

E-Government in Lebanon: Current Situation & Future Potential

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Abstract

The vision of Electronic Government is one where government, business and citizens work together for the benefit of the nation. The implementation of e-government provides a golden opportunity to the public sector to upgrade the quality of civil service delivery. Processes involving the daily lives of citizens will be transacted electronically. Government- business transactions will undergo efficient changes through the use of information technology and the Internet.

This research paper will shed light on current efforts that the Lebanese government has engaged in to implement e-government practices. Moreover, a descriptive analysis is carried out to assess current projects and future opportunities.

1. Overview

Prior to the 1975 civil war, Lebanon had one of the most developed economies in the region, dominated by a large services sector, a growing industrial sector, and a small agricultural sector. Beirut, the capital, became the banking and financial center of the Middle East, and the oil boom of 1973 provided the economy with an additional boost, as Arab capital inflows grew and remittances from Lebanese working the Gulf States increased sharply. The ensuing civil war and Israeli invasions brought an end to this economic heyday.

In the period between 1975 and 1990, Lebanon's economic life was defined by the civil war and the Israeli invasion in 1978 and 1982. The services sector interests were relocated overseas, and the industrial and agricultural infrastructure was devastated. The degree of destruction caused by the internal rifts made the intervention of the state in economic matters necessary. Lebanon had to make up for the war devastation that was estimated at 25 billion dollars. The public sector contribution to Lebanon's GDP before 1975 was only 12 percent, but by 1999 public expenditure accounted for more than forty percent of the GDP (Audi, 2000).

In the wake of a devastating 16-year civil war, which ended in 1990, Lebanon had to establish domestic political stability, to rebuild the country's infrastructure and to restore

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September 27-28, 2001**

basic public services. From 1992 to 1998, different Governments broadly succeeded in these respects. However, achievements were accompanied by the creation of large macroeconomic imbalances.

The weakening of domestic demand in large part due to the near-completion of the massive reconstruction of the country's infrastructure, the tight monetary policy, and the constant unsettled political situation in the region have led to a slowdown in economic growth since 1998. As a result, the budget fiscal position and the public debt situation have deteriorated further.

The 1998 Government has consequently shifted the policy focus from reconstruction to an urgent concern with macroeconomic imbalances. Final consolidation became the cornerstone of economic policy. The Government adopted a five-year reform program in September 1999 to achieve the following objectives by 2003 (Audi 2000):

- (i). A gradual return to growth to 5% by the end of the plan period,
- (ii). The reduction of fiscal deficit to 4.5% of GDP – from 14.5% of GDP in 1999 – in order to stabilize the public sector debt as proportion of GDP at 95% and reduce domestic interest rates,
- (iii). The maintenance of monetary and currency stability, and
- (iv). The acceleration of structural reforms.

Despite efforts at implementing its medium-term reform program, the 1998's Government did not succeed neither in meeting 1999 targets nor the 2000. Lebanon is currently facing its worst economic conditions since the civil war ended in 1990. Real GDP growth rate is around zero. Public debt exceeds 140% of GDP and the budget deficit exceeds 11% of GDP (Lebanese Ministry of Finance, 2001 and Hobeika, 1999).

Following September legislative elections in 2000, a new government was elected and headed by the opposition leader and former Prime Minister and his allies, however, it faced the same challenges as the previous one.

The short-term outlook for the Lebanese economy could be positive. However, the new Government, that took office in November, will need to take a quick action in implementing the required fiscal adjustment and structural reforms, particularly to halt the snowball effect

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

of the public debt. The medium-term outlook depends heavily on the developments on the peace settlement in the Middle East, from which Lebanon would benefit greatly.

2. Political Developments

Lebanon still faces the daunting task of unifying a land divided along multiple regional and religious fault lines. It has more than 30 political parties, 12 of which are represented in the national Assembly. However, the majority of parliamentarians are independent representatives, often elected along sectarian lines.

Following the September 2000 elections, a government with many technocrats has been formed. Mr. Rafiq Hariri, the former Prime Minister, who won these elections, would have to sustain a stable government to face the challenges.

