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**ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA (ESCWA)**

**NATIONAL PROFILE OF THE INFORMATION SOCIETY  
IN JORDAN**

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## Introduction

At the end of 2008, the population of Jordan reached 5.850 million, one third of which are enrolled in different educational levels. The ICT sector is considered among the most important sectors supporting the economy. In 2006, Government earnings from this sector reached what is equivalent to JD 368 million. In addition to that, this sector created thousands of work opportunities and limited brain drain. Also, it helped in the progress of the employment society in Jordan. Due to a number of factors, the ICT sector in Jordan is witnessing today a marked development. These factors include: an environment ready for investment, motivating laws, and the availability of communication network, beside the availability of skilled and specialized labor and great government support. It is now recognized that, in Jordan this sector is one of the fields which has great potential. If we consider the sector development or its direct contribution to increasing the competence of the economy in general, alongside human resources development in the kingdom, the human resources factor emerges as the basic factor. Since, the largest age group in the society is the under twenty, people in this group are characterized by their relative liberation from the fear of using technological solutions. Added to that, is the fact that the percentage of illiteracy in the Jordan is among the lowest in the Arab world. This gives Jordan the opportunity to reduce the digital gap between Jordan and advanced countries.

To achieve the national strategic goals of the ICT sector, the government public strategy document in this field was updated. As far as the e-government program is concerned, the infrastructure and the necessary operations were made ready for implementation. The second stage of safe government network project was completed. This project aims at connecting 12 government organizations bringing the total number of organizations connected to this network 18. Work is also in progress to connect another 34 government organizations.

As far as the electronic services are concerned, the electronic government gateway<sup>1</sup> was launched, and so were the mobile short messages SMS gateway and the initiative of giving each university student a laptop.

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<sup>1</sup> <http://www.jordan.gov.jo>

## I. THE ROLE OF THE GOVERNMENT AND ALL STAKEHOLDERS

The Jordanian government gives importance and high priority to support the ICT sector. Accordingly, many accomplishments have been achieved in support of this sector. Through the provision of the necessary policies and strategies which led to the development of several other initiatives. Also, the government laid the foundation for partnership with private sector.

### A. NATIONAL INFORMATION SOCIETY POLICIES AND E-STRATEGIES

The national ICT strategy (2007-2011) was prepared. Priorities were defined, and so were the procedures which were to be followed in the form of plans with specific goals and outputs and outfitted with means for measuring performance extent. The government also was able to enhance the partnership between the public and private sectors and considered that a priority that reflects the efforts made to implement one national strategy.

Moreover, a strategy for research and development in the ICT (2007-2009) was prepared. This resulted in a clear effect on the harmony and coordination with the drawn priorities of the government, the most important of which is the concentration on research and development and increasing the budget and spending to improve cooperation between research centers and industry and to bridge the gap between industry and universities.

In addition to that, the national strategy for electronic trade (2008-2012) was prepared. This aimed at motivating the society to develop technical abilities in the field of electronic trade.

The government also was able to make several achievements in programs and multiple projects like the e- government and knowledge stations project, the program of fiber optics, the program of merger and restructuring of companies working in ICT sector, and the project of giving addresses to all places in Jordan. The national strategic plan of the MICT was launched; it encompassed the ICT sector for the period 2008-2011. The plan aimed at organizing all efforts on different levels in the ministry and directing it towards achieving vision in raising the competitiveness of ICT and post sectors in a way which serves in improving citizen's lives. In the middle of 2007, the consent was given to the government general policy document for the year 2007 in ICT and post sectors.<sup>2</sup>

It is worth mentioning that in 1999 Jordan launched its strategy to transform Jordan to a society of knowledge, and in the year 2000 REACH initiative was launched by the establishment of INT@J (The Information Technology Association of Jordan). A growth in the ICT sector in Jordan was achieved but not at the same pace demanded by the strategy. Following reports were issued by the REACH initiative in which the promised goals of this sector were amended to make them more realistic.

This strategy however shows an action plan to explain the steps and the methodology needed to keep the stature of Jordan in the world knowledge-based economy. It also encourages, the IT sector and its ability to compete in the local, regional and international markets.

Some of the outcomes that resulted from the implementation of the REACH initiative explain the stimulation resulting in the economic activity of the sector which is creating 20,000 jobs in the ICT sector within the supporting sectors, making 100 million US Dollar from exports, and attracting \$US 170 million from foreign direct investment by the year 2004.<sup>3</sup>

The ICT sector in Jordan witnessed constant growth where the value of the working capital grew from \$US 60 million to \$US 167 million in the period 2000-2007. Exports also increased at a rate exceeding 350 per cent.

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<sup>2</sup> Ministry of Information and Communication Technology "the strategic plan for the period (2001-2008)"

<sup>3</sup> <http://www.moict.gov.jo>

The number of employees grew from 1,250 to 10,000 highly trained and qualified personnel. It is worth mentioning that the kingdom began gradual consecutive reforms in the ICT and Post sectors since 1994. In 2003, and in recognition of the important role that is performed by ICT and Post sectors, the government adopted the general policy document 2003, which determined a number of important goals in the ICT and Post sectors.

That document also stated that the government decided to implement the open market policy on the IT sector. Though, the government has a role in creating a supportive statutory and organizational environment, the government decided not to apply any restricting organizational procedures on the ICT sector except in the cases defined in the general policy document. Besides, it is important to indicate that the general policy document 2007 is based on the general public policy in the sectors of ICT and Post and will soon replace it completely. The general policy document 2003 concentrated on liberating the telecommunication sector. The government found that it is necessary that the general policy document 2007 concentrates on creating suitable conditions which will allow each of the sectors of fixed and mobile communications to become two separate competitive sectors.

As far as the Post sector is concerned, many of the objectives mentioned in the general policy document 2003 were not achieved. This is largely attributed to the fact that the Post law adopted before the general policy 2003 did not reflect that document. Accordingly, it did not present the legal basis to achieve those objectives. In addition to that, there are many other reasons based on government satisfaction that make it important to adopt a new general policy document:<sup>4</sup>

- Actual market needs and the economy at large, and the social development factors in Jordan are considered as reasons to take more actions;
- Also, the fast technological development especially in communication and IT sectors creates the need to update and modify the general policy document 2003. Moreover, the change from circuit exchange technology to beam exchange technology and creating new services like audio services through the Internet protocol and merging communication with video and audio media and with IT all require updating and modifying the general policy document 2003;
- The demand on a varied set of electronic services and its applications means an increase on the demand for the radio frequencies spectrum which is considered as a national treasure. That requires the existence of a complete system and a plan to use it effectively as a basic part of the kingdom economy which must be reflected in the general policy document 2007;
- The present legislations and bilateral agreements and WTO agreement and other international commitments support the adoption of general policy document 2007. In that respect the government realizes its commitments stated in the international agreements;
- The Hashemite Kingdom of Jordan national e-commerce strategy for the period 2008-2012 was approved in the third quarter of the year 2008.<sup>5</sup>
- By its very nature, the e-commerce strategy is considered comprehensive, as it covers many fields of the economy.
- This strategy has a clear vision to develop e-commerce in the kingdom. It outlines four main objectives to achieve this vision and to transform it into practical plans that make use of opportunities available to e-commerce and overcome the weaknesses as that are hindering, at present, the development of e-commerce.

