

## 2. Jordan: Readiness for E-Government

This chapter explores Jordan's overall "readiness" for an e-government initiative. International experience suggests that a conducive environment and certain basic prerequisites need to be in place to justify an electronic government concept. The readiness assessment is conducted in three areas: G2B, G2C and G2G.

### 2.1 Electronic Services: Government-to-Business

#### *Definition and Characteristics*

The government interacts with business in a variety of ways. Government simultaneously must play the role of regulator, tax collector, customer, and supporter of businesses. Public sector services and regulations touch most parts of the normal business process cycle. Regardless of the product or service they offer, all businesses must engage in three vital activities—administration, trading of the core product or service, and marketing the company.

From the businessperson's perspective, there are three main areas in which government interacts in normal business activities. Figure 2.1 at the right shows the three business components and how the public sector plays a role in carrying out these functions, with or without an electronic interface.

**Administration**—Business registration, license renewal, taxation, and regulations

**Trade**—Commercial zoning, customs, regulations, and government procurement

**Marketing**—Trade and investment promotion

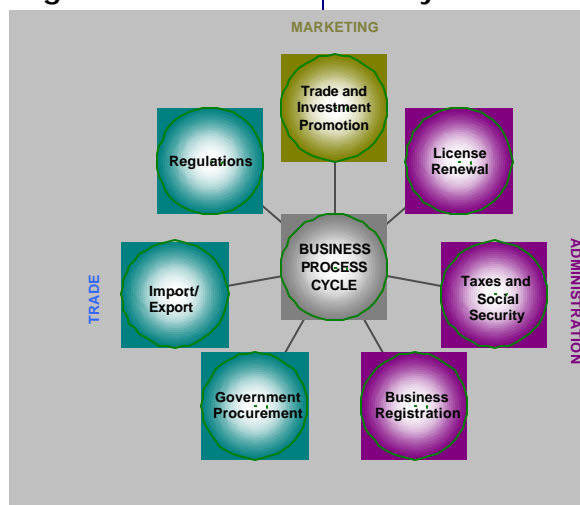
Government might also provide additional services that benefit businesses, but are outside the normal day-to-day functions of a firm. This might include small business services, provision of infrastructure, and pro-business legislation.

When these same government-to-business services are delivered under the rubric of 'e-government,' the government has made technological, legal, and administrative changes that make possible an electronic interface with the business community. This means that business services are available and efficiently provided where and when it is most convenient for a company to access them.

With e-government in place, procedures such as business registration, property and income tax filing, payment of fees, and applications for

*G2B services are available and efficiently provided where and when it is most convenient for a company to access them.*

Figure 2.1: Business Process Cycle



*E-Government allows government to procure products or services directly from businesses through on-line tenders.*

incentives can all be conducted over the internet or through call centers designed for government-to-business transactions. E-government can also deliver electronic information and consultation services to businesses. This includes providing on-line sources of export data, portals for information relevant to small businesses and entrepreneurs, information on how to participate in overseas promotion and trade fairs, and sites on which firms may advertise employment opportunities. E-government also allows government ministries and institutions to procure products or services directly from private businesses through on-line tenders.

Companies benefit from the efficiencies generated when business procedures, information, and procurement are electronically provided by the government. Through a common portal, government can interact with business as both a customer and supplier. Electronic government-to-business also allows for a shared data environment and faster interactions between government and business, which reduce both transaction costs and the regulatory burden of regulation on business. On-line procurement offers better inventory management, consistency and transparency in procurement practices, and a potentially greater level of competition for government business.

Electronic government-to-business interactions will not work without certain legal, technological, and administrative structures that enable government to function in a virtual environment. The next sections describe Jordan's readiness to adapt to these requirements in the areas of infrastructure, back office operations, policy, and community resources.

#### *Infrastructure Requirements and Readiness*

This section describes the basic infrastructure required to electronically deliver public sector services to businesses, and Jordan's overall readiness to undertake e-government. The discussion includes an overview of the IT infrastructure capabilities of the various ministries and government institutions that are most important to businesses in Jordan.

First and foremost, e-government requires a well-functioning telecommunications system. This includes the high-speed delivery of voice, data, and video at a low cost and convenient access to the "customer." This goes hand in hand with the need for an internal interface that electronically allows government institutions to share and package data.

**Fiber-optic "backbone"**—High-speed internet access delivered by fiber-optic lines is necessary to develop e-government services to businesses and citizens. In 1999, Jordan joined the FLAG (Fiber-Optic Link Around the Globe) Network, an undersea cable that passes through Japan, the U.S., and the Middle East through a node in Aqaba. The network is privately owned, and was installed by the Dallah Al-Barakah Group. This currently equips Jordan with a high-bandwidth connection to the rest of the world.

*Companies benefit from the efficiencies generated when business procedures, information, and procurement are electronically provided by the government.*

Additionally, Jordan currently has the following major government networks:

The National Information Center (NIC) connects 113 public sector organizations using a mixture of fiber-optic, digital, leased line, and dial-up facilities.

1. The Royal Air Force network is a mixture of fiber-optic and coaxial technologies that runs from Amman to Aqaba connecting military locations. By the end of 2002, the Air Force plans to have a complete fiber-optic backbone in place.
2. The Armed Forces network is based on microwave technology and covers approximately 90 percent of Jordan's geographic area, linking military and some civilian establishments.
3. The Department of Public Security network consists of fiber-optic technology in the major cities and microwave technology linking the municipalities. It connects approximately 200 police stations nationwide.

The above backbone networks, however, were designed for military and government use. While the Royal Air Force feels that they have sufficient measures in place to segregate secure and nonsecure network traffic, this is probably not the best option for the development of a civilian internet "backbone."

More important to the development of IT infrastructure is the JTC's US\$ 7 million project to build the needed data infrastructure in Jordan. Plans are to wire the MOGA by the end of 2000, and the rest of Jordan by June 2001. Currently, JTC is the only licensed entity in Jordan that can build data networks; no other entity can make data networks available until 2004.

**Local "feeder" networks**—The electronic delivery of government services in Jordan will rely on the design and development of "feeder" networks throughout the Kingdom. The technology will vary depending on the existing telecommunications infrastructure and/or remoteness of the location. However, it might include traditional copper lines, cable connections, or wireless delivery mechanisms.

Expanding the local network remains one of Jordan's biggest challenges in bringing e-government services to businesses and citizens. In 1997, an NIC-commissioned study proposed linking Jordan with an initial 80 "access connection points," eventually expanding to 1000 connected to a national network. The estimated cost was approximately US\$ 1 million,<sup>1</sup> but the proposal could not be funded by the government and no donor funding could be found.

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<sup>1</sup> 1997 prices

*The success of e-government in Jordan will depend on the coordination of the use existing network "backbones" and the creation of the JTC's new networks designed for civilian use.*

*E-government will remain inaccessible for most Jordanians until the price of on-line data connection is decreased.*

**Low cost**—E-Government will remain inaccessible for most Jordanians until the prices for on-line data connection and local telephone calls are decreased. On-line access is priced beyond the reach of many businesses and most individuals in Jordan. Unlimited dial-up internet access at 33-kbps costs an average of US\$ 60 in Jordan, compared to US\$ 17 per month in Ireland and US\$ 35 per month in Israel. The real cost disadvantage in Jordan, however, remains the cost of local telephone calls, which can make internet access prohibitively expensive.

High-speed dedicated internet lease lines are also more expensive in Jordan than other developing countries. Currently, Global One charges US\$ 850 per month for a 64-kbps leased line, and US\$ 2,960 per month for a 256-kbps line. Table 2.2 below summarizes internet cable and satellite connection rates in several countries.

