop amongst other establishments falling under the category of real estate. Since 1992, CTD was mainly an information outlet consisting of a decision support, publications, computers, library, and statistics units. However, a new extension was introduced (citizen centre-CC). In 2002, the ministry of communications and information technology supported the CTD to become what it is today with more advanced infrastructure, automation of business processes and service provision to the community at large. Support is being provided by the ministry of communications and information technology and a number of local private sector companies.

Project Financing

Project financing was jointly provided by the government and the business community in Alexandria to raise around 50 thousands US dollars. The partnership and contribution of the business sector was based on the benefits that could be realized from the services offered by the structure and functions of the CTD. The ministry of communications and information technology contributed with 50 personal computers and their corresponding peripherals. More resources have also been allocated to train the 29 staff members for a period of four weeks to familiarize themselves with the office technology tools and applications required to effectively and efficiently fulfil their newly introduced duties and responsibilities. The financing of the training courses was also provided by the ministry of communications and information technology.

Project Implementation

The whole idea behind automating the CTD was to facilitate the provision of government services to the community. Under the old system, people could have stayed for months before getting their services accomplished. Today, based on the type of service and the steps needed, some of these services can be completed in less than three days. A tracking number is given for every request so that the citizen concerned can track his/her request. From the employees' side, they are more capable to identify bottlenecks and attempt to facilitate the process on a timely basis. The CTD serves 100 citizens on a daily basis; this number is expected to reach more than 600 citizens in 2005. Initial feedback from the community was positive enticing more citizens to use the services of the CTD.

Problems and Benefits

The process of automating and introducing information and communication technology to the CTD was faced with a number of problems. Starting with resistance to change by the employees of the government and ending with resistance by the citizens to use the new services. For some, automated the processes reduced their illegal sources of revenues (i.e. bribes), because with the automated processes there is minimal interaction between the employee and the public. Problems also include the hybrid model of interaction whereas the Sharq district was automated while others were still in the process so that part of the workflow was computerized and the rest was manual. These are example problems that needed to be smoothly handled to build a critical mass of supporters of the services of the CTD as indicated by one of the program managers of the eGovernment program. However, at the same time there were a number of benefits targeted from the implementation of the eGovernment program including (but not limited to) facilitating the provision of governmental services, limiting the time wasted in taking unnecessary journeys to governmental agencies, creating new job opportunities and/or minimizing disguised unemployment, and reallocating some of the government human resources to optimise its use (www.alex4all.com). The project in Sharq can also work as a model for further implementation in other districts and cities as well introducing additional electronic services as part of the full-fledged digitisation plan due to take place as planned by 2007.

Research Design and Methodology

The research methodology implemented combined both qualitative and quantitative measurements reflecting the primary field research as for the secondary data collection the main sources included published documents by the government of Egypt as well as available documents on the world wide web and published articles on electronic government in Egypt. With respect to the quantitative research, 263 survey questionnaires were distributed including a mixture of open-ended and close-ended questions with equal distribution gender-wise; the sample covered different age groups ranging from teenagers and ending with 40 years and more. The sample covered a number of districts in Cairo including: Heliopolis, Maadi, Mohandessin and Zamalek to cover class segments A and B of the market as well as Hadayek El Qoba, Shobra, El Haram, Madinet El Salam and Imbaba to cover class segments C and D. With respect to the qualitative research, it included 25 open-ended interviews including (6) policymakers involved with the electronic government program; (7) project managers working for the ministry of communications and information technology, the executing organization responsible for the eGovernment program; and (12) executives and employees in different private sector organizations responsible for developing

and implementing different required information systems catering for electronic government needs.

It is important to note that the research faced a number of limitations including difficulty in interviewing policy makers and getting access to full-fledged report on the government plans for electronic government. Limitations also included the focus on the two largest cities in Egypt (Cairo and Alexandria). Additionally, there was not much in the published literature (studies or in-depth analysis).

Research Findings

The initial findings of the research indicated that the main stakeholders of electronic government in Egypt are policy makers, information systems developers, providers of eGovernment solutions and the community of users. A common definitions among these different segments of the community of stakeholders indicated that eGovernment is there to automate government services and also to diffuse the use of information and communication technology to improve the service delivery of government organizations.