3. Economic Developments

The economy is far to recover from the output slump, which started in 1996 and continued as activity in the construction sector tails off. 1999 saw GDP contraction by 1% in real terms. This was the result of low business confidence, stagnant domestic demand, and the attempt of the Government to bring the public finances under control by raising taxes and pursuing a restrictive monetary policy with high interest rates so as to support the exchange rate peg vis-à-vis the USD. This rise in indirect taxes has inhibited domestic demand, while high interest rates have stunted investment.

Price stability was basically attained in 1999 and 2000, with inflation reaching a low of 0.2% and 0.3% respectively (LMF, 2001). The Lebanese pound's (LBP) peg to the USD and the strong dollar itself have been important factors, given the economy's dependence on imports. In addition, the decline in growth dampened price pressure from non-tradable goods.

Domestic interest rates have been kept high to fight inflation, attract investors to public debt instruments, and avoid the withdrawal of reserves.

4. Future Outlook

The performance of the local economy over the last decade has undoubtedly shown the sincerity and the commitment of the stakeholders towards the building of a constantly developing and sustainable future. The heavy development and the steady reconstruction of

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September 27-28, 2001**

all major infrastructure projects coupled with Lebanon's rich diversity have boosted Lebanon's attempts to build on those resources in the promotion of its national identity. In the next 5 years, the country will see (ABL, 2000):

- (i). Intensified fiscal consolidation efforts,
- (ii). A continuation of upgrading/building of infrastructure facilities,
- (iii). Additional investments in the manufacturing and service sectors,
- (iv). A revival of the information technology sector,
- (v). An activation of e-commerce activities, and
- (vi). An active and relatively liquid capital market as privatization gains ground.

The above mentioned expectations are reinforced by several other conditions. The challenges that the economy is currently facing are believed to be more of a short term and cyclical nature. An upward shift is quite plausible once the general environment factors are alleviated. The Israeli withdrawal from South Lebanon, the further liberalization of the Lebanese economy through the alleviation of trade and non-trade barriers, the potential launch of privatization of public utilities and the arising signs of economic openness in Syria, all constitute promising developments in this respect (Audi, 2000). Lebanon's outlook is finally encouraged by a significant regional potential driven by its historical comparative edges at large.

5. Lebanon's agenda to face the upcoming digital challenges.

The vision of Electronic Government is one where government, business and citizens work together for the benefit of the nation. The implementation of e-government provides a golden opportunity to the public sector to upgrade the quality of civil service delivery. Processes involving the daily lives of citizens will be transacted electronically. Government- business transactions will undergo changes through the use of information technology and the Internet.

A government can save time and money by using modern technology such as computer networks and e-mail in preference to the old manual procedures. When a bureaucratic procedure is completed by one person instead of two, and in less time, valuable resources will be preserved. By reviewing, restructuring, and promoting transparency of governmental organizations, systems, and procedures, administrative reform helps to reduce the economic burden on the country and to strengthen the commitment of its citizens. Administrative reform clearly aims at building a more service-driven and result-oriented government.

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September 27-28, 2001**

In May 12, 1997 the Lebanese government manifested its full involvement and support of a strategic plan for administrative reform. The decision was to adopt information and communications technology to modernize the much needed infrastructure after almost two decades of civil war. For this task a professional team for administrative reform was formed and located under the Office of the Minister of State for Administrative Reform (OMSAR). The main tasks were the following (Farah et al., 1998):

- (1). Provide expert opinion on policies, goals, standards, and procedures for the implementation of adequate information technology in the different entities of the Lebanese government according to a needs assessment scheme.
- (2). Reengineering the government's services to the citizens according to established and approved standards of quality to provide speedy, efficient, accurate and effective services.
- (3). Establish a dynamic network (Wide Area Network-WAN) between all government directorates, public agencies, and ministries.
- (4). Establishing an information network with adequate Internet support to the citizens and to consolidate governance practices.
- (5). Establish unified standards to all government entities according to their unique needs and designs.
- (6). Enable the law for Intellectual property protection.
- (7). Establish a network of individual management information systems in the different governmental entities to streamline internal affairs.