**Table 2.2: Cost of International Dedicated Internet Services<sup>2</sup>**

	Jordan	Egypt	India
<b>International Dedicated Half Circuit (Satellite)</b>	64 kbps: \$ 1,685/mo	64 kbps: \$ 3,600/mo	64 kbps: \$ 3,600/mo
	128 kbps: \$ 3,370/mo	128 kbps: \$ 4,500/mo	128 kbps: \$ 6,480/mo
	256 kbps: \$ 6,400/mo	256 kbps: \$ 6,300/mo	256 kbps: \$ 11,160/mo
	512 kbps: \$ 11,000/mo	512 kbps: \$ 7,200/mo	512 kbps: \$ 17,280/mo
	1.0mbps: \$ 20,300/mo	1.0mbps: \$ 9,000/mo	1.0mbps: \$ 28,800/mo
<b>International Dedicated Half Circuit (Cable)</b>	1.5mbps: \$ 25,500/mo	1.5mbps: \$ 13,500/mo	
	2.0mbps: \$ 30,700/mo	2.0mbps: \$ 18,000/mo	2.0mbps: \$ 39,600/mo
	64 kbps: \$ 2,600/mo	64 kbps: \$ 3,600/mo	64 kbps: \$ 4,133/mo
	128 kbps: \$ 4,650/mo	128 kbps: \$ 4,500/mo	128 kbps: \$ 7,439/mo
	256 kbps: \$ 7,250/mo	256 kbps: \$ 6,300/mo	256 kbps: \$ 12,812/mo
	512 kbps: \$ 10,400/mo	512 kbps: \$ 7,200/mo	512 kbps: \$ 19,838/mo
	1.0mbps: \$ 18,850/mo	1.0mbps: \$ 9,000/mo	1.0mbps: \$ 33,064/mo
	1.5mbps: \$ 22,000/mo	1.5mbps: \$ 13,500/mo	
	2.0mbps: \$ 26,250/mo	2.0mbps: \$ 18,000/mo	2.0mbps: \$ 45,463/mo

Most Jordanian firms do not currently have high-speed data connection requirements. Currently, there are 400 internet leased line customers in Jordan, but most businesses continue to rely on dial-up connections at low speeds of 28.8 to 33.6 kbps. However, these slow speeds and high cost will not be sufficient for electronic government-to-business interactions to have mass appeal among Jordanian firms. Additionally, it is often the local dial-up costs, and the the price of international leased lines, that makes the internet prohibitively expensive for most companies.

**Access strategy**—E-government services must be made available to all regardless of age, gender, or educational background. This requires an access strategy that brings government services to electronic “service points” throughout the Kingdom.

**Internal Interface**—The delivery of government services to businesses, citizens, or other government institutions presupposes a well-coordinated government intranet. Many government services require collaboration among several departments or institutions. For example, permitting and zoning are examples of processes that include multiple government departments, utilities, and private sector firms. E-government services can only be smoothly delivered if these institutions have common and

*E-government services must be made available to all regardless of age, gender, or educational background.*

<sup>2</sup> Source: Global One

high-bandwidth access to one another for seamless electronic work flow and data exchange.

**Public Key Infrastructure (PKI)**—PKI is necessary in order to conduct secure transactions on-line. Without this, e-procurement will not be an attractive option for government or businesses in Jordan.

A variety of government ministries and institutions are involved in delivering services to the business community. Table 2.3 below shows the various government departments with which a typical company must interact, the business services they provide, and an assessment of their basic infrastructure readiness to provide electronic services.

**Table 2.3: Business-to-Government Infrastructure Readiness**

Ministry or Agency	Government-to-Business Function	Current E-Government Readiness
<b>Ministry of Industry and Trade</b>	Company registration Trademark registration Import and export licenses	Amman directorates on one main server. Amman, Zarqa, Irbid, and Jwaideh connected to main server through a WAN. 4 governates connected to server by end of 2000; 6 by 2001. Main applications between MIT and are computerized.
<b>Chambers of Commerce and Industry</b>	Registration applications Signature authentication Document endoresement Certificates of origin	Amman Chamber of Industry is computerized and online.  Amman Chamber of Commerce has internet site.
<b>Municipalities</b>	Professional licenses Infrastructure Construction licenses	Municipality of Greater Amman has computerized transactions. Irbid and Zarqa are computerized for administrative tasks only. Other municipalities have few or no computers.
<b>Income Tax Department</b>	Collection of corporate and personal income taxes	Centralized database accessible from all but 3 district offices. Developing in-house electronic tax submission system.
<b>General Sales Tax Department</b>	Collection of sales tax	10 district offices linked to headquarters through leased lines; 4 through dial-up lines; 3 with no direct link. Limited internet access. Currently procuring a computer-based VAT processing system and associated hardware
<b>Social Security Corporation</b>	Worker pension and welfare	11 of 16 branches connected to main server. All others will be connected by 2001. All branches have internet access through leased lines; all offices will have internet by end of 2000.
<b>Customs Department</b>	Collection of import and export processing fees	400 PCs connected to LANs which are linked by WANs using VSAT. ASYCUDA software used.
<b>Jordan Investment Board</b>	Encourages and facilitates investment in Jordan Grants investment incentives	All investment promotion staff are online. Investors tracked through a customized MS Access database. Investor applications kept on Oracle database.

Most government ministries that provide services to businesses are computerized, and some have a limited on-line presence. Several, in fact, are already offering some type of electronic service or transaction to the Jordanian business community.

For instance, the Ministry of Trade and Industry (MIT) currently communicates electronically with the business community via e-mail as it answers questions regarding qualifying industrial zones (QIZs), registered trademarks, and import and export licenses. Presently, MIT is working with the Jordan-U.S. Business Partnership (JUSBP) to web-enable the activities of its Industrial Development Directorate (IDD). This

will be followed by a pathfinder project to develop an e-government solution for selected business processes.

The Municipality of Greater Amman (MOGA) is also relatively advanced in the electronic services it provides to the city's firms. MOGA offers an electronic service to the public through the telephone that describes the procedures and documents needed to process any transaction. The system also allows for sending documents and requesting information via fax to businesses and citizens.

Unfortunately, and mainly due to the lack of sufficient funding, other municipalities in the Kingdom are not as technologically prepared for e-government as MOGA. The rather small number of computers available in municipalities is used for administrative purposes, not for computerized transactions. The Ministry of Municipal, Rural, and Environmental Affairs supervises the operations of the 328 other municipalities in Jordan. This ministry and most municipalities have no internet access, and information related to the municipalities' services is not disseminated electronically.

The IT capability of most of the Jordanian government exists solely for the administrative use of the particular agencies. Rural municipalities and branches of government institutions have little or no computerization whatsoever. This will limit the delivery of e-government services to businesses primarily located in Amman, and perhaps, Irbid and Zarqa. Additionally, outside of the Amman area, few local feeder networks exist to deliver government services via the internet. Even in Amman, the cost of high-speed internet connection remains prohibitive for many companies and government institutions alike.

In their infancy, however, electronic government-to-business services need not be delivered via the internet. Considering that most small Jordanian businesses do not have access to the internet in the first place, some of these services can be delivered via telephone or fax—such as the case with MOGA's system. It might also be possible to use existing IT architecture to bundle banking and government services through a single window. There currently exists an opportunity for a government and banking sector initiative to introduce more advanced automated teller machines (ATMs) at which certain government institutions could offer electronic services to customers.

Electronic government procurement will also require specialized on-line payment systems for which the Jordanian public sector is currently ill-equipped. This includes authentication systems, secure on-line environment, and business authorization system.

#### *Back-Office and Management Requirements and Readiness*

According to the Institute for Electronic Government, a 'center of gravity' for technology policy and strategy is a fundamental critical success factor for governments to move forward aggressively in the delivery of e-

*The Municipality of Amman offers electronic services to the public via telephone and fax.*

*Electronic government services need not be delivered solely via the internet. Some services can be delivered via telephone or fax.*

government services to business. Table 2.4 below shows the selected government institutions that currently deliver services to business by traditional means.