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<sup>4</sup> Ministry of Information and Communication Technology "The government general policy document 2007 in ICT and post sectors.

<sup>5</sup> [http://www.moict.gov.jo/ar\\_MoICT\\_National\\_E-Commerce\\_Strategy.aspx](http://www.moict.gov.jo/ar_MoICT_National_E-Commerce_Strategy.aspx)

## B. JORDAN'S RATING ON THE INTERNATIONAL INFORMATION SOCIETY INDICATORS

The Global IT Report 2007-2008 was published by the World Economic Forum,<sup>6</sup> Jordan ranked 47 among 127 countries on the Networked Readiness Index.

According to that, Jordan has achieved a marked progress compared to 2006 ranking which was 57<sup>th</sup> among 122 countries. This is attributed to the progress made by Jordan in component sub-indexes; the most important is the environment component sub-index (49/127), the readiness component sub-index (52/127) and the usage component sub-index (47/127). Jordan achieved a notable progress in the relative ranking for each of the government readiness and government usage components sub-indexes which were 72 per cent and 71 per cent for the year 2007-2008 compared to 51 per cent and 50 per cent for the year 2006-2007 respectively.

Among Arab countries Jordan ranked 5<sup>th</sup> between 12 participating countries. It came ahead of Saudi Arabia, Egypt, Kuwait, Oman, Morocco, Libya, and the Syrian Arab republic but it came behind the United Arab Emirates, Qatar, Tunisia, and Bahrain.

## C. ROLE OF NON GOVERNMENTAL ORGANIZATION

The non-government organizations NGOs play a role in building the society of information in the kingdom. The INTEL computer club was launched at the end of the year 2004. It is a learning center that provides IT programs to all classes of the society especially the young.

Moreover, the Jordan Network Company, which is a non-profit organization that was established in 2005, has been working on the application of national programs. It was built on the idea of leading and implementing, positive change strategies related to social and economic development in local societies and working on merging the applications of ICT to daily life. There is also an important role for the IT Association-Jordan (INT@J) which was established in 2000 as a non-profit association for ICT companies. It seeks to develop the sector as pilot sector in the kingdom and the INTAJ association holds 130 ICT member companies.

## II. ICT INFRASTRUCTURE

### A. INFRASTRUCTURE

The indicators concerning the landlines service issued in 2008 by the Telecommunications Regulatory Commission of the telecom sector showed that the no. of landline subscribers reached 519,000 at an expansion rate of 8.9 per cent, which means 1.1 per cent less than in 2007. Indicators concerning mobile phones and mobile radio services showed that the number of subscribers in 2008 reached 5,314,000 at an expansion rate of 91 per cent, which means 7.7 per cent more than in 2007.

Concerning the Internet main channels, the capacity of the Internet international lines was increased to 620 MB/s. The expansion rate of the Internet service (users) reached 26 per cent (at the end of 2008), accompanied by a wide spread of Internet centers.

Regarding computer availability, a survey on the home use of IT indicated that 39 per cent of Jordanian families have a computer, and it was clear that the proportion of families having a computer in urban areas was higher than those in the rural areas as shown in the following table:

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<sup>6</sup> Ministry of Information and Communications Technology, "Jordan in the international report on the competitiveness of the ICT sector for the year 2007-2008"

TABLE 1 – PERCENTAGE OF FAMILIES THAT HAVE COMPUTERS ACCORDING TO PLACE OF RESIDENCE AND PROVINCE, 2008

Computer type	Residence Place		Province			Kingdom
	Urban	Rural	Middle	North	South	
PC or laptop	41.6	27.1	42.6	33.1	33.9	39.3
Palm computer	1.5	0.6	1.8	0.6	0.7	1.4
No. of families in the sample	2,644	501	2,023	833	289	3,145

Source: Department of Statistics "Survey of home IT use, 2008".

#### B. INITIATIVES AND PROJECTS FOR ICT INFRASTRUCTURE AND DEVELOPMENT OF NEW SERVICES

The following table shows the change in investment size in the telecom sector during the period 2000 – 2008 distributed according to the type of service.

TABLE 2 - CHANGE OF INVESTMENT SIZE IN THE TELECOM SECTOR, 2000-2008 (MILLION JD)

Service	2000	2001	2002	2003	2004	2005	2005	2008
Fixed communication service	55.7	90.1	38.2	11.4	10	12.3	12.3	23
Mobile communication service and mobile radio	92.9	89.2	93.3	91.9	100.3	137	92.5	65
Internet service	4.3	5.5	3.5	1.5	0.7	5.6	11.1	22
Other Communication service	5	0.5	0.4	0.4	1.1	2.6	0.1	---
Total	152.92	184.9	137.604	105.9	111.4	155.3	116.3	115.0

Source: [http://www.trc.gov.jo/index.php?option=com\\_content&task=view&id=481&Itemid=978&lang=arabic&lang=arabic](http://www.trc.gov.jo/index.php?option=com_content&task=view&id=481&Itemid=978&lang=arabic&lang=arabic)

During 2007, the universities' network was completed, and the laying down of the fiber optic cables as part of the project of delivering and installing the fiber optic cables (first stage) was completed. That was within the fiber optic network program.

#### C. ICT CONNECTIVITY

Concerning ICT and post sectors, the government's general policy document 2007, indicated that due to the increasing integration between the IT sector and the telecom sector, it is not possible to consider the IT sector as separate. However, its future development is tied to the development of the telecom sector and together they have promising possibilities. Although a lot was achieved, these two sectors did not achieve yet the country's full ambition. One of the most important steps is to improve each of the following: the spread of personal computer ownership, access to the Internet, the local content, and the Arabic content.

The government realizes that IT is not just the availability of devices and computer software, but it increasingly includes providing services via communication networks such as providing information, remotely presented applications, and transaction services like e-commerce.

#### D. INTERNET INFRASTRUCTURE

The Jordanian station named Hashem represents the backbone of the Internet sector in Jordan where all local Internet providers are connected to it, through the Border Gateway Protocol version 4(BGPv4). Broadband networks are used widely in Jordan and some examples are: ADSL, ISDN, SDH, leased lines and recently the national fiber networks, which is a national network that uses fiber optics as an infrastructure for government projects like the Government Safe Network (GSN) project. Connecting to the Internet using satellites (VSAT) is also available in Jordan. In 2008, (Wi-tribe) company won a license for (WiMAX) technology with 3.6 GHz frequency. The speed presented via (WiMAX) technology varies between 11 Mbps and 54 Mbps. The capacity of the Internet in Jordan was estimated in 2008 at 4,615 Mbps.