OMSAR, then, summarizes the challenging tasks facing the Lebanese government to prepare itself to offer e-government services to the citizens. Its mission statement clearly defines these requirements. It reads as follows:

“Bringing the Lebanese post-war public administration into the 21st century through an optimal and coherent introduction of Institutional Development (rehabilitation and reform) and Information Technology (systems and communications) measures that render streamlined, transparent and traceable processes fulfilled by productive civil servants for the benefit of both the general public and government” (Khoury, 2000).

OMSAR comprises four units: the Institutional Development Unit (IDU), the Technical Cooperation Unit (TCU), the Administrative Unit and the Communication Unit. While the TCU focuses on short-term strategies, the IDU works in parallel on the mid and long-term

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

strategies. The Administrative Unit is in charge of OMSAR's administrative services. The Communication Unit sets up and executes the office's external and internal communication plan and strategy. (Khoury, 2000).

OMSAR functions as the coordinating agent of administrative change in Lebanon by serving as an intermediary between funding organizations (regional and international) and government ministries and agencies. OMSAR has been created to foresee that Lebanese ministries and public agencies are the direct beneficiaries of developmental and improvement projects for the sake of achieving leaner, more efficient and effective productivity. The first step into serving the citizens is internal consolidation seeking administrative reform under international quality standards and supported by modern technological infrastructures.

The Lebanese government identified three main areas in its quest to modernize its governance model in order to cope with requirements to offer e-government services to the public. OMSAR has been an active agent in assessing, preparing, designing and implementing all the tasks related to these areas. These are:

- 5.1. Policies and Procedures
- 5.2. Hard Infrastructure
- 5.3. Human resources

The coming paragraphs briefly describe current status of activities under each category. This way, one can appreciate the efforts towards achieving e-government services and pinpoint as well the challenges to come.

5.1 Policies and Procedures

The dynamic changes impacting citizens today have created a higher challenge to governments. Citizens are aware of their rights more than ever before, therefore, demanding better service from the government. Lebanese citizens, in particular, are characterized with high diversity. Such a fact coupled with the Lebanese high exposure to western practices be it in social democracy or legal citizen rights have put the government, in many cases, in the defense position reacting to the wants and likes of citizens. Consequently, government bodies are increasingly perceiving themselves as enlightened providers of convenient, accessible, and responsive services using information technology to market themselves to their community by adopting a citizen-centric attitude.

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September 27-28, 2001**

However, such a citizen-centric attitude necessitates a formal reengineering of the current policies and procedures, and a comprehensive reform of procedures through simplifying, detecting futility and reviewing overlapping laws and regulations all having a main target: serving the citizen. Consequently, the Lebanese government has carried out several steps into this realm, among these steps (Khoury, 2000):

- (*) Creation of a national Information and Communications Technology policy in 1999.
- (*) Creation of a national ICT committee structure in 2000.
- (*) Creation of a national ICT business plan which is in preparation.
- (*) Establishment of the Intellectual Property Regulation
- (*) Drafting a law for the creation of Media and Information and Communications Technology Free Zone in early 2000.
- (*) Acceptance of the Digital Signature legislation draft, however it awaits approval of the parliament.
- (*) Work underway for drafting certificate authentication and privacy protection laws.
- (*) Online banking law passed in 1999.
- (*) Government approved reduction of trade tariffs on ICT products (from 24 to 6%).
- (*) Updating commercial code systems.
- (*) Modernizing the national tax system.
- (*) Developing pilot ICT systems to showcase these reforms (SchoolNet,...)

The purpose of these policy reforms is about ensuring that the government intends to offer the best possible service to their citizens, however starting first by easing up the burden of bureaucratic and classical governance.

5.2 Hard Infrastructure

A government's ultimate goal is to save time, money and valuable resources while delivering a one-stop-service to its citizens. This can be done using modern technology such as computer networks and e-mail in preference to old manual procedures. The Lebanese government seeks the following value-added goals:

- (i) Ensuring efficient delivery of public services to all citizens.
- (ii) Accelerating the rehabilitation process
- (iii) Eliminating redundancies and waste
- (iv) Combating corruption
- (v) Integrating the latest technologies and methods of work

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

Next, a current list of activities is shown to reflect how much is done in preparation of the hard infrastructure necessary to build a backbone of future applications to enhance e-government applications.