**Table 2.4: Government-to-Business Back-Office and Management Readiness**

Ministry or Agency	Government-to-Business Function	Current E-Government Readiness
<b>Ministry of Industry and Trade</b>	Company registration Trademark registration Import and Export Licenses	Provides information to businesses through website in Arabic and English. Answers business inquiries via email. Working to web-enable the Industrial Development Directorate. Unnecessary licenses without clear purpose
<b>Chambers of Commerce and Industry</b>	Registration applications Signature authentication Document endorsement Certificates of origin	ACI has one-stop window for requests and applications. Satellite office at Sahab. Researchable member database connected to information website. Communicates with business through e-mail.
<b>Municipalities</b>	Professional licenses Infrastructure Construction licenses	MOGA has information and promotional website. Phone service describes procedures and allows documents to be sent and received by fax. Some irrelevant licensing requirements. Opaque licensing requirements
<b>Income Tax Department</b>	Collection of corporate and personal income taxes	Tax returns are received on paper and manually keyed into computer system.
<b>General Sales Tax Department</b>	Collection of sales tax	Only one office in Amman. Sales tax returns must be submitted by post, but plans exist for an electronic filing system.
<b>Customs Department</b>	Collection of import and export processing fees	Brokers able to dial up directly to lodge consignment declarations where it is validated on-line.
<b>Government Tenders Directorate</b>	Government procurement	Provides tendering information on-line.
<b>Jordan Investment Board</b>	Encourages and facilitates investment in Jordan Grants investment incentives	Developed a one-stop window for investors that includes JIB, Customs, Jordan Industrial Estates Corp, and Ministry of Industry and Trade. Potential investors may submit incentives applications on-line.

It is imperative that government agencies view businesses and citizens as important clients. Although e-government offers opportunities to facilitate government transactions and services, it is imperative not to automate an existing inefficient system. E-government must go hand in hand with procedural reforms that lend transparency to a service-oriented government. Fortunately, the same management and back-office systems that allow the government to deliver services electronically also allow for smoother government-to-business services carried out in more traditional ways—walk-up window service, for instance.

In general, there are several main back-office requirements for e-government to succeed.

**Client-centered philosophy**—It is imperative that government agencies view businesses and citizens as important clients. This also applies to how well information and services are packaged to the business and citizen “clients.” Companies, for example, are not particularly concerned with which agency handles their business needs—whether it be trademark registration or payment of taxes. Therefore, it is convenient and desirable to have a one-stop center for all business services. This can be in the form of a walk-up window, business services call center, or internet portal listing business services by category, rather than by the department that offers them.

*It is imperative that government agencies view businesses and citizens as important clients.*

A study of business registration and licensing procedures has highlighted the fact that there is no clear licensing and registration “roadmap” that guides investors through all the steps of the process in Jordan.<sup>3</sup> This is due to the cumbersome system of preapprovals, cross-referrals, and confusion in jurisdiction that has developed in practice. This must be solved before an electronic interface is added to the system.

Figure 2.5 at the right shows an excellent example of an **e-government internet portal** for the State of Washington in the United States that acts as a one-stop guide for business and citizen services. The site is laid out in a manner that is useful to the “clients.” By clicking on one of the service categories such as “Business,” for example, users are given a variety of options ranging from “Starting a Business” to “International Trade.” This intuitive approach is key to the delivery of government services—whether on-line or through a walk-up window.

Currently, some Jordanian government institutions and private sector departments and private sector organizations do have a client-focused approach. These institutions have reengineered or are reengineering their processes and procedures. The Amman Chamber of Industry, for example, has a one-stop window for requests and applications. At the Jordan Investment Board (JIB), account officers have been trained in customer service techniques, and have engineered their computerized investor tracking system for efficient follow-up of investor inquiries.

**Data Standards**—In order for government services to be electronically processed for the business community, the government must develop common standards across government institutions. This includes standardized application forms, software packages, computer interfaces, and language.

For example, during the company registration process at the municipal level in Jordan, applicants are supposed to declare objectives for their companies. Government officials play a role in assisting applicants in identifying objectives that match government-recognized categories. However, at the Ministry of Industry and Trade, there exists no such list of categories. Thus, business applicants might answer similar questions

Figure 2.5: Client-Centered E-Government Portal



*At the JIB, account officers have been trained in customer service techniques.*

<sup>3</sup> TSG/FIAS Investor Roadmap study entitled “Jordan: Improving Administrative Procedures for Investors,” 1998, funded by FIAS and USAID.

differently. This hinders the ability of the municipality and MIT to share electronic information and databases.

Another major barrier to sharing information is the use of different Arabic language standards by various Jordanian government institutions and municipalities. Some institutions, for example use the AMIR format, while others have adopted NAVITHA. The problem has long been recognized, but the cost of converting to a common standard is considerable, and funding is not yet available to do so.

**Information Sharing**—The sharing of information across public institutions also has a management-related component. Stakeholders in a given government service cannot operate in isolation if e-government is to succeed. Currently, information is generally not shared between institutions in each government-to-business process. Often, there is confusion of jurisdiction for a particular government service. Also, in an environment where holding information is akin to authority, ministries and institutions currently do not exhibit the cooperation required to efficiently centralize government services in a client-centered manner.

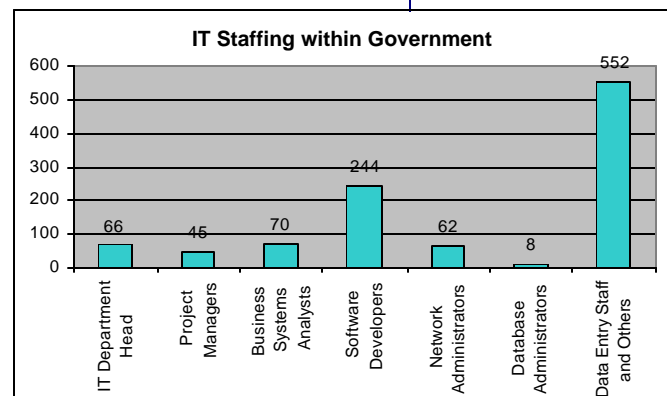
**Information Technology Expertise**—In an e-government environment, government departments must manage the provision of IT services and staff their agencies with qualified technical staff. Well-run e-government services must be available at all times without interruption of service. For many Jordanian ministries and institutions, as well as some private sector firms, this is a departure from the traditional service levels provided. Additionally, government institutions must employ workers with the skill sets necessary to implement the standards and technologies required by e-government. Employees with these technical skills are currently not widely available throughout most of the Jordanian government.

Figure 2.6 at the right shows the current distribution of IT skills within the major Jordanian government ministries as of June 2000. The emphasis is clearly in the area of software development and network administration—the technological aspects of IT service delivery. What is still lacking, however, is the analysis, design, and management of IT services that will be necessary in an e-government environment.

**Informed partnerships**—E-government and the supporting back-office systems cannot be developed and implemented by government technical staff alone. Jordanian government institutions must become “intelligent buyers” or “informed partners” in the provision of e-government services, delivering partnership agreements with IT suppliers. This is a change from the conventional approach of buying hardware and software

*A major barrier to sharing information is the use of different Arabic language standards.*

Figure 2.6: IT Staffing within the Government<sup>4</sup>



<sup>4</sup> Source: NIC

platforms on which in-house applications are built, and thus requires different skills not currently found in the Jordanian government.

**Program Management**--E-government programs contain a wide range of different projects—services, infrastructure, organizational, management—that must be closely coordinated. Program management knowledge, skills, and experience are essential to effectively delivering e-government. Program management principles already exist within the Jordanian government, but skills and experience in this essential area are limited. Development of such skills is essential for e-government and would also contribute to developing a national resource that could be exported.

Tables 2.7 and 2.8 on the next two pages provide matrices of Jordanian government ministries and selected private institutions.