### III. ACCESS TO INFORMATION AND KNOWLEDGE

#### A. PUBLIC DOMAIN INFORMATION

The Information Council was established in Jordan following the law of assurance of obtaining information no. 47 for the year 2007. The law contains 20 items. Item no. 7 indicates that every Jordanian has the right to access the information he wants if he has legitimate interest or cause. Item no. 8 of the law says that the people in charge must make access to information easy and ensure revealing it without delay. According to the method described in the law, the Information Council is responsible for ensuring the provision of information to those who request it and to study the complaints made by information seekers.<sup>7</sup>

#### B. ACCESS TO INFORMATION AND PUBLIC INFORMATION

The data issued by the Telecommunications Regulatory Commission showed that progress has been made in the field of licensed communications as shown in tables 3 and 4:

TABLE 3 - NUMBER OF SUBSCRIBERS IN LICENSED COMMUNICATION SERVICES, 2000-2008

Service	<i>Thousands</i>								
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Fixed communications services	620	660	674	623	638	628	614	559	519
Mobile communications services and mobile radio	389	866	1200	1325	1624	3138	4343	4772	5314
Internet service (subscribers)	32	66	62	92	111	197	206	228	229

Source: [http://www.trc.gov.jo/index.php?option=com\\_content&task=view&id=481&Itemid=978&lang=arabic&lang=arabic](http://www.trc.gov.jo/index.php?option=com_content&task=view&id=481&Itemid=978&lang=arabic&lang=arabic)

TABLE 4 - PENETRATION RATE OF FIXED AND MOBILE COMMUNICATIONS SERVICES, 2001-2008

Service	<i>Penetration</i>								
	2001	2002	2003	2004	2005	2006	2007	2008	
Fixed communications service	13.4	13.3	12	11.9	11.6	11	10	8.9	
Mobile communications services and mobile radio	15.5	24.1	25.5	30.3	57	78	83.3	91	
Internet Service (subscribers)	1.33	1.23	1.84	2.07	3.6	3.7	4	4	
Internet service (users)	4.8	5.5	7.7	10	13.2	13.7	20	26	

The number of Internet users reached about 1,500,000 in the year 2008. Different initiatives were adopted to increase computer use in Jordan. A survey on home use of IT indicated that about one fifth of individuals aged 5 years and above, are using the Internet at a rate of 22 per cent of all individuals. The following table shows the method used to connect to the Internet.

<sup>7</sup> <http://www.ic.gov.jo>

TABLE 5 – PERCENTAGE OF FAMILIES USING THE INTERNET AT HOME ACCORDING TO CONNECTION METHOD, PLACE OF RESIDENCE AND PROVINCE, 2008

Connection methods	Place of Residence		Province			Kingdom
	Urban	Rural	middle	North	South	
Connect to the telephone using prepaid card	27.2	57.1	28.2	31.1	41.2	29.2
Dialing the telephone using Internet subscription	8.0	10.7	8.0	6.8	17.6	8.2
Connecting to the telephone by paying for the service with the telephone bill	23.1	17.9	22.6	23.0	17.6	22.7
ADSL Internet line	52.8	28.6	54.5	40.5	35.3	51.2
Internet service through cellular phone	8.8	17.9	7.4	12.2	35.3	9.4
Internet service through cellular phone WIMAX	1.6	0.0	0.9	4.1	0.0	1.4
Total no. of families in the sample	386	28	323	74	17	414

Source: Department of Statistics "Survey of IT home use, 2008".

The reasons behind the use of Internet is to get several types of services including searching for information, listening to music, viewing films and television programs, reading electronic newspapers and magazines, and sending and receiving e-mails as shown in table 6.

TABLE 6 – PERCENTAGE OF INDIVIDUALS AGE 5 YEARS AND ABOVE WHO USED THE INTERNET DURING THE PAST 12 MONTH ACCORDING TO SERVICE TYPE, PLACE OF RESIDENCE AND PROVINCE, 2008

Service type	Place of residence		Province			Kingdom
	Urban	Rural	Middle	North	South	
Other information	63.3*	68.1	63.4	69.2	52.2	63.9
Listening to music and viewing films and TV programs	59.7	53.7	66.0	42.8	55.1	59.0
Reading electronic newspapers and magazines	56.3	53.4	57.7	53.2	51.9	56.0
Sending/receiving e-mails	54.9	32.9	56.6	43.6	45.4	52.2
Electronic games	50.2	46.3	54.2	37.4	52.5	49.7
Chat (typing, voice, video)	44.9	26.9	49.3	29.0	34.2	42.7
For training purposes	25.7	29.8	26.3	27.6	20.6	26.2
Health services or health information	24.9	23.6	23.0	29.7	22.4	24.7
Getting information from government organizations	20.1	22.6	20.4	23.2	12.2	20.4
Functions	14.1	12.6	13.7	14.6	13.1	13.9
E- government services	12.4	8.7	11.1	16.2	6.4	12.0
Goods and services	9.0	2.8	10.7	2.9	5.5	8.2
E- learning	5.8	2.7	6.7	3.5	1.8	5.5
Bank services though the Internet	4.4	1.5	5.1	1.6	3.1	4.0
Selling/purchasing goods and services	3.9	0.6	4.9	0.4	2.6	3.5
Total no. of individuals in the sample	2,603	354	1,931	762	265	2,957

\*Sums of percentages in each column are not equal to 100 per cent due to individuals getting more than one service.

Source: Department of Statistics "Survey of IT home use, 2008".

## National Information System<sup>8</sup>

The National Information System is a non-central information system which is established and managed by the National IT Center. All government organization fill it with the information produced or collected in the public sector. This information is organized by the center into branches of sectarian networks which result in a homogeneous information from the content point of view. Each network branch has a focal point which forms the main point that acts at issuing the collected information that is coming in to it from different organizations in the same sector. The general information is exchanged and detailed information is kept in its production centers to be accessed when needed.

### C. MULTI-PURPOSE COMMUNITY PUBLIC ACCESS POINTS

#### *The Jordanian knowledge stations<sup>9</sup>*

The Jordanian knowledge stations' project was established in 2001. Its objective was to transform Jordan into a knowledge society that allows individuals from all classes, especially rural and remote societies, to make use of ICT to bridge the digital gap, develop human resources skills and increase the competitiveness and the employability, in-order to achieve the economical and social development to the individual and local community levels. It also aimed at training and increasing the ability of locals by giving them new skills, by attending advanced programs and training courses in the field of ICT and networks. The number of working stations (at end of 2008) was 158 knowledge stations distributed over the kingdom. More than 28 knowledge stations were located in poverty pockets areas.