5.2.1 The Automation Project and the Infrastructure of the WAN for the National Lebanese University

OMSAR has completed, in cooperation with the Lebanese University, the projects of automating student affairs and establishing the infrastructure for a university wide area network (WAN). The two projects, at a cost of about US\$ 2,150,000 and financed by the World Bank, the UNESCO and the UNDP, come within OMSAR's plans aiming at establishing an electronic administration capable of providing fast services to citizens and building an information communication infrastructure.

The two projects shall enable the university to enter the ICT world, improving administrative operations, providing better services to the students and speeding up the decision-making process at administrative and academic levels. (OMSAR, March 2001)

A- The Automation Project:

The automation project was designed more than two years ago and the implementation started in July 2000 following an international competitive bid that was won by ITS (Integrated Turnkey Systems). ITS offered "Banner 2000", which is considered one of the most important information systems catering to the higher education sector and which is implemented by more than 1350 universities worldwide.

Table 1 shows some of the details of the automation project.

Automation Project	Banner 2000 System
Serves administrative needs.	Centralized information to all schools and branches.
Improves student services.	Provides systemic structure for future use of applications on-line.
Eliminates duplication and redundancy.	Ensures compliance to international educational standards.
Increases efficiency and lower operational costs.	

B- The Lebanese University WAN Infrastructure:

Work on the project started more than two years ago with the preparation of the technical specifications through a joint effort between the OMSAR, the UNESCO and the University. A team of about twenty students from the Academy of Fine Arts prepared the floor plans of the buildings, while the OMSAR prepared the terms of reference that included the technical specifications of the project. The tender for the installation of the local area network (LAN) infrastructure was awarded to Tetracom, while the installation of the wide area network (WAN) equipment (modems and routers) was awarded to Computer Information Systems (CIS).

It is important that the project is among the first of its kind in Lebanon as it contributes to the efforts of linking various branches of one university that are spread across Lebanon. The project enables the university to adopt the concept of decentralization of the data collection process together with the concept of a centralized database in such a way that any branch can get online information related to any other branch. It allows online learning so that students in any branch may actually participate in classes given in other branches by linking video conferencing equipment to the network (distance learning).

The importance of such automation lies in the efficiency and timeliness of management of the affairs of the 70 thousand students at the university, as well as in the linking of the branches of the university in a wide area network. With interconnectivity, the Lebanese University is required to be the main focus of activities of the Lebanese higher education sector and a center for decision-making and research that would benefit the Lebanese public and the Lebanese government.

5.2.2 ARLA Program

A- ARLA and PMC in OMSAR

In October 1999, a project was started in OMSAR funded by the European Union, which is to set up a large program of Assistance to the Rehabilitation of the Lebanese Administration (ARLA). This three-year program is called the Program Monitoring Consultancy (PMC), and consists of a sizeable component of Technical Assistance in order to assist the OMSAR in the identification of projects in a number of government ministries and agencies, and the provision of advice to some core administrative agencies. The projects identified will be tendered and contracted out to interested companies in the field of institutional reform and

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

development, and will be called MSC's: Management Support Consultancies. In total, 14 million Euro has been earmarked for these projects. The core agencies that are beneficiaries are the Civil Service Board, the new Institute of Public Administration, the Central Inspection, the Court of Accounts, the Central Administration of statistics, and the Directorate General of the Presidency of the Council of Ministers. For OMSAR itself, technical assistance in a number of areas is also included in the work plan of the PMC (OMSAR, April 2001).