*Development of project management skills is essential for e-government.*

**Table 2.7: IT Usage among Government Ministries**

Institution	Web Presence (Front-End)			Comments	Back-End Database
	I	C	T		
Prime Ministry / The Cabinet	Y	Y	N	Prime Minister's designation letter and reply. Parliamentary meetings	Oracle 8
Ministry of Agriculture	Y	N	N	Links to other departments; information on agro-ecological zones	Oracle
Ministry of Awqaf & Islamic Affairs	Y	Y	N	Institution promotion only	Oracle
Ministry of Post & Communication	Y	Y	N	Useful information, e-mail, links to other sites	Foxpro
Ministry of Culture	Y	Y	N	Useful information, institutional e-mail, links to other sites, contacts	MS server
Ministry of Defense	N	N	N	-	Oracle 7 and 8I, COBOL 74, Access
Ministry of Education	Y	Y	N	Useful information (high school results), search tools, e-mail	Oracle
Ministry of Energy and Mineral Resources	Y	Y	N	Institution promotion mainly, institutional e-mail	Foxpro
Ministry of Finance	Y	Y	N	Useful information with some rules and tax regulations; e-mail	Foxpro, Ingris, Oracle 7
Ministry of Foreign Affairs	N	N	N	No web site	No database. Will install Oracle by end of 2000.
Ministry of Health	Y	N	N	There is a web site, but server is constantly down	Oracle 7 & 8, Foxpro, Novell
Ministry of Industry and Trade	Y	Y	N	Useful information, search tools, e-mail, links to other sites, (handles inquiries regarding trade marks)	Oracle 7.3.4
Ministry of Information	Y	N	N	Brief on the ministry and all departments under its umbrella	Foxpro, Access
Ministry of Interior	Y	N	N	Institution promotion only	Foxpro, Oracle 7
Ministry of Justice	Y	Y	N	Links to full text of constitution; information on courts of law; e-mail	Oracle 8
Ministry of Labor	Y	Y	N	Link to Labor Law, e-mail	Oracle
Ministry of Municipal, Rural and Environmental Affairs	N	N	N	-	Have GIS for planning and Oracle 8 database
Ministry of Planning	Y	Y	N	Useful information, institutional e-mail, links to other sites	Informix, Access, Zylab
Ministry of Public Works & Housing	Y	N	N	Institutional promotion mainly	Mainly Oracle 8I. Older packages still in use: Access 2 and 7, Foxpro
Ministry of Social Development	Y	Y	N	Institution promotion, e-mail	RDB (Oracle)
Ministry of Tourism and Antiquities	Y	Y	N	E-mail, links to other sites	N/A
Ministry of Transport	N	N	N	No web site	Oracle
Ministry of Water and Irrigation	N	N	N	-	Oracle 7, COBOL, Foxpro
Ministry of Youth	N	N	N	Web site is under construction	Foxpro

Table 2.8: IT Usage among Selected Government and Private Institutions

Institution	Web Presence (Front-End)			Comments	Back-End Database
	I	C	T		
Central Bank of Jordan	Y	Y	N	Useful information, institutional e-mail, links to other sites	Oracle 7 (will change to 8 soon)
Audit Bureau	Y	Y	N	Institution promotion mainly, institutional e-mail	Oracle 8I, Watermark, Windows NT
Admin. Control and Inspection Bureau	N	N	N	-	SQL Server (back office), Access
Royal Jordanian Geographic Center	Y	N	N	Institution promotion only	Oracle 8.05, Visual Basic, Visual C++
Amman Bourse	Y	Y	N	Useful information, institutional e-mail, brokers' contacts	Oracle 7/8/8I, Access, Foxpro, COBOL
Customs Department	Y	Y	N	Useful information, search tools, institutional e-mail (there are e-Transactions, but are not processed through the web)	Foxpro, Oracle 8
Free Zones Corporation	Y	Y	Y	Useful information, search tools, institutional e-mail, submitting forms	N/A
General Supplies Department	N	N	N	Web site is under construction	Foxpro (will change to Oracle 8)
Income Tax Department	Y	Y	N	Useful information, institutional e-mail	COBOL (will change to Oracle 8)
General Sales Tax Department	N	N	N	-	Foxpro (will change to Oracle 8)
Lands and Survey Department	Y	Y	N	Useful info, institutional e-mail	Ingris
Jordan Investment Board	Y	Y	Y	Useful information, search tools, institutional e-mail, links to other sites, submitting forms	Microsoft SUL, Oracle 8
Jordan Industrial Estates Corporation	Y	Y	N	Useful information, institutional e-mail, links to other sites	Oracle 8
Federation of Jordanian Chambers of Commerce	Y	Y	N	Useful information, search tools, institutional e-mail, links to other sites	Access
Amman Chamber of Commerce	Y	Y	N	General information on trade associations, institutional e-mail, submitting inquiry forms	UFOS (micro-focus COBOL)
Amman Chamber of Industry	Y	Y	N	Useful information, institutional e-mail, links to other sites	Oracle 7
Civil Status and Passport Department	Y	N	N	Useful information, but no links	Oracle 7.2
Drivers and Vehicles Licensing Dept.	N	N	N	No web site (only police department)	COBOL (ISAN 5). Outlets use Visual Basic applications
Public Security Directorate	Y	Y	N	Useful information, institutional e-mail, search tools	Ingris
Social Security Corporation	Y	Y	N	Institution promotion mainly, some useful information, institutional e-mail	Oracle 7.3
328 municipalities in the Kingdom	N	N	N	-	N/A
Municipality of Greater Amman	Y	Y	N	Institution promotion mainly, some useful information, institutional e-mail	RDB
Department of Public Statistics	Y	Y	N	Useful information, search tools, institutional e-mail	Oracle 7 and 8, Access
Government Tenders Department	Y	Y	Y	Useful information, institutional e-mail, submitting forms	Oracle 7
Army / Procurement Section	N	N	N	-	N/A

**Key**

I - Information Services, C - Communication Services, T - Transaction Services

Y - Services are available through the web

N - Services are not available through the web

N/A - Information was not available to Study Team

### *Policy Requirements and Current Readiness*

The tables on the previous two pages show that although IT exists in most Jordanian institutions, not all are utilizing it for transaction and communication services. Additionally, the tables highlight the difficulty of sharing information across ministries and institutions because no common standards or database formats exist.

Electronic government requires a regulatory and public policy environment that is conducive to electronic commerce, protection of rights, and an enabling legal framework for the digital transformation of government operations. Many industrial age laws are not applicable—or may even be detrimental—to the development of e-government. Digital government services require policies that cover areas such as privacy, security, credit card transactions, digital signatures, consumer protection, international trade, telecommunications, and taxation. Following is a discussion of Jordan’s legal readiness to undertake e-government in several important areas. Table 2.9 below summarizes the legal readiness of the Jordanian public sector to undertake electronic transactions with businesses and citizens.

*E-government requires policies that cover areas such as privacy, security, digital signatures, and taxation.*

**Table 2.9: Legal Readiness for Electronic Government**

<b>E-Government Component</b>	<b>Current Legal Situation</b>	<b>Implications for E-Government Regime</b>
<b>Provision of Information</b>	<p>No provisions that mandate government entities to publish electronically</p> <p>Lack of transparency in certain government requirements, and procedures</p>	<p>Legislation would be useful to speed up the pace of putting government information on the internet, ensuring continuity and predictability</p> <p>Transparency of procedures and requirements is essential prerequisite for informational stage</p>
<b>Submission</b>	<p>Formal legal barriers to recognition of electronic documents and signatures.</p> <p>Interaction and clarification from officials may be necessary for filing certain forms electronically due to non-standard forms</p> <p>Applicants must submit government documents themselves to various public agencies. Formal barriers to agency-to-agency transfers of documents.</p> <p>Legislation does not adequately address issues of privacy and security that might result intra-government sharing of citizen and business records.</p>	<p>Legislation required so that electronic transmissions be recognized as evidence in courts of law.</p> <p>Standardization of required information is required to minimize the need for government interference.</p> <p>Formal legal obstacles for submission of documents from one government department to another.</p> <p>Greater information sharing by government entities might require legislation regulating issues of access to and use of information, security, and , privacy.</p>
<b>E-Payment</b>	<p>Requirements exist for use of cash and stamps in payment for government services.</p>	<p>Current legislation poses formal obstacles against the use of e-payment.</p>
<b>Issuance</b>	<p>Government deliverables are typically in the form of paper documents (passports, certificates, etc). There may be formal obstacles against the “electronic” variants of such documents.</p>	<p>Explicit validation of use of electronic government documents is essential to e-government transactions.</p>

**Electronic information sharing**—Currently in Jordan, there are no legal obstacles to making government information available electronically. Currently, all government agencies that do provide on-line information do so at their own initiative, and without legal imperative. However, if

the government of Jordan wants to speed up the process of electronic delivery of services to businesses and citizens, there exists a need for legislation that mandates the government to make its information available electronically.