Based on the findings of the research and the interviews with different policy makers and executives in the industry, a number of elements were identified for effective and efficient electronic government implementation as indicated in table 3.

12-Elements for eGovernment Successful Institutionalization
1. Developing a comprehensive and transparent online national Infostructure
2. Building a trusted and reliable state-of-the-art government network infrastructure
3. Providing both front and back office automation systems for different government organizations
4. Identifying the requirements needed to provide electronic services online
5. Providing affordable Internet access to schools, business, civil servants and the community at large
6. Streamlining communication with electronic services for the community
7. Replacing paper printing by web publishing
8. Improving interoperability using electronic data exchanges
9. Improving tax collection through electronic filling
10. Making healthcare available electronically
11. Adopting electronic procurement and payment at all government levels
12. Supporting eGovernment with a strong education program and through cases and projects

Table 3 – Elements for eGovernment Successful Institutionalization

Both policy makers and different information technology experts and programs managers interviewed stressed on the importance of effectively managing the services offered by the government through a proper workflow management systems that should be supported by a comprehensive back office infrastructure. It has been noted that some of the services offered have already reached advanced levels of services delivery and the rest is planned for the years to come (www.egypt.gov.eg). Some of the services that are currently in place include; the electronic bill payment provided by Telecom Egypt; eGovernment portal at www.egypt.gov.eg, general taxation provided by the ministry of finance, students records provided by the ministry of education,

irrigation information provided by the ministry of irrigation and automation of the Sharq district offered by the province of Alexandria.

Based on the analysis of the research findings a number of critical factors were identified for the successful implementation and institutionalization of electronic government. This includes security (authentication over networks) as an issue that needs to be considered and solved through the creation of a public key infrastructure (PKI). The availability of an electronic signature is another issue that has been discussed and although the documents is awaiting approval in the parliament facilitation on the ground needs to be introduced to enable successful implementation. Electronic payment is another issue with a limited number of credit card holders available in the marketplace. Many solutions have been suggested such as (scratch cards). Integration and cooperation (process workflow) between different government organizations is another issue within a framework of total transparency. Access is another issue to consider with the numbers of PC owners and Internet users, only limited numbers of the population will be able to benefit from the electronic government services. Alternative solutions are considered including Internet cafés, technology clubs and the establishment of kiosks around the nation with skilled staff to act as agents to support different users of the services offered.

Moreover, the findings of the research indicated a number of problems facing the implementation of electronic government in Egypt as summarized in table 4.

Problems	Status
Vertical government model	One of the oldest governments in the region hosting sophisticated business processes built around areas of responsibilities not services
Digital divide	High illiteracy rate, low computer penetration, and low credit card community
Security and privacy	Human (emotional) barrier to use the Internet securely mainly for privacy purposes although that statistics have proven that credit card fraud is much higher when used manually rather than on the Internet
Expertise needed	Not enough human resource capacities and expertise to carry out a full-fledged electronic government environment
Costs associated	The government is in the process of allocating resources to cover the costs of the information and communication technology infrastructure
Legal framework	Availing a regulatory framework to use the electronic government services
Transforming the workforce into modernizing end-users	Training the workforce to cope with emerging state-of-the-art technologies

Table 4 – Benefits of Introducing Electronic Government (United Nations, 2003)

The findings of the research based on the sample covered indicated that 68% were computer owners. The percentage of effective use was higher among the younger age brackets included in the sample. For example, while 96% of the age group (15-23) knew how to effectively use computers, only 58% from the age group (40 and above) could be considered computer literates

indicating that future generations are more technological oriented. Although 70% of the people thought that computers are useful, many faced problems using them where 63% were related to lack of time and 54% were due to financial constrains. Therefore, the majority of the sample believed that the government should introduce teaching computers at a younger age at the school level.

The findings also indicated that 81% of the sample using computers has access to the Internet. The highest place from which they log on to the Internet is home (58%) followed by their workplace (15%). The Internet was highly used for checking emails and searching for information on the World Wide Web. It is important to note that the PC for every home and the free access to the Internet projects of the eGovernment program can help pave the way for more web-based services offered by the government indicating that the government should increase their online services in the future. It is important to note that the community that use computer are literate and they can influence the decision making process of top government officials either by recognizing their efforts or by negatively criticizing their work. Therefore, when government officials sense the success of an eGovernment application and the recognition they might receive, their resistance to change will decrease and they could be transformed and start supporting eGovernment.