Table 2 ARLA project synopsis

PROJECT SYNOPSIS	
Programme Title	Assistance to the Rehabilitation of the Lebanese Administration (ARLA)
Project Title	Programme Monitoring Consultancy of the ARLA Programme (PMC)
Donor	The European Commission
ARLA Objectives	To reform and modernize the Lebanese Administration
Specific Objectives of the	<ul style="list-style-type: none"> • To assist the OMSAR in establishing and subsequently monitoring specialized projects in various public institutions in the areas of Central Administration, Public Utilities and Service Networks and Local Administration, in order to strengthen these institutions. • To streamline and strengthen six Core Administrative Agencies in their key-tasks through Technical Assistance inputs • To strengthen the office of the Minister of State for Admin. Reform (OMSAR) in its functions pertaining to administrative reform and development and to assist it in managing the ARLA in particular.
Ongoing Activities of the PMC	Establishing and Monitoring Management Support Consultancies (MSCs) and Immediate Action Packages (IAPs) for currently <ul style="list-style-type: none"> • Social Sector: a study of the social protection system in Lebanon, a functional study of the Ministry of Social Affairs, and an assistance programme of the Ministry of Social Affairs. • Institutional Strengthening of the Ministry of Labour and national Employment Office (MSC)

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

	<ul style="list-style-type: none">• Institution building of a Telecommunications Regulatory Agency (MSC for Ministry of Telecoms)
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Source: (OMSAR, March 2001)

5.2.3 Time Attendance and Access Control (OMSAR, April 2001)

A- Background:

The Presidency of the Council of Ministers issued on February 15, 1999 a circular number 12/99 to all government agencies asking them to implement a modern electronic time attendance control system. Requests for these systems were received by OMSAR, which designed an integrated biometric hand recognition system linked to a computerized time attendance control and payroll management system, and launched through the National Administrative Rehabilitation Project (NAPR), a pilot project. The system is expected to facilitate physical access control, time and attendance complemented with detailed reports on every aspect of an employee's behavior, including a history of the employees' work status (e.g. arrived already early, left late, absent, etc...).

B- Objectives:

The primary purpose of this project is to record, monitor, authenticate and control the attendance of employees throughout the government while ensuring the enhancement of the accuracy and precision of their financial payroll system. The system will eliminate costly and time-consuming manual time card calculations; provide more accurate financial decisions that in turn directly affect the overall budget of the Ministries, and indirectly the overall budget of the Government. (OMSAR, April 2001)

The beneficiaries of the Time Attendance system were the following:

The Ministry of Information, Ministry of Finance, Ministry of Justice, Ministry of National Education, Ministry of Industry, Central Inspection, Civil Service Board, Ministry of Public Works and Transport, Ministry of economy and Trade, Court of Accounts, Public Housing Agency, Ministry of Interior (Municipality Division). As for Access Control and Time Attendance the beneficiary was the Office of the President of the Republic.

The World Bank donated the cost of \$516,868 to the realization of this project.

5.2.4 Automation of the Civil Service Board

The Civil Service Board (CSB) is one of the most important institutions on the national level. The CSB was established by decree no. 114/1959. It is directly related to the Directorate General of the Presidency of the Council of Ministers. The prerogatives of the CSB cover the employees of most public administrations, public institutions and large municipalities exclusive of the army and of the internal security forces.

Objectives:

- (i). Upgrade the existing network infrastructure and provide the CSB with clustered servers to ensure greater availability and scalability.
- (ii). Provide new software packages and appropriate training. Efforts included the administration of the newly updated network and the development and maintenance of applications and databases, as well as the update of an older version of the existing “Human Resources Management System” that helped the CSB in its efforts to consolidate the personnel records of all civil servants.
- (iii). Automate the recruitment and promotion of employees, their allowances, their transfer into different administrations, the disciplinary matters as well as their dismissal from the service, in addition to other internal affairs.
- (iv). Improve the disciplinary levels of government employees as well as the pre-service and in-service training.

The project was initiated in September 1999. The implementation of the project was finished in May 2000. The cost of the project amounted to US \$ 142,393 (OMSAR, April 2001).

5.2.5 Information Offices: One Stop-Shop

Most administrative development projects in the world focus on developing the performance of the administration and providing services to the populace in compliance with quantitative and qualitative criteria. In this context falls the issue of minimizing, to the lowest degree possible, the contact between the citizen and the administrative units and their staff, limiting it to one authority - an information office or what is termed “a one-stop-shop”.