Since its establishment, the number of citizens who made use of the stations was over 540,000. About 53 per cent of them were males. More than 120,000 citizens received training in IT and accordingly were granted certificates which contributed to improving their employability. As shown in table 7, knowledge stations were established in partnership with different government and civil society organizations.<sup>10</sup>

Knowledge stations classified its activities into specific categories including capacity building in the IT, offering development and awareness services to develop the society, and e-learning (in English).

TABLE 7 – KNOWLEDGE STATIONS ACCOMPLISHMENTS

Year	No. of trainees	Males	Females
2000-2001	13,829	44%	56%
2002	8,626	43%	57%
2003	14,045	43%	57%
2004	21,280	46%	54%
2005	15,207	48%	52%
2006	9,463	45%	55%
2007	9,175	44%	56%
2008	10,699	40%	60%
Total	102,324	45%	55%

  

Year	No. of working knowledge stations
2000-2008	158

  

Year	No. of trainees	No. of service beneficiaries
2000-2008	102324	592773

<sup>8</sup> <http://www.nis.gov.jo>

<sup>9</sup> <http://www.ks.gov.jo>

<sup>10</sup> Jordanian knowledge stations annual report 2008

#### D. USING DIFFERENT SOFTWARE MODELS

In compliance with the Intellectual Property Protection Law Jordan is currently seeking to provide the public sector institutions with software in a legal way, starting with Microsoft products. In 2009, the Jordanian government issued an official announcement forcing all ministries and government organizations to use original computer programs and make sure they obtain legal license. In-order to implement all government commitments to international and bi-lateral agreements concerning the subject of Intellectual Property, an agreement was signed in 2007 with Oracle, this agreement includes:

- Licensing all Oracle technology applications in all government circles;
- Technical support presented by the company through UTS company;
- Financial support valued at 3.1 million Dollars to be invested in training government employees and in implementing projects in the government using Oracle technology.

### IV. ICT CAPACITY BUILDING

#### A. BASIC LITERACY

The ICT awareness program and training of civil servants started in 2004. As part of a general plan to use IT in the classrooms, most of the trainees were teachers. The Jordanian literacy initiative was launched in 2003. It aims at introducing the most recent developments in education and technology to improve the literacy level in Jordan. It included the provision of the infrastructure and software that enables teachers to adopt the new teaching methods and the provision of local electronic curricula. The initiative also ensures life-long learning for all Jordanian in all age groups. Knowledge stations were initiated as development centers for local communities. At the end of 2008, their number reached 158 knowledge stations. The following table shows the places of Internet use in Jordan.

TABLE 8 – PERCENTAGE OF INDIVIDUAL INTERNET USERS AMONG THOSE AGED 5 YEARS AND ABOVE ACCORDING TO PLACES OF USE, RESIDENCE PLACE, AND PROVINCE, 2008

Places of use	Place of residence		Province			Kingdom
	Urban	Rural	Middle	North	South	
Home	43.9	25.7	50.2	29.0	16.3	41.7
Work	25.6	26.6	27.9	18.0	31.4	25.7
Internet Cafe	28.9	20.9	27.0	30.5	26.6	27.9
Schools & Universities	45.0	56.2	43.1	52.0	52.9	46.3
Jordanian knowledge stations	3.6	2.5	3.7	2.7	4.7	3.5
Civil societies and organizations	2.7	4.5	2.0	4.1	6.6	3.0
Other places*	10.9	10.7	11.9	9.7	6.1	10.9
Total no. of individuals in the sample	2,603	354	1,931	762	265	2,957

Source: Department of Statistics "Survey of using IT at home 2008"

\*Include friends, parents and relatives.

#### B. ICT IN EDUCATION AND TRAINING

In 2007, linking the universities network to the Internet was completed. In addition to that, devices were installed to link the Ministry of Higher Education, for operation and control. Special devices were installed to connect and subscribe the universities network to the European network services. Adding Al-Tafila University to the universities network made the number of the connected universities 9. The first stage of the schools implementation program was completed to include 227 government schools in Amman. It was also operated and connected to the operations center. The installation of the fiber-optic cables and the second

stage of Alaqaba schools project were completed. An agreement with the Royal Air Force was also signed to complete the construction of the remaining stages of the schools network which covers government schools in the kingdom plus other governmental sectors.

### C. TRAINING PROGRAMMES FOR CAPACITY BUILDING IN THE USE OF ICT

In 2006, the Ministry of Education adopted the ICDL program to spread computer literacy among teachers and civil servants. So far, 60,000 civil servants have taken part in the program, and more than half have taken the license. The MICT have adopted the ICDL program to train its employees in addition to training employees from public organizations. The training process was not made through the Ministry alone. In 2008, the Ministry of Municipalities signed an agreement with the National IT Center/knowledge stations to train on computer skills and other specialized programs 30,000 municipality employees from different governorates of the kingdom to help them perform their different duties. Many non-profit organizations also presented training programs for the youth through joint programs between All Jordan Youth Commission and Knowledge Stations.

The objective of the World Links project (Arab Region), offered to improve intended learning outputs and the economic opportunities, and global understanding between youth in developing countries via the use of technology and Internet, where teachers learn how to blend technology with education to achieve better educational results. These skills help the youth in participating successfully in the global economy of knowledge. In 2003, a pioneering project started in Jordan after signing an agreement of mutual understanding. In 2004, the four stages related to training were completed, whereby 55 trainers trained 560 teachers from 150 schools and it is expected that in five years span 100,000 students will benefit from the services of World Links.

### D. INNOVATION AND PATENTS

The strategy of research and development in the ICT sector was prepared for the period 2007-2011. The objective of this strategy was to make the sector more dynamic through encouraging innovation and promoting the concept of intellectual property, increasing competitiveness and creating new work opportunities and hence making contribution to the process of economical development. The strategy overcame the weaknesses and obstacles that faced the sector. Most important of all, was the absence of the supporting policies to develop an environment for research and development including limited financial resources, shortage in human resources especially those trained technologically in the field of research and development, and the weak relation between scientific research institutions and the private sector.

The strategy relies on several themes represented in creating a legislative and enabling environment for research and development and monopolizing external investments in this field.

The strategy suggested finding a number of funds to support scientific research in the ICT field, which will be used to support several sectors such as health, education, e-government, human resources enabling programs, supporting business incubators, and bridging the digital gap.

## V. BUILDING CONFIDENCE AND SECURITY IN THE USE OF ICTS

### A. USE OF ELECTRONIC TRANSACTIONS AND DOCUMENTS

Jordan is currently witnessing a rapid shift in the use of online transactions especially in the banking sector regarding cash withdrawal, deposit, transfer, and balance checks. As for health, there are electronic operations such as the private sector health insurance. Moreover, more than 60 per cent of the public sector institutions have electronic files to support their operations. In Jordan, there is no authority that approves electronic signature. It is worth mentioning that electronic transactions are still relatively weak if compared with the exploring processes that are performed in the process of using the Internet, where a survey of using

IT at home in 2008 showed that using the Internet in electronic transactions was minimal.