**Validity of electronic signatures and documents**—E-government must operate in an environment where a traditional handwritten signature is not necessary for government-to-business or government-to-citizen transactions. In other words, “digital signatures” must be recognized. The Jordanian Evidence Law does not limit “documents” to pieces of paper or explicitly say that items must be in “handwriting.” It also does not explicitly say what defines a “signature.” Therefore, there exists a need for Jordanian legislation that establishes the validity of electronic equivalents of a handwritten signature. The Jordanian Customs Department, for example, is currently grappling with unknown legislative implications of moving to electronic documents and signatures.

Similarly, the presumed norm in Jordan is that the government issues certificates and documents in paper form. The Companies Law, for example, requires the Companies Controller to issue Certificates of Registration before a limited liability company can be published in the Official Gazette. Although the law does not specifically require that such a certificate be produced in paper form, the interpretation of the law is presumed to be such.

**Transmittal on behalf of clients**—With traditional government-to-business or government-to-citizen interactions, the company or individual submits necessary documents in person to the required government institution. E-government allows for the direct transmittal of government documents from one institution to another. However, legislation must be in place in Jordan that allows for these types of ministry-to-ministry transfers. Additionally, there must exist proper systems to regulate these document transmittals, and guidelines as to how long an agency may hold onto and utilize the information. This is not spelled out under current Jordanian law.

**Number/Account approach** —Government-to-business or government-to-citizen interactions have traditionally required a proof of identity through a document such as a passport or national identity card. However, in order for e-government to operate efficiently, this documentary approach must be replaced by a number or account approach. Citizens or businesses are given an account or number that acts as the functional equivalent of photographic identity card, for instance. Current laws in Jordan, however, did not foresee situations where government institutions obtain on-line information about businesses. Therefore, legislation is required that would allow for this approach.

**Standardization**—Electronic submission of petitions and applications requires a minimum standardization of the required information and format. Currently in Jordan, the filing of forms requires considerable interaction between citizens or businesses and public officials because the

*E-government must operate in an environment where a traditional handwritten signature is not necessary for G2B and G2C transactions.*

*Current laws in Jordan, did not foresee situations where government institutions obtain on-line information about businesses.*

information required is not standardized. E-government functions best in an environment where these processes have been standardized by law or regulation.

**Electronic submission**—Laws must allow for the electronic submission of documents and information. Certain Jordanian legislation requires specific methods of document submission that cannot be fulfilled electronically. For example, the Government Works Tenders Instructions dictate that businesses submit documents in sealed and stamped envelopes placed in special “boxes.” Clearly, this is an example of laws which are contrary to a system of e-government.

**Modes of Payment**—E-government requires legislation enabling a system of electronic payment. Almost every government transaction traditionally involves some sort of payment in the form of stamp duties or fees for services provided. Certain laws, however, stipulate specific payment methods that legally cannot be fulfilled electronically. For example, the Stamp Duties law provides for payment by government-issued stamps. Although these requirements are purely formal, they are mandated by law. Therefore, the introduction of an electronic payment system is necessary for e-government to be both technically and legally viable. A New Banks Law, which became effective on August 1, 2000, allows for electronic payments and use of electronic documents in Jordanian banking.

**Data protection**—E-government services to businesses and citizens require data protection legislation. This can be a politically charged issue, but is at the core of maintaining the trust of citizens and businesses in on-line transactions. In Jordan at present, only the Departments of General Statistics and Income Tax are subject to any legislation or rules preventing the sharing of personal data with other ministries and departments.

#### *Business Community and Education Requirements and Readiness*

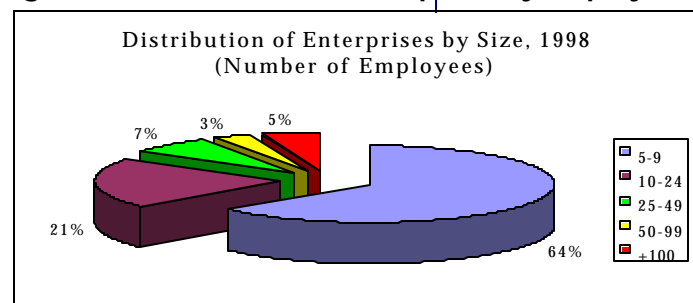
The final pillar that contributes to the readiness of business for e-government services is the ability of Jordanian businesses to access and utilize electronic government resources.

#### **Access and Exposure**—

Currently no data exists regarding on-line access of Jordanian businesses. The NIC estimates that approximately 1,000 Jordanian institutions and companies have internet web sites. Company size, might also serve as a useful proxy to gauge internet connectivity. In general, Jordanian companies tend to be quite small. Figure 2.10 at the right illustrates

*E-government services to businesses and citizens require data protection legislation.*

**Figure 2.10: Distribution of Enterprises by Employment<sup>5</sup>**



<sup>5</sup> Source: Jordan Department of Statistics Employment Survey, 1998

the distribution of business enterprises in Jordan by size. Almost 85 percent of businesses with more than 5 workers have less than 25 employees. IT penetration among such businesses might be quite low. Jordan's e-government program must therefore ensure that any electronic services offered to businesses be accessible by telephone or less expensive access to internet services.

Local chambers of commerce and industry and professional associations should provide their members with facilities and assistance to access e-government services. This is a beneficial, and possibly revenue-generating service, for members that will facilitate electronic government-to-business services. Additionally, in collaboration with economic development groups such as chambers of commerce and industry, government can facilitate strategies, educational programs, outreach, and exposure to technology services that are geared specifically for small business.

Figure 2.11 at the right depicts the geographical distribution of private enterprises in Jordan. From an e-government viewpoint it is clear that the high geographical concentration of businesses in Amman, Irbid, and Zarqa will allow the majority of Jordanian businesses access to the proper telecommunications infrastructure to access government-to-business e-services. The high cost of on-line outreach to other areas in Jordan, however, places businesses outside the Amman-Irbid-Zarqa vicinity at a competitive disadvantage.

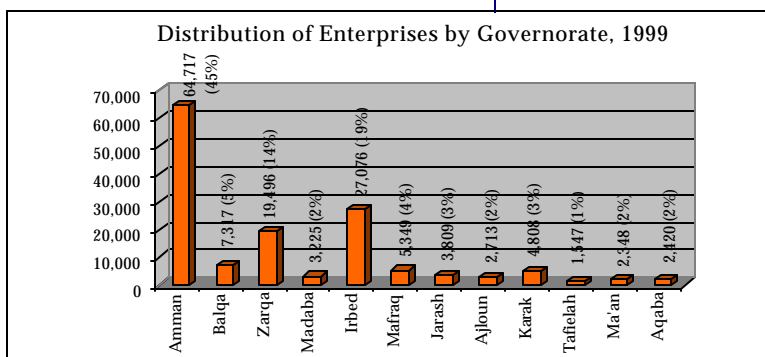
**Trust and Confidence**-- The success of electronic government-to-business services will depend on the extent to which Jordanians feel they trust government with the business information they provide to government institutions as part of on-line transaction services. This is particularly true for electronic government procurements and e-payment.

**Secure Payment Systems**—Presently there are no electronic payments taking place between the government and businesses or citizens. Recently, however, three banks commenced internet banking services—Arab Bank, Housing Bank, and Jordan Kuwait Bank. Citibank also provides e-banking services to its clientele, though not via the internet. Businesses must become comfortable with these virtual transactions before enough trust is generated to allow for on-line government procurement from Jordanian businesses.

**Business training**—Jordanian firms require training in the development of both IT systems and user applications. In order for companies to

*Local chambers of commerce and industry and professional associations should provide their members with facilities and assistance to access e-government services.*

Figure 2.11: Geographic Distribution of Enterprises<sup>6</sup>



*Presently, there are no e-payment transactions taking place between the Jordanian government and businesses or citizens.*

<sup>6</sup> Source: Jordan Department of Statistics Enterprises Survey, 1999 initial results

properly interface with e-government on-line systems, some Jordanian firms might need to undergo business process reengineering, network planning, database design, and systems development management training. A shortage exists of business and systems analysts. E-government offers the opportunities to reengineer existing ways of doing business and business systems skills are required.