Information offices vary in the limits of services offered. Some limit their services to the provision of information, leaving to the citizen the task of following up his/her transaction in the various agencies. Others do receive the transactions and citizens’ requests against receipts. Then they transfer all requests to the concerned administrative units thus freeing the

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

citizen from the burden of following up his/her transaction/request. In which case the citizen's concern is limited to depositing his/her transactions/requests in the information office and receiving them completed at the date assigned in the receipt given to him. (OMSAR, April 2001)

However, adopting the one-stop-shop necessitates usage of information technologies. The one-stop-shop system is now occupying a wide margin of the concern of governments (benchmarks exist in Canada, Australia, and Jordan for example) due to what the system may offer. Simple access to information required by small or medium businesses as well as citizens, besides fast means for inquiries about public services needed.

Facilitating the process of obtaining services by the citizens is the main aim of establishing information offices or adopting the one-stop-shop system, hence the system is considered as one way of promoting administrative performance and consolidating the relation between the citizen and the administration (OMSAR, April 2001).

5.2.6 Legal Decision Document Management System

A- Background:

The Ministry of Foreign Affairs (MOFA) is charged with the affairs of Lebanon's foreign policy, including regulations, coordination and implementation. It has two main departments: the Central Administration and the Diplomatic Missions.

The legal Consulting Research and Documentation Center (LCRDC) is a unit under the Central Administration Department of the MOFA with the following functions:

- Commenting on all legal matters of international nature.
- Working with concerned units on preparing international treaties and agreements and other international legal documents.
- Carrying out works referred to the Ministry pertaining to the State's interests at judicial authorities and international courts, in cooperation with the Ministry of Justice.
- Studying requests for interpretation of international treaties and agreements.
- Carrying out studies, research and statistics in all legal, political, economic, social and cultural matters of international nature.
- Running a library specialized in all matters related to International relations.

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

B- Objectives:

Empowerment of the Research and Documentation Center at the Ministry of Foreign Affairs, which shall enhance the efficiency and transparency of decision-making on the administrative, diplomatic and financial levels. Moreover, the requested legal document management decision support system shall facilitate text based document management and archiving while tracking the location and status of each request/operation.

The project aims to:

- Enable Lebanon through the Ministry of Foreign Affairs to formulate a transparent and effective foreign policy;
- Improve the decision making of Ministry of Foreign Affairs through the provision of a system that electronically archives, indexes and retrieves data when required;
- Provide diplomatic missions and delegations participating in bipartite or international conferences with accurate up-to-date information, thus allowing them to take the appropriate decisions at the right time.

The World Bank is the donor of this installed system (January 2001) with a cost of \$146,344. (OMSAR, May 2001)

5.2.7 New Projects Under Development

The Lebanese government in its quest for integration has started the drafting plans for new projects empowered by up-to-date information technology and supervised by OMSAR. Table 3 shows a list of these.

Table 3 List of new projects.

Public Agencies: Performance Improvement Planning.

Beirut Water Authority : Improving registration and processing of complaints.

National Employee Office: Marketing, positioning and quality of the office services to improve credibility and visibility.

Electricity of Lebanon: Collection of unpaid bills, optimization of time and effort, and reducing corruption. This is achieved by establishing a fully computerized customer database.

Land Registry (LR): Improving LR's capability to produce final maps using a

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

specialized automated station enabled by a global positioning system (GPS).

Customs Management System (NAJM): Improving the customs processing functions in efficiency, timeliness, accuracy, cost, and quality. Enhance statistical measurements capability and the standardization of procedures. Provide networking capabilities with all stakeholders. Provide a web site on the Internet.

Internal Security Management System: Network all internal security entities around the country. Provide web site for the public. Streamline security issues and enhance information management capabilities.

5.3 Human Resources

The third dimension in the Lebanese government strategic plan for the improvement of citizen's services involves a major upgrading of the government personnel in all ministries and government agencies. The National IT Policy and Strategy has seven key strategies to reach planned aims:

- (1). Government should be a facilitator
 - (2). Government should be a regulator
 - (3). Government should be a major user of technology
 - (4). Government should be interconnected via quality communications systems
 - (5). Government should pay attention to the IT industry in Lebanon
 - (6). Government should be a direct partner in education and training
 - (7). Government shall provide information services for each sector of the Lebanese society
- (Merhej, 1998)

The Lebanese government has carried out several steps into the upgrading and education of civil servants and government employees.