## B. ONLINE AND NETWORK SECURITY

Due to the sensitivity and the value of information used in electronic transactions, public and private sector institutions are obliged to preserve the sensitive information they acquire. These institutions provide sensory and logical security systems to guarantee that the information is not accessible to those who don't have the right to it. In 2008, the national policy for information security and protection was prepared, whereby the roles, responsibilities, general duties, rules of conduct related to security, the virus protection policy, malicious programs, network security, and the policy of coding. And these were publicized to all public institutions.<sup>11</sup>

## C. COUNTERING MISUSE OF ICTS

In 1998, the department of computer crimes (electronic crimes) was established in the General Security Directorate in-order to deal with all crimes in which technological means were used whether these new or conventional crimes. It was equipped with the latest systems and technical devices to perform technical investigation in computer crimes and to reveal technical truths. It may be said that in Jordan there are no regulated criminal laws concerning the uses of ICT and with sensible effects. There might be some problems resulting from the misuse of Internet and computers, but may not be announced or published. Regarding privacy protection and data protection, the data with private nature is protected by Jordanian laws.

# VI. ENABLING ENVIRONMENT

## A. LEGAL AND REGULATORY ENVIRONMENT

In 1995, the law of communications no. 13 which regulated the policies of offering communication services in the kingdom was issued. It defined the responsibilities of license holders and organized the conditions required to get a license for managing and establishing public and private communication networks in the kingdom. In 2003 also the law no. 13 for utilizing IT resources in government institutions was issued aiming at achieving optimum use for IT in government institutions through acquiring, establishing, operating, managing, and maintaining it in effective ways to participate in improving government institution services and increasing its efficiency and reduce its cost in accordance with the requirements of the national interest and security.

The global report on the competitiveness of the ICT sector showed with respect to the indicator of legislative and regulatory environment that Jordan ranked 38 among 127 countries, however it ranked 40 in the sub-index for intellectual property protection and 22 in competitiveness quality in the Internet providers sector and it should be noted that in 2004 Jordan signed WIPO treaty. After joining WTO and endorsing the world trade convention which includes the TRIPS convention on the intellectual property aspects of world trade, a set of legislations which handled different subjects of intellectual property were implemented.

The issues of intellectual property in Jordan are governed by several legislations, Copyright Protection Act no. 22 of 1992, its amendments of 1998, 1999 and 2001, and the relevant file deposition system number 4 of 1994, the legal protection of literacy and artistic files according to which computer programs and databases are protected. Laws governing directly literacy and artistic property includes: law number 8 of 1997 on controlling audiovisual files, and system number 19 of 1998 on monitoring audiovisual files issued by virtue of this law. To complete intellectual property legislations pursuant to WTO membership requirements, Jordan passed law number 10 of year 2000 related to the protection of integrated circuit designs, thus extending protection rules in the Jordanian law to software, databases and integrated circuits in

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<sup>11</sup> The national technical committee for information security and protection "national policies for information security and protection"

IT work, in 2007 the legislations were reviewed and legal framework necessary to guarantee the ideal application was laid down for electronic transactions in government and especially in protection standards and the exchange of government information electronically. Also in 2007, the law of postal services was issued, and in addition to that the document about general government policy in the ICT sector was updated and approved in the middle of 2007 and has been circulated to all stakeholders and interested in the ICT sector.<sup>12</sup>

## B. DOMAIN NAME MANAGEMENT

Domain names are registered under the “.jo” extension by the National IT Center NITC, which is the sole agency authorized to do so in Jordan by the Internet Corporation for Assigned Names and Numbers ICANN. The center strives to offer users the best services by applying the methods developed by ICANN, providing a safe environment, protecting names, appointing highly qualified and skilled employees, and meeting speed and proficiency requirements at work. The global registration policy is applied and it is amended when necessary to suit the Jordanian context. The Center is a member of the ICANN<sup>13</sup> affiliated global domain committees and its two affiliated committees: ccNSO<sup>14</sup> and GAC.<sup>15</sup>

The Center applies Jordanian laws for the protection of Intellectual property, trade-marks and the protection of names on the Internet, avoiding the so-called “Cybersquatting”. The Center also refers to Jordanian law in cases of conflict or disagreement.

The Jordanian government presented proposals to establish an Arab society for Internet upper domain names<sup>16</sup> and they were shown to the Arab working group for domain names and Internet affairs. Like most of the Arab countries in the field of using Arabic domain names, Arabic domain names do not exist at present.

## C. STANDARDIZATION IN ICT

The Jordan Institution for Standards and Metrology oversees standardization in Jordan. However, there are no Jordanian standards used in IT but there are manuals and instructions that govern parts of this technology. International standards are applied individually.

## VII. ICT APPLICATIONS

The government has realized that IT is not limited to the availability of devices and software. Therefore, it is increasingly guaranteeing the availability of services through communication networks such as the availability of information and remotely offered applications and transaction services like e-commerce. Through the government general policy document 2007 in the ICT and post sectors the government demanded from government institutions, the use of ICT to achieve higher levels of efficiency and openness in its dealings with the citizens and the business sector. Generally speaking, the Applications used in public sector institutions are mostly related to office automation and treatment of in-house procedures in addition to information management systems. The work of the electronic pay gate project was completed and so was the work of issuing and renewing professions licenses.

### A. E-GOVERNMENT

E-government units in Jordanian institutions were developed as part of the e-government institution

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<sup>12</sup> Ministry of Information and Communications Technology "annual report 2007"

<sup>13</sup> Internet Corporation for Assigned Names and Numbers

<sup>14</sup> Country code names supporting organization

<sup>15</sup> Government Advisory Committee

<sup>16</sup> <http://www.dns.jo>

efforts. Planning and follow-up works also started at the national level to implement and connect vertical services at different institutions. The e-government program relies on applications in the following areas:

- Applications related to the e-government, and the availability of suitable infrastructure, legislative, regulatory, technological and reengineering procedures, and change.
- Development in the field of education and training.
- Transferring knowledge.
- Change management and restructuring government institutions.

The e-government program launched the e-government portal ([www.jordan.gov.jo](http://www.jordan.gov.jo)). The portal contains round the clock procedures for most government institutions and offices that are available to citizens and service users. Live e-services are available at the portal from several government institutions and offices and are directed to different sectors: citizens, and government work. The e-government project will participate in transferring the concept of applications that should be made available by government institutions, and the e-government projects that are under implementation like the comprehensive system project for connecting systems and services, connecting e-government services to each other using the service bus. Work is progressing on a project to offer services through mobile telephones short messages. Work is also progressing on another project to develop an electronic gate for civil status and passports office (Extranet). Statistics showed that about one third of Jordanian families wish to communicate to get the e-government services, and that about one third of individuals aged 15 and over are aware of what is offered by the e-government. The following table shows families wishing to obtain e-government services depending on the type of service delivered.