## 2.2 Electronic Services: Government-to-Citizens

### *Definition and Characteristics*

Government interaction with citizens cuts across various aspects of the “citizen life cycle,” pictured at the right in Figure 2.12. The government plays a role in Jordanians’ lives—with or without an electronic interface—in the following ways.

**Civil Registration**—Passports, birth certificates, and marriage certificates

**Health**—Clinics and hospitals, retirement benefits, and employment

**Education**—Primary and secondary schools, and IT education

**Motoring Services**—Lessons and licenses

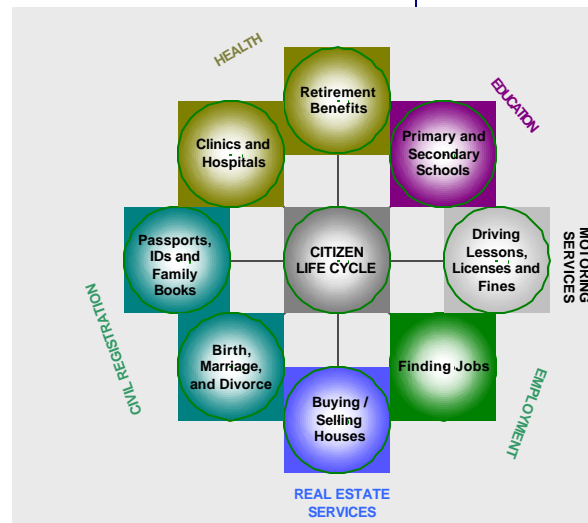
**Employment**—Job-seeking services

**Real Estate Services**—Land titles

Like G2B services, the government can provide information, resources, and services to citizens electronically, or in the traditional face-to-face service counters. The big difference is that e-government changes the focus from multiple points of contact with multiple government institutions to a single point of contact. This eliminates the need for Jordanian citizens to know to which institutions he or she must go to receive a required service.

Moving government-to-citizen services on-line also results in lower service delivery costs. Governments are saving up to 70 percent by moving G2C services on-line compared to the cost of providing the same services over-the-counter.<sup>7</sup>

Figure 2.12: Citizen Life Cycle



<sup>7</sup> Source: Institute for Electronic Government, USA, 1999.

### *Infrastructure Requirements and Readiness*

The basic infrastructure required to electronically deliver government services to businesses also applies to government-to-citizen services. Citizens require personal home or public access points that are connected to a fiber-optic “backbone” by local feeder networks. It also presupposes an intranet of shared databases between government institutions.

Table 2.13 below lists selected ministries that provide government-to-citizen services, and describes their infrastructure readiness to undertake e-government services.

**Table 2.13: Government-to-Citizens Infrastructure Readiness**

Ministry or Agency	Government-to-Business Function	Current E-Government Readiness
Ministry of the Interior	Civil Registration (Births, marriages, divorces, deaths) Identity cards and passports Drivers licenses	Oracle 8 database management system. 47 of 74 local offices are computerized, although terminals are stand-alone PC work stations. Communications infrastructure provided by NIC. Planning move to TCP/IP network environment.
Ministry of Health	Hospitals Health clinics	Health clinics not computerized. Most hospitals not computerized. Al Basheer has a few computers for administrative tasks.
Ministry of Education	Primary and secondary education	Plan prepared to equip schools with computers and connecting schools to the inter net. Plans to add computer education to school curricula.
Municipalities	Collect fines Control pests Issue professional licenses	Greater Amman Municipality is computerized. Most others are not.

The Ministry of Interior, which is in charge of civil registration processes, has 47 of its 74 local offices computerized. It has plans to move to a TCP/IP network environment supported by the NIC infrastructure. The Municipality of Amman is already offering electronic services via telephone and fax, but other municipalities throughout the Kingdom are not positioned so well for electronic service delivery.

The health and education sectors are the most poorly prepared for e-government. Health clinics and most public hospitals are not computerized, and few public school students currently have access to computers. Al Basheer Hospital in Eastern Amman has a small number of computers, mainly to support its administrative departments. Internet access is available to a few high-ranking staff at the hospital.

### *Back-Office and Management Requirements and Readiness*

E-government services must be made available to everyone. Providing electronic government-to-citizen services helps meet the public’s expectation of cheaper, faster, and better government resources through the use of modern technology. E-government can benefit even those citizens who are unable or choose not to access government services electronically. With more people on-line, government can provide others

*E-government can benefit even those citizens who are unable or choose not to access government services electronically.*

with shorter lines and more efficient service at traditional service counters.

With or without an electronic interface, however, good government-to-citizen services begin with a strategy for back-office efficiency across government agencies. Table 2.14 below describes the readiness of the back-office operations of the government institutions responsible for citizen services. Citizen services require the same client-centered philosophy, data standards, information sharing, and technical expertise as business services.

**Table 2.14: Government-to-Citizens Back-Office and Management Readiness**

Ministry or Agency	Government-to-Business Function	Current E-Government Readiness
Ministry of the Interior	Civil Registration (Births, marriages, divorces, deaths) Identity cards and passports Drivers licenses	Keeps a well organized bank of citizen information.
Ministry of Health	Hospitals Health clinics	Referral system not electronic. Patient records and appointments not electronic. No communication between health centers and hospitals. Poor communication and lack of core office systems.
Municipalities	Collect fines Control pests Issue professional licenses	Amman provides electronic services via citizen help telephone and fax service. Plans electronic link to other government bodies. Other municipalities do not have electronic window for citizens.

**Healthcare**—The implementation of an e-government healthcare strategy in Jordan would add value to a large segment of the Jordanian population. However, the back-office systems of public health clinics and hospitals are currently not organized in a manner conducive to electronic service delivery.

Presently, little or no communication or information sharing exists between Ministry of Health-funded health centers and hospitals. The vision of Al Basheer Hospital in eastern Amman, however, is to communicate electronically with all public hospitals in Jordan in three years time. Telemedicine is also one of the projects under consideration by the hospital's management. The whole medical referral system is not electronic, and patient records, appointments, and administrative accounting are not computerized in most rural hospitals. This is mainly due to insufficient funding allocated for public health centers.

It is worthy to note that there does exist a “model” computerized maternity and childhood center in Salt, Balqa Governate, which was funded by USAID. The management of Al Basheer Hospital plans to computerize some of its operational departments--such as X ray and laboratory --in the near future. Computerization of patient files and administrative systems might follow at a later stage. However, the management of Al Basheer feels that this would be a very difficult task.

**Education**—The Ministry of Education faces the greatest challenge in contributing to the establishment of e-government in Jordan. The ministry has prepared an extensive business plan for equipping schools with computers and connecting schools to the internet. However, the

*There is a model computerized maternity and childhood center in Salt, which was funded by USAID.*

investment required is enormous and may rely heavily on aid from donors.

**Municipal Services**—For most Jordanian citizens, the local municipal office is often the first “port of call” for government products and services. Those products and services range from basic infrastructure to motor vehicle fines. In a digital environment, it is important for municipalities and government institutions to keep accurate and authoritative public records. Digital archival and retention is necessary. In its absence, citizens will only be able to electronically *request* records and certificates on-line. Without digital archival, documents must still be delivered in person or by mail.

*In a digital environment, it is important for municipalities to keep accurate and authoritative public records.*

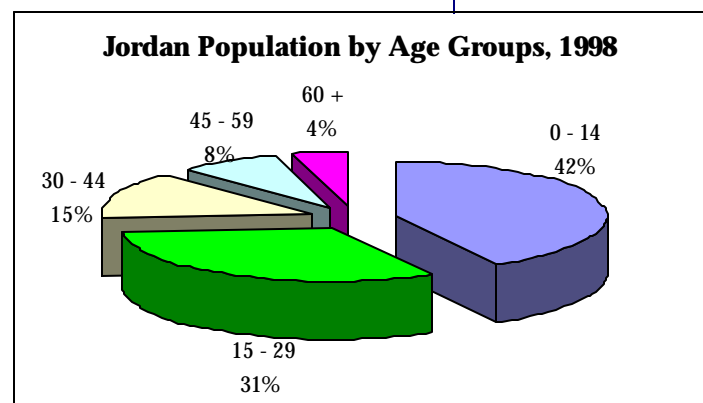
#### *Policy Requirements and Readiness*

The legislative policies required to bring electronic services to citizens are much the same as those required for business services discussed in Section 2.1. Data protection legislation and enforcement will be crucial to the success of electronic government-to-citizen services and in winning the citizenry’s confidence in e-government.