Findings indicated that eGovernment is not widely publicized among the community since 74% of the sample surveyed did not know about it. However, most of them believed that the party who will benefit most from is the community at large. Regarding the expected safety and security of governmental websites only 22% thought of them as safe and secure. Accordingly, only 19% of the sample was willing to use their credit card online and 24% were willing to reveal their average income on governmental websites. While conducting the survey, it was noticed that people from low social classes, who have a relatively low income, did not mind reviling their average income information because it is significantly small. Since 66% of the sample thought that the current system of providing governmental services was extremely bad, accordingly 65% expect that eGovernment will provide them with benefits. Ironically 42% of the age bracket (40 and above) who are the least technologically ready represent the highest age bracket that expect that eGovernment provides maximum benefits illustrating the fact that the higher the age group the more they are involved with the government in demanding different services. Regarding the improvements that are expected to occur through the implementation of the eGovernment, 74% of the sample expects that processing the different services to take less time while 73% believe it will be provided with better quality services and 51% think it will be more efficient and 40% expect the process to be cheaper.

Recommendations

Based on the findings of the research as well as a number of previous research studies, a number of findings could be deducted that can help in the future to better introduce and diffuse electronic government in the community as shown in table 5.

Recommendations
1. Reward government employees who will be involved with eGovernment
2. Increase the awareness of the importance of eGovernment through various channels
3. Increase the awareness of existing eGovernment initiatives

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| <ol style="list-style-type: none"> 4. Encourage the use of Internet in government agencies 5. Formulating training programs for the community at large 6. Building a critical mass by selecting the initial services to cater for a large community 7. Promote a credit card community and an electronic payment environment 8. Expand with the PC for every home initiative and the free Internet model 9. Promote information and communication technology among students in schools 13. Complete the technology infrastructure necessary for eGovernment |
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Table 5 – Recommendations for eGovernment (Darwish et al, 2003)

Conclusions

Despite the obstacles revealed throughout this research, it is clear that Egypt is taking solid steps towards implementing electronic government. This effort as indicated earlier should be a collaborative effort between a number of parties in the government and also with the support of the private sector. However, there are a number of issues that need to be addressed and there is a culture that has to be embedded in the environment that caters for the needs of the customer, that can support in reengineering the business processes, and that can overcome resistance to change of government officials and civil servants amongst other elements. The role of the government is vital in the proper diffusion of electronic government and to entice the community at large to change, that has to start with the government itself as one could say in a metaphorical sense eGovernment is an eleven letter word, where government represents ten letters and (e) only one; thus you can not have an effective and efficient eGovernment without a government that is as effective and as efficient.

References

- Alexandria 4 All (2005) www.alex4all.com [website] last accessed 15 February 2005.
- Bertucci G (2003) E-government for Development. Development Administration, Newsletter of the Division for Public Administration and Development Management, Issue 1, Number 106.
- Darwish A, Rashad M K and El Askalany H A M (2004) ESIS- Government - The Egyptian Information Society Initiative for Government Services Delivery. Unpublished Report [website] www.egypt.gov.eg, last accessed, February 2005.
- Egyptian Government Services Portal (2005) www.egypt.gov.eg [website] last accessed 10 January 2005.
- James G (2000) Empowering bureaucrats. MC Technology Marketing Intelligence, Volume 20, Number 12 (December), pp. 62-68.
- Lanvin B D (2002) The E-Government Handbook for Developing Countries, Centre for Democracy and Technology, November.
- Ministry of Communications and Information Technology (2005) www.mcit.gov.eg [website] last accessed 10 February 2005.

Pavlou P A (2003) Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. *International Journal of Electronic Commerce*, Volume 7, Number 7 (3), pp. 69-103.

United Nations (2003) *Benchmarking E-government: A Global Perspective*, United Nations Division for Public Economics and Public Administration [website] www.unpan.org, last accessed February 2005.