TABLE 9 – PERCENTAGE\* OF FAMILIES WISHING TO OBTAIN E-GOVERNMENT SERVICES DEPENDING ON THE METHOD OF RECEIVING SERVICE, PLACE OF RESIDENCE, AND PROVINCE, 2008

Method of receiving service	Place of residence		Province			Kingdom
	Urban	Rural	Middle	North	South	
Short messages or exploring Internet using cellular	31.1	29.3	31.0	32.7	24.2	30.8
Internet	29.3	20.6	27.9	29.1	24.2	27.9
Information centers available in public places	26.3	25.1	28.1	23.5	19.7	26.1
Mobile phone or fixed/connecting to service centers	25.5	25.9	25.2	26.8	24.9	25.6
Through one information window at government institutions	22.9	24.2	22.3	26.8	18.0	23.1
Mobile phone or fixed IVR	22.0	22.8	21.3	24.4	21.1	22.1
Post	22.6	18.8	22.5	21.6	19.0	21.9
Jordanian knowledge stations	8.0	6.8	9.2	4.2	8.0	7.8
Fax	7.0	5.8	7.0	5.3	9.3	6.8
Total no. of families in the sample	2644	501	2023	833	289	3145

Source: Department of Statistics "Survey of using IT at home 2008".

\*Sums of percentages in each column are not equal to 100 per cent due to families getting more than one service.

## B. E-BUSINESS

The MICT worked on preparing the national e-business strategy for the kingdom covering (2008-2012).<sup>17</sup> It aimed at preparing the society, to develop technological and commercial abilities, in the field of e-business, and relied on the principles of e-business, in the exchange of goods and services between business companies and consumers. In-order to achieve the benefits associated with e-business and in contribution to move Jordan towards development in the field of business and to participate in the transformation of the business world. This strategy was agreed upon and approved on 9/9/2008. Moreover, the Joint Procurement Department is carrying out a study of the possibility of using electronic purchasing software for all tenders announced by the institution. The Jordan Customs is also working now on the application of ASYCUDA software which is specific for customs procedures in-order to apply international standards in this field.

## C. E-LEARNING

### *The Jordanian e-learning initiative*

The Jordanian e-learning initiative was launched in 2003 in coordination with the Ministry of Education aiming at introducing the latest developments in education and technology. The tracks of implementing the Jordanian initiative are:

(a) *The first track – Discovery schools*

Its main objective is to build the innovative abilities of teachers and students and to inform them about the latest methodologies in education that take into considerations international developments in this field, and that is accomplished through the following:

- In-class technology.
- E-curricula development.
- Training.

(b) *The second track – Life long learning*

(c) *The third track – Development of local ICT\_ industry*

## D. E-HEALTH

The Arab electronic portal for family health was launched. It came, as a result of a partnership between BATELCO Jordan and a program executed under the technical support of Jones Hopkins University called "information partners for family health in Jordan". The portal aims at enhancing medical performance of all individuals, families, communities, and institutions in all parts of the kingdom through giving them knowledge and skills related to health from all perspectives. It also aims at building a database and providing the necessary devices and software to control health insurance of government employees and their families. Health insurance in the private sector too offered the service of obtaining health services automatically, to facilitate implementation of health insurance agreements for the citizens. The Ministry of Health is working now on developing special systems for the blood bank. For most of its works, the Jordanian Institution for Food and Medicine has completed the computerization.

A health information portal was established as part of the national information system. Through linking with US several health institutions, such as Houston and Mayo Clinic Hospital remote medicine has been in practice for years in Jordan.

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<sup>17</sup> Data base of surveying possibilities and abilities in IT field in public sector institutions

## E. E-EMPLOYMENT

The ALMANAR Project<sup>18</sup> is in charge of human resources development. It relies on the support of ministries and institutions directly involved in education, training, and operation. It is planning to build a national system for Jordanian human resource development and to improve its competitiveness. Employment companies are widely spread in Jordan thus establishing balance between supply and demand. Some like the ALMANAR Project and the PETE Program use computer technology. The project aims at building HR database, as well as collecting, screening, programming, storing, and publishing it. The project also supports the use of data through studies and research, and use it as the base for making HR decisions and policies.

The Department of Statistics provides ALMANAR with detailed quarterly data on the identity, skills and qualifications of those employed and unemployed in the Jordanian market. Moreover, the study on employment study conducted by the Department of Statistics provides it with its annual information. The project keeps records of a database on the employed citizens registered at the Civil Service Bureau and the Social Security Corporation.

ALMANAR in collaboration with the Ministry of Higher Education and the Vocational Training Corporation has created a national educational database. The first phase of which was completed and it included academic data on higher education students and Jordanian university graduates classified by faculty and specialization. Work is currently carried out to complete information concerning trainees and graduates from The Vocational Training Corporation, currently provides information on trainees and graduates. In the next stage, the education database will include information on basic and secondary education. The project has also started forming educational indicators as it published the first guide to vocational and technical education in Jordan. ALMANAR works to increase and improve operation services in the Jordanian market, for which it has developed an electronic Internet-based operation system that is open to round the clock job seekers and allows them to submit their applications. It also gives employers the chance to advertise free of charge available vacancies.

## VIII. CULTURAL DIVERSITY AND IDENTITY, LINGUISTIC DIVERSITY AND LOCAL CONTENT

### A. USE OF ICT IN SUPPORT OF CULTURAL AND LINGUISTIC DIVERSITY

Most websites in Jordan are in Arabic and English. They also contain links to sites providing information in these two languages, which reinforces cultural and linguistic diversity for users, during 2009 it is expected to start digitizing the contents of some fields specially the cultural one, the national heritage one, newspapers, and some public libraries.

### B. LOCAL AND NATIONAL DIGITAL CONTENT DEVELOPMENT

The MICT is working on developing and enhancing the digital content published on the e-government portal. It is also encouraging government institutions for enhancing their digital content. Recently, several electronic sites specialized in electronic publishing have appeared and efforts in the kingdom are restricted to the Arabic content published on the Internet. Moreover, most local daily newspapers are available on the Internet, as it is the case with international newspapers, which reinforces the Arab digital content industry. Besides, most websites developed in Jordan, are mainly based-on Arabic content.

Some Jordanian universities are archiving studies and research, MSc, PhD thesis and publishing them across their electronic sites as is the case with Yarmouk University, which started this process during the year 2007-2008. In addition to that, the National Library made a contract with the MICT/e-government program for archiving the content of the National Library.