#### *Community and Education Requirements and Readiness*

The success of government-to-citizen services will depend upon Jordanians’ access to telephones, fax machines, and the internet. It is estimated that Jordan has over 120,000 internet users utilizing 35,000 subscriptions. The number of internet cafes in Jordan is estimated to be 115, located mainly in large cities—namely Amman and Irbid. An estimated 25,000 Jordanians utilize the on-line services of these privately run internet outlets. Most of these users are students or people under the age of thirty. As Figure 2.15 illustrates, this is a significant portion of the Jordanian population. Approximately 30 percent of the citizenry is between the ages of 15 and 30. These are the men and women that would have had the largest exposure to electronic media through schooling or work.

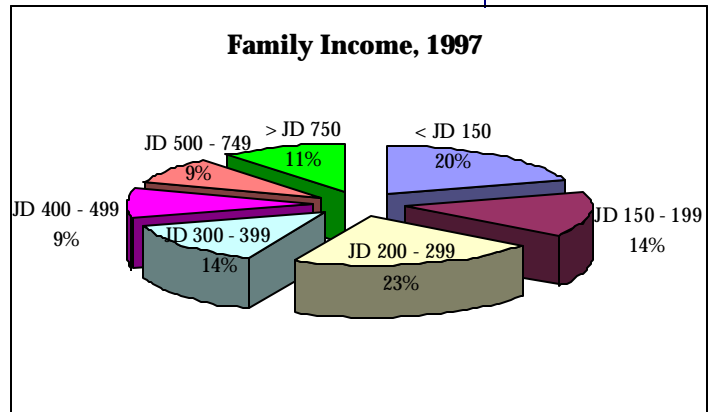
Figure 2.15: Population by Age<sup>8</sup>



<sup>8</sup> Source: Jordan Statistical Yearbook 1998, No. 49 and Jordan Department of Statistics, June 1999

Although internet café usage represents an important public access platform for the delivery of e-government services, the distribution is still very uneven between urban and rural areas. Low IT penetration—less than 2 percent—and the high cost of internet services and telecommunications further exacerbate the **digital divide**. The breakdown of family income is shown in the chart in Figure 2.16 at the right. Excluding the cost of a personal computer and telephone charges, an unlimited usage dial-up internet connection in Jordan costs upward of US\$ 60 per month. Considering that only 11 percent of Jordanian families earn more than US\$ 1,070 per month, personal internet services are not an option for the majority of the population.

Figure 2.16: Family Income in Jordan



**Service points**—Given the digital divide that exists in Jordan, it is imperative that the government provide alternatives for citizens to access e-government services. For example, it is not necessary that e-services be delivered over the internet. Telephone and fax are also viable ways to reach citizens, especially in rural areas. It is also possible for schools and community centers to become “community information centers” where students, parents, and other citizens can gain access to e-government services.

It is technically possible for the government of Jordan to reach a large portion of the population through a well-coordinated network of “service points.” E-government kiosks, for example, can be established at municipal offices, post offices, and retail outlets throughout the Kingdom—operating much like ATMs at banks. These service points would provide on-line government-to-citizen services, but only contain content relevant to government-citizen interaction. It should be noted that the entire contents of the worldwide web is not necessary to bring on-line government services to Jordanian citizens.

**IT skills**—E-government delivery to citizens will not succeed without a basic level of skill among users. With total primary and secondary school enrollment of 1.5 million students and a workforce of 74,000 teachers, the Ministry of Education faces enormous opportunities to expand IT literacy among students, teachers, and others in the community. Currently, 29 percent of Jordanian public and private schools have computers. There are 7,000 computers in 790 Jordanian public and private schools. Plans by the Ministry of Education include providing computers in every school throughout the Kingdom.

The ECC recommended, and the government has approved, an education program that requires schools to teach English from the first grade. Additionally, Jordanian universities will start to teach English and

*E-government kiosks can be established at municipal offices, post offices, and retail outlets throughout the Kingdom--operating much like ATMs at banks.*

computer technology for all students regardless of their academic area of study.

The Ministry of Education would like to assist teachers in purchasing computers for use at home as part of teacher training for IT readiness. It is also proposing pilot “community information centers” in rural areas whereby parents of students and other citizens can gain access to e-government services at local schools. Currently, however, the ministry does not have within its resources the ability to fund such an initiative alone.

**Digital democracy**—E-government sometimes brings citizens closer to government decision making processes. This might take the form of on-line voter registration or internet fora for discussion of issues important to citizens.

For example, Nets Online in Jordan sponsors an “Ask the Government” site whereby users can read, reply, and send messages regarding various issues. This internet web site is pictured in Figure 2.17. Although this is not an officially government-sponsored site, the Ministry of Information has stated that it tries to respond to the issues raised. Currently, the Minister of Information is trying to reactivate this site and provide more input from the government.

Figure 2.17: Interaction with Government



### 2.3 Electronic Services: Government-to-Government

#### *Definition and Characteristics*

Considerable sharing of records, databases, human resource information, policy papers, and budget transfers occurs in the day-to-day interaction between government institutions. Intragovernment applications are usually targeted to reduce paper usage and increase government efficiency. This section details the ways in which a digital environment can make these intra-government transactions less costly and more efficient, and describes Jordan’s readiness to undertake intra e-government.

The following are examples of how an electronic environment can be utilized to efficiently conduct government-to-government services and transactions.

- **E-mail access** between government workers, departments and ministries

*G2G allows government employees the ability to download frequently used government forms including purchase orders, requests for leave, travel reimbursement, vendor invoices, and purchase orders.*

- Ability to **download frequently used government forms** including purchase orders, requests for leave, travel reimbursement, vendor invoices, and purchase orders
- Employee access to **on-line technology and software training**
- **Police access to criminal history records** across Jordan and the rest of the world
- Posting of **performance tracking** and civil servant evaluations
- **On-line budget analysis**, including preparation and management of institutions' budgets. Assisting institutions in budget development, simplify budget and allotment preparation procedures, and provide integration between government institutions.

#### *Infrastructure Requirements and Readiness*

Of 85 Jordanian government institutions, 82 currently have access to IT. This represents 97 percent of the public sector. However, computer resources in rural branch offices are few or nonexistent. The current level of IT infrastructure within the public sector is encouraging for the transition to an e-government delivery of services. The NIC estimates government IT infrastructure as follows:

- |                         |                               |
|-------------------------|-------------------------------|
| ▪ Organizations with IT | 82 (97%)                      |
| ▪ IT equipment          | Servers (394 ) Clients (8833) |
| ▪ LANs                  | 77 (91%)                      |
| ▪ WANs                  | 48 (60%)                      |
| ▪ Internet              | 74 (87%)                      |
| ▪ Web Presence          | 44 (52%)                      |

The exact age of existing equipment has not been assessed and it may be that there will have to be some investment to replace older items, particularly in the areas of PCs to enable deployment of web-based technologies. A more detailed inventory of IT equipment stock is needed and should be undertaken immediately by an IT coordination unit in each department with cooperation from the NIC.

#### *Back-Office and Management Requirements and Readiness*

Government ministries and institutions house a wealth of information and documents required between various ministries. For government to operate smoothly and efficiently, systems must exist for the sharing of government holdings.

Table 2.18 on the next page describes the electronic information holdings of various Jordanian government agencies, and the electronic links to stores of information in other institutions or ministries. The table shows that a wide range of government information is computerized. However,

there exists a lack of information sharing between departments. This is not solely due to lack of technological infrastructure. Rather, it is due to a management culture that is not conducive to information sharing.