- Consolidation and restructuring of government offices and agencies coupled with internal training programs.
- Establishment of the Institute of Finance that was formed to provide formal education to all civil servants in the different ministries in topics of economics and finance.
- Restructuring the Management and Development Institute whose function is to upgrade civil servants in topics of management and career planning.

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

- Establishment of partnership with Non-Government Organizations (NGOs) and Universities to provide seminars, workshops, and formal education to government employees.
- Support training institutes in the internal security forces, customs and armed forces academies.
- Establishment of Decentralized Information Systems in the different government agencies and ministries for better management of information.
- Establishment of ICT awareness campaigns in all ministries and concerned government agencies.

6. Conclusion

According to Kristian Solberg (2000), “the vision of e-government is one where government, business and the citizens work together in synergy for the benefit of the nation.” However, if synergy is what is sought on the long run, several dynamic changes should be considered. Changes in structure, in culture, and in the governance are to be highly adopted supported by an enabling information technology infrastructure. The Lebanese government has begun the quest for such vision. Many different projects have been finalized and many others are currently ongoing or planned. The cost has been in millions of dollars and considering the economic situation that is fluctuating because of external forces as well as internal ones, the status quo is really admirable when thinking e-government.

But future challenges exist and requirements abound. According to the director of the Technical Cooperation Unit (TCU), Dr. Raymond Khoury (2000), numerous issues should be considered at each dimension (of the three discussed in this paper) taking into consideration the continuous interaction between government entities, businesses, and the public. He added that the following future considerations have to be addressed in the next 2 to 3 years:

6.1 Hard Infrastructure:

- Generalization of telecommunication coverage to all the country.
- Allow for hybrid service offerings instead of one option (line, microwave, satellite, ...etc...) to suit different market needs.
- Establishing a criterion for allocation and management of frequency spectrum taking into account national security and neighboring countries.

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

- Modernize telephone subscription rates.
- Establish a partnership with ISPs to better and diversify Internet services.
- Complete deployment of LANs in the country and in international missions.
- Deploy an integrated government network.
- Upgrade and deploy security measures to assure information protection.

6.2 Policies and Procedures:

- Finalization and completion of ICT business plan with partnership of private sector and academia.
- Continuous watch for international standards and deploy in business plans.
- Effectively enforce Intellectual Property Regulations.
- Reform custom tariffs, taxation, and trade agreements.
- Simplify further government procedures to support online services to the citizens.

6.3 Human Resources:

- Involve higher education institutions in the preparation of human resources who are capable to manage the ICT requirements.
- Continuous retraining of civil servants and government employees.
- Continuous restructuring of compensation schemes and career planning.
- Promote creation of ICT professional associations that offer ICT accreditation.
- Attract Lebanese experts from abroad.
- Involve the citizens in a direct feedback loop for self-improvement activities.

The purpose of this paper was to shed light on current happenings in Lebanon as related to e-government activities, and to study the potential for the future. Several actions have been taken into this matter, however, many other actions remain to be considered. The general environment is ready for the change. The citizens of Lebanon have endured many difficulties and survived potential damage. However, considering their sophisticated nature to look forward, the potential of e-government stands great opportunity for implementation since the citizens appreciate quality and painless government services.

The previous Minister of State for Administrative Reform has established an employee's code of ethics when dealing with a citizen (Merhej, 1998). The major points include

**European Conference on e-Government, Trinity College Dublin, Ireland,
September 27-28, 2001**

1. Encouraging administrative transparency toward the citizen.
2. Enabling the accessibility of citizens to public offices.
3. Legalization and adequacy of all decisions taken for the citizen.
4. Respect for the citizen's natural right for fairness.
5. Put the administration in the service of the citizen.
6. Knowing the citizen better to serve more.
7. Respect and protect the citizen's dignity.
8. Adopt a responsible and accountable position towards the citizen.

Such an attitude in the implementation of e-government practices boosts extensively the success rate of the implementation efforts. What Lebanon needs is peace and constancy of the support from the international community.

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