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<sup>18</sup> <http://www.almanar.jo>

## IX. MEDIA

### A. MEDIA INDEPENDENCE AND PLURALISM

Compared to several countries in the region, the media is relatively more independent and is characterized by political, cultural and social diversity. In Jordan, written and audiovisual media outlets are available. The written media is highly independent, whereas the audiovisual one is primarily official, with the existence of some private media platforms, which are constantly increasing.

### B. THE MEDIA AND ITS ROLE IN THE INFORMATION SOCIETY

The media plays a very important role in building the information society. The widely spread media platforms of all types, and the possibility of accessing them via Internet or satellites, formed serious competition for the media in Jordan. To preserve customs and traditions, the media is forced to develop its mechanisms as to wherefrom to reach the citizens and which new technologies to use to assist them in the competitors market that have external media platforms. The great interest in the role of the media in focusing on the society's conditions and causes granted the media in general the opportunity to be the first formulator of the priorities of the society. Currently, the role of the media in the society of information is limited to providing news, social, and cultural information.

## X. INTERNATIONAL AND REGIONAL COOPERATION

### A. FINANCING OF ICT NETWORKS AND SERVICES

Several strategic agreements were made in Jordan and among these:

1. A strategic partnership agreement with Microsoft;
2. A strategic partnership agreement with Bearing Point;
3. A strategic partnership agreement with Oracle.

Jordan is also cooperating with international and regional bodies to provide the necessary funding for establishing networks and developing ICT services, as shown in the following table:

TABLE 10 – PROJECTS FUNDED BY INTERNATIONAL AND REGIONAL BODIES

Project name	Project nature	Type of cooperation	Financing
The e-village project	Infrastructure	Regional	UNIFEM
Intel international science and engineering Fair ISEF	infrastructure	International	Intel
Intel teach to the future	Networks	International	Intel
Intel computer clubhouse	Infrastructure	International	Intel
University broadband network utilization	Networks	International	Unico-University Company
Jordan e-government	Infrastructure	International	Multiple
Jordan's digital inventory of culture& heritage-JaDIR	Human resources	international	UNIFEM
Get connected UK/Jordan Initiative	Human resources	International	British embassy/Amman
Arab woman connect (AWC)	Human resource	International	The royal government of the Netherland
Jordan health web portal	Information	international	USAID

## B. WSIS FOLLOW-UP

Regarding legislative and regulatory frameworks, Jordan made progress in the field of intellectual property rights and protection of privacy for the approval of legislations concerning transactions and electronic signature. Moreover, focus was made on the regulatory framework of communications, Internet regulations, security and privacy laws and its rules of application, in addition to other laws concerning ICT.

Concerning mobile phone, Jordan today uses the most recent technology available in the world. Jordan was the first country in the Middle East to launch MMS service and the second to launch GPRS service. The increase also in the Internet spread and the people's ability of to reach IT via launching the Jordanian social centers which are known as knowledge stations, reached at the end of 2008, (158) IT stations in different regions of Jordan. As far as the building of ICT human resources, Jordan is training all government employees to obtain ICDL and the Ministry of Education is adopting a comprehensive program to train all teachers. In the field of building an ICT sector, Jordan is implementing a program for productivity development by creating opportunities for people from rural communities to be contributors to industries, which will generate income and self-support to these people. Applications taking place in public institutions are all indicators of progress such as the computerization of public administration via IT gardens, and thanks to e-government plans, the digitization of information, and electronic access applications through a national fund that offers a nucleus capital to companies. There are also applications in education such as e-learning. It is a strategy to use technology in order to improve the learning process and ensure interactive access to distance learning topics.

With respect to trade and business applications, Jordan is working towards spreading electronic trade and business applications and providing high-quality electronic exchange. Work is also in progress for establishing a government financial management information system. It aims at preparing a unified and standard Information system in all ministries and government offices in an attempt to achieve better management of government financial resources in addition to offering suitable and reliable information for the purpose of supporting business activities and improving government decision making. Building this system is expected to finish in September 2010. As regards health care applications, private sector companies have tried to develop an electronic gate for health care services, particularly health insurance services. The government is currently trying to develop a national database for all services related to healthcare, medication and physicians.

## **XI. MILLENNIUM DEVELOPMENT GOALS**

### A. PROGRESS TOWARD ACHIEVING THE MDGs

Jordan is moving on the right track in applying most MDG and what was included in the national social and economical plans of programs that conform to the challenges facing Jordan in the fields of poverty, unemployment, education, health, and equality in a country with social diversity. The process of evaluating the indicators given in the MDG report revealed development of indicators from 1992 until 2007. Table 11 shows the most important MDG indicators.

TABLE 11 – THE MOST IMPORTANT MDG INDICATORS

Indicator	Year			Target 2015
	1992	2004	2007	
Percentage of families with individual income less than Dollar/day (%)	6.6	3.5	2.3*	3.3
Percentage of poverty gap (multiple cases x poverty depth) (%)	5.3	2.9	2.8*	--
Share of the poorer 20% of population in total consumption (%)	6.5	7.0	7.7*	10
Net rate of joining basic education (%)	91.4	95.0	96.0	100
Percentage of pupils who start class one and finish class five (%)	92.2	99.0	99.0	100
Percentage of education for age group 15-24 years (%)	97.4	98.8	99.0	100
Percentage of girls to boys in stages of basic and secondary education (%)	94.1	97.8	98.7	100
Percentage of educated females to males in the age group 15-24 (%)	88.5	92.5	90.4	100
Share of woman in paid work in the non-agricultural sector (%)	11.0	15.4	15.8	50
Mortality rate of children under five (per thousand)	39	25.0	21.0	13
Babies mortality rate (per thousand)	34	20.0	19.0	11.3
Percentage of children aged one year vaccinated against measles (%)	85	96.9	99.0	100
Percentage of children vaccinated against diphtheria, whooping cough, and tetanus (%)	92	98.0	97.0	100
Percentage of children vaccinated against Poliomyelitis (%)	92.	98.5	98.0	100
Percentage of children vaccinated against Tuberculosis (%)	15.8	41.1	91.0	--
Percentage of inhabitants connected to the water public network (%)	92.8	97.7	98.1	100
Percentage of houses connected to the sewage public network (%)	48	62.1	65.0	100

Source: Ministry of planning "report about the march of accomplishment and giving, Jan 2009".

\*These numbers are taken from a survey about families income and expenses for the year 2006.

#### B. USE OF ICT FOR ACHIEVING THE MDGS

The achieved progress in the field of ICT will open the door widely for Jordan to achieve the proclaimed goals, due to the influence of ICT it will be possible to make use of the ease in getting jobs done, under the influence of communication revolution it will be possible to make use also of open education markets. One of the most prominent uses of IT to achieve the millennium goals is by linking Jordanian hospitals with some American ones, thus allowing Jordanian doctors use the technology and benefit from the international medical expertise to achieve lower infant mortality rates for instance.