**Table 2.18: Government Electronic Information Holdings and Links<sup>9</sup>**

MINISTRY / DEPARTMENT	INFORMATION HOLDINGS	LINKS TO:
<b>MINISTRY OF INDUSTRY AND TRADE</b>	Company registration Trade Licenses Industry Licences Trade Names Trade Marks Traders / Brokers	NIC Central Bank Customs Dept (Min of Finance) Income Tax Department
Jordan Industrial Estates Corporation	Investors Information	None
JEDCO	Exports Trade Fairs	None
Standards and Methodology Dept. JB	Standards  Promotion Investment	None  None
<b>MINISTRY OF FINANCE</b>	Gazette Loans Income Spending Accounting	NIC Central Bank Ministry of Planning
Customs Department	Importers (Customs- ASYCUDA ) Taxpayers (Sales tax) Temporary Entries Manifests	NIC Central Bank Income Tax (Min of Finance)
Income Tax Department	Taxpayers (income tax)	None
Land & Survey Department	Lands Government Lands Maps Palestine Land	Municipality of Amman
General Supplies Department	Government Tenders	None
<b>MINISTRY OF PUBLIC WORKS &amp; HOUSING</b>	Government Tenders	None
Government Tenders Department Housing & Urban Development Corp.	Government Tenders Contractors Classification Projects	None  None
<b>MINISTRY OF CULTURE</b>	None	None
National Library Department	Official Gazette Library Citizen Information (Nationality) Government Information System; Elections	None
Civil Status & Passports Department	Citizen Information Passports	Government Agencies
Civil Defense Department	Chemicals Factories	None
Public Security Department	Vehicles Residency Crimes Laboratories; Licences	
Department of Statistics	Statistics	All
<b>MINISTRY OF TOURISM &amp; ANTIQUITIES</b>	Tourist Offices (Registration) Statistics	None
Antiquities Department	Archaeology	All
<b>MINISTRY OF LABOR</b>	Labor	NIC

<sup>9</sup> Source: National Information Center, June 2000. Survey carried out at request of E-Government Strategy Team and based on information made available to the NIC from various Jordanian ministries and institutions.

The three major obstacles to greater information sharing among Jordanian government institutions are as follows:

- Common attitude that possession of information is synonymous with “power,” and thus an **unwillingness to relinquish data**
- **Legislation that forbids information interchange**
- **Incompatibility of data.** For example, data stored in AMIR cannot be translated to NAVITHA or understood by systems that are NAVITHA based. For example, the register of traders held by the Ministry of Industry and Trade is held in a different format from that used by the Customs and General Sales Tax Departments. However, this registry information is needed by the General Sales Tax Department for audit purposes to ensure that claims for payment of refund of taxes are legitimate before payment can be authorized.

*There is a common attitude that possession of information is synonymous with power.*

#### *Policy Requirements and Readiness*

The policy requirements for the success of electronic government-to-government are much the same as those for G2B and G2C transactions. Most importantly, legislation must exist that allows the sharing and interchange of electronic documents, records, budgets, and the like.

#### *Community and Education Requirements and Readiness*

Electronic G2G services will succeed only if civil servants are knowledgeable of and comfortable working with computer hardware and software. Currently, 81 percent of government organizations use computers for some or all of their administrative processes. Thus, a general level of IT fluency exists in most government institutions.

Training programs in information and information technology fields have been set up by the NIC and carried out in cooperation with local government institutions. This has been designed to meet the needs of national institutions as part of a plan drawn up by the NIC based on a needs assessment study it conducted. Forty-six training courses have been conducted in various IT subjects.

The NIC has also established a National Information System (NIS) network where 113 mainly public sector institutions are linked, including all public universities. Forty-eight of them are linked via leased or fiber-optic lines and the rest via dial-up telephone lines. Internet connectivity is being provided to those institutions via three international links. These institutions have the facilities to use e-mail locally within their institution and externally with other NIS and internet users. They also have the ability to access any published information and to transfer data when and where necessary. This network provides the NIS access to a

*Currently, 81 percent of government organizations use computers for some or all of their administrative processes.*

comprehensive information base that is currently being accessed by over 10,000 people per month.

Through its technical committee, the NIC established technical standards, guidelines, and procedures to facilitate unified best practices in various fields of information sharing and information technologies for use by government departments. These documents are currently being used by most government institutions.

With its large network and vast amount of available macro and micro level information, the NIS is the natural base for the development of e-government services. With the appropriate support to enhance its activities and strengthen its coordination, the NIC could facilitate the development needed for e-government.

*The NIS is the natural base for the development of e-government services.*

## 2.4 Conclusion

Jordan varies in its preparedness to undertake e-government services to businesses, citizens, and within government institutions themselves. Table 2.19 below summarizes Jordan's readiness in the areas of infrastructure, back-office and management, legislation, and community education.

**Table 2.19: Readiness Conclusion**

**Infrastructure**—Jordan is most prepared for e-government in the area of IT infrastructure. The Kingdom is connected to the rest of the world via the FLAG Network, and the government has established four main “backbone” networks throughout the country. However, Jordan still lacks backbone networks for civilian use and basic local “feeder” networks, especially outside of the Amman area.

Fortunately, the JTC will complete its US\$ 7 million nationwide telecommunications network by mid-2001. However, the cost of telecommunications and internet services makes the expansion of internet infrastructure difficult. The high cost of local telephone calls—upon which both call center and internet-based services rely—also prohibits the appeal of e-government to many Jordanians.

**Back-office and management**—The government of Jordan is least prepared for e-government in the area of back-office operations. In order

Readiness	
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>▪ FLAG network brings worldwide high-bandwidth connection to Jordan</li> <li>▪ Four major government networks exist</li> <li>▪ Lack of local “feeder” networks</li> <li>▪ High cost of telecommunications and internet access</li> <li>▪ Poor internal government interface and lack intranet</li> <li>▪ Few municipalities outside Amman are computerized</li> <li>▪ JTC will provide nationwide infrastructure by mid-2001</li> </ul>
<b>Back Office and Management</b>	<ul style="list-style-type: none"> <li>▪ Lack of client-centered philosophy in many gov't offices</li> <li>▪ No common data standards</li> <li>▪ Limited IT expertise in government institutions</li> <li>▪ Not all data kept in electronic format</li> </ul>
<b>Policy and Legal</b>	<ul style="list-style-type: none"> <li>▪ Electronic information sharing allowed, but not actively encouraged under law</li> <li>▪ Legal barriers to recognition of electronic documents and signatures</li> <li>▪ No legislation allowing for electronic payment</li> <li>▪ Legal obstacles to intra-ministry submission of documents</li> </ul>
<b>Community and Education</b>	<ul style="list-style-type: none"> <li>▪ Low internet penetration in Jordanian homes</li> <li>▪ Growing network of internet cafes</li> <li>▪ No government-established on-line access points</li> <li>▪ Plans to teach computer skills in all schools</li> <li>▪ Lack of trust in electronic payment</li> </ul>

for the government to bring electronic services to business and citizens, there must be common standards of data archival and the willingness and ability to share information across government institutions. Even in the absence of e-government, these systems are necessary for efficient government-to-business and government-to-citizen services. However, these back-office systems are currently lacking in Jordan. Fortunately, several government institutions and municipalities are taking a more client-centered approach to service delivery.

**Legal and Policy**—Several pieces of legislation need to be enacted for Jordan to develop an e-government program. Fortunately, there exists support within the government for such legal changes. The requirements for e-government include legislation that recognizes the legality of electronic documents and signatures, outlines data standards, allows inter-institutional submission of documents on behalf of citizens and businesses, and allows for electronic payment of fees and taxes.

**Community and Education**—The Ministry of Education plans to include computer education in all Jordanian public schools. However, this is a costly undertaking. There are currently no government-established online access points throughout the Kingdom for citizens to access government services. However, the Municipality of Amman takes advantage of telephone and fax to deliver electronic services to citizens and businesses. As long as internet access remains prohibitively expensive for the average Jordanian, it will be difficult for citizens to take advantage of e-government services.