Moreover, as information becomes available to all by means of ICT, information on reproductive health and the fight against AIDS will improve.

There are several field projects contributing to the achievement of MDGs:

- The Ministry of Social Development and UNICEF are signing annual work plans to sustain annual early childhood work plans and protection projects implemented with the help of UNICEF, and with JD 461,000 worth of subsidies;
- A program on governance in the Arab world (POGAR) aims at reinforcing the role of women in the local community;
- The national agenda which overlaps with most MDGs;
- "Jordanian Knowledge Stations" project;
- "Save the Children" projects.

## **XII. BUILDING THE ICT SECTOR**

The ICT sector in Jordan is witnessing a notable progress on several levels. The most important are: electronic availability, increase in the rate of the spreads of offered services, increase in investment and labor in this sector. The MCIT has worked from the start on developing the sector via the rebound of legislative environment and issuing, and modifying policies and strategies, which will act on enhancing the competitiveness of the sector and creating an investment environment that encourages the flow of investments into the sector. The ICT sector is also considered one of the most active sectors in the kingdom where in 2007<sup>19</sup> it has a share of 12.2 per cent of the total national product.

The national strategy for the ICT sector for the years 2007-2011 was made through effective partnership between public and private sectors. This strategy had consisted of three main goals: increasing the rate of the spread of Internet users from 11 per cent to 50 per cent, increasing the volume of the sector from 1.5 to 3 billion dollars, and increasing labor in the sector from 17,000 to 35,000 employees.

In this context, the Ministry is working hard with the private sector to achieve these goals via a number of projects and initiatives on the national level such as the e-government program through which services are presented to government offices, citizens, and businessmen in a way which will satisfy their needs and conform to the progress witnessed in the kingdom. The project of fiber optic network too will allow about 1.5 million students to communicate with each other at the end of this year and other infrastructure projects in addition to pioneering projects for electronic services will enhance performance, improve public services, increase labor, and encourage investment.

### **A. ICT SECTOR COMPETITIVENESS**

The investment environment in the kingdom in the ICT sector has become advantageous and attractive. In an endeavor to make Jordan among top countries in Internet accessibility, the MICT is working continuously on developing partnership models between the public sector and local and international private sectors. The ICT sector in Jordan is witnessing a notable improvement in all fields and that is due to several factors contributing to this development. In addition to the investment environment and encouraging laws comes the availability of communication network and relatively skilled and specialized labor and the big support of the government, where a lot of companies invested in the field of making and developing software and they became main exporter to other countries in the region. Work also has been going on with investors to create a free industrial zone for the ICT sector in the kingdom, in addition to including the industry of communication centers in investment promotion laws and attracting the internationally approved training programs which are specialized in making communication centers necessary for building local abilities. In addition to operators' communication centers, two communication centers were opened in Amman to serve the Middle East region. The labor force factor emerges as a basic and effective one in this field. The majority of the society is concentrated in the age group of under 20. These young people are characterized by their relative freedom from fear of using technological solutions in all fields of life. Moreover, illiteracy rate in the Jordanian society is among the lowest in the Arab world. This gives Jordan the chance to lower the digital gap as in other advanced countries in this field.

### **B. SUPERVISING THE ICT SECTOR**

#### **1. *Ministry of Information and Communications Technology (MoICT)***

The Ministry is assigned the responsibility of the ICT and Post policies making, and representing the kingdom in international meetings. It is also responsible for making the necessary legislations. Besides the Ministry provides all aspects of support for the ICT initiatives on the local level, and develops awareness concerning the use of ICT by all population sectors and according to a comprehensive plan. The Ministry is

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<sup>19</sup> Telecommunications Regulatory Commission (TRC)

making more efforts for the ICT sector promotion. To encourage local and international investments, through encouraging partnerships between public and private sectors, the Ministry seeks to create new ICT investments and hence developing local industry. That is directed towards the creation of the society of knowledge economy and the preparation of Jordan to be among the most important places for making ICT in the area. The Ministry also works with its partners on finding legal, commercial, and regulatory environment capable of adopting the technology as a changing factor towards a wider social and economical development in Jordan.

## *2. Telecommunications Regulatory Commission (TRC)*

This commission is one of the oldest commissions in Jordan. It was established according to the communication law no.13 in 1995 and its amendments no. 8 2002. The Commission is responsible for organizing ICT and Post sectors according to a general policy prepared by the MICT. Supported by his majesty the king, the ICT sector played an effective role, where Jordan in the last few years witnessed a notable development in the process of freeing the market from the fixed communications sector and the great expansion in the market of mobile communication sector. The results were extremely positive. They only created new services for users, but they also, lead to prices going down and offered varied choices for users to match their purchasing abilities. The Commission aims at concentrating on creating and developing an open regulatory environment and sustaining it to enhance the competitiveness aiming at offering advanced communication services as a direct result of advanced competition in the kingdom.

## *3. National Information Technology Center*

The center works to increase the use of technological resources in government institutions. Its missions are related to all issues concerning purchasing, employing, and using technological resources in government institutions. To set the standard for that and take part in preparing budgets for all government technology resources including equipment, software, information, and human resources. The center also manages (.jo) and is considered the executive authority of the Ministry where it manages the e-government operations.<sup>20</sup>

### C. CURRENT STATUS OF THE ICT SECTOR

- The number of companies licensed to offer public communication services in the kingdom is 24 companies which obtained individual communication licenses, and 54 companies which obtained divisional communication licenses.
- At the end of 2008, the total number of those licensed in the Post sector is 20 working companies.
- Jordan is ranked 47 worldwide according to the competitiveness report of the communications sector for the year 2007 and it is ranked 44 worldwide according to the competitiveness report of the communication sector for the year 2008.
- The telecommunications company was privatized completely.
- For the year 2008, returns of the ICT sector are estimated at 1.9 billion Dinars.
- At the end of 2008, the no. of Internet users reached 26 per cent of the population.
- The no. of knowledge stations is 159 stations distributed all over the kingdom;
- 300 schools and 57 government institutions were connected to the fiber optics network. Work is in progress also to complete the connection of other schools by the end of 2011;
- Thirty six per cent of Jordanian families have computers and 16 per cent of those families are connected to the Internet;

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<sup>20</sup> Ministry of Information and Communications Technology (MoICT)

- The number of workers in ICT sector is 22,000 workers.

#### D. CHALLENGES FACING THE ICT SECTOR

- Regional and international competition in the ICT sector.
- Low competence of the trained human capabilities to face the needs of the ICT sector and the inability to keep the experts and the highly qualified;
- The high cost of the Internet network accessibility in relation to the income of Jordanian citizens;
- The low rate of Internet users as compared to other countries;
- The digital gap inconsistency between different parts of the kingdom;
- The mismatching between the high education output and the requirements of the Jordanian labor market;
- The culture of resisting the change that is taking place now in the Jordanian society.

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