

**RESPONSE OF THE HASHEMITE KINGDOM OF JORDAN**

**ON THE IMPLEMENTATION OF THE  
*RECOMMENDATION CONCERNING THE PROMOTION***

***AND***

***USE OF MULTILINGUALISM AND UNIVERSAL ACCESS TO CYBERSPACE***

**OCTOBER 2014**

## **INTRODUCTION**

The 2005 UNESCO General Conference decided by resolution 33C/Resolution 54 that Member States should submit every 4 years a report on the current state of the implementation of *the Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace*. This document is the report of the Hashemite Kingdom of Jordan. It should be noted that this is the third report submitted by the Jordanian government and while the activities and measures mentioned are not explicitly intended to give effect to the *Recommendation Concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace*, several of them contribute directly or indirectly to its implementation. Below there is a narrative on the enabling legal environment giving effect to the aforementioned recommendation.

## **DEVELOPMENT OF MULTILINGUAL CONTENT AND SYSTEM**

### **A. Content Regulation**

MOICT has completed the revision of the amendments to the *Electronic Transaction Law* of 2001, and it is now under revision with the parliament.

Information Systems Crime Law, this Law was approved by the Cabinet on August 4th, 2010 and later received royal ratification by HM King Abdullah II and was published in the official gazette on September 16th.

*Licensing, Accreditation and Regulation of Certification Authorities Bylaw*: the bylaw was prepared by the Ministry of Information and Communications technology in cooperation with the Telecommunications Regulatory Commission (TRC) to provide the appropriate legislative environment for licensing private sector companies for signature authentication.

*Jordan's National Information And Communications Technology Strategy (2013-2017)* Stimulates the creation and development of suitable Arabic language and relevant digital content that is accessible online throughout the Arabic speaking region by accelerating convergence between ICT and innovative audio visual services and Increasing awareness among potential developers and users.

Furthermore The *National Information Assurance and Cyber Security Strategy* (NIACSS) which was issued in 2012 aims to provide a strong foundation to secure the National IT Infrastructure and is not only confined to secure the Internet cyberspace. Its strategic objectives are :

1. Strengthen Jordan's National Security by Preventing Cyber Attacks to Critical Information Infrastructures.
2. Minimize Risks to Critical Information Infrastructures and Government Networks by Reducing Vulnerabilities.
3. Minimize Damage and Recovery Time from Cyber Attacks regardless of source or intent.
4. Enhance Jordan's Economy and improve National Prosperity by Increasing Confidence and Trust in Government, and by extension, Private Information Systems Security, thereby encouraging investment and creating opportunities for enhanced collaborative processes.

5. Increase Information Security Awareness and its importance to National Security through a National Information Security Awareness and Training Program.

## **B. ICT Security:**

Over the past few years, telecommunication regulators have been approached by market players expecting regulators to be increasingly involved in ICT security issues. Network and information security have always been important in telecom regulation, but the importance of security changes character with evolving technologies. Security related to current communication systems, including Internet, are broader than security issues when telephony was, the most dominant service. Current information and communication technologies raise a large range of questions because Internet is a more open environment than earlier communication systems; wireless communication also raises new security problems; and networks and services are increasingly international, constituting new security issues.

*Telecommunications Law:* the existing Telecommunications law is being revised to address within the context of existing laws and legislations major sector issues such as effective competition in line with global developments and changes. A draft of a new telecommunication law and amendments to existing legislations will be proposed to enable effective competition in the Telecom market and to enhance the enforcement of law upon operators. and it is now under revision with the Legislation and Opinion Bureau..

## **C. Copyrights legislation.**

*Jordan's Copyright law* No (22) of 1992 as revised in the Copyright law (8) in 2005 includes software provisions as follows:

1. Article 3 P.8 stipulates that all computer software is protected by Copyrights including “object code” and it can only begin when there is a physical expression of the work.
2. Article (8) the author has only the right to:
  - a. Put his/her name on all copies of the product that is distributed to the public.
  - b. Release his/her product to the public and determine the time and means for distribution.
  - c. Make changes to the product.
  - d. Defend any product against any attack that might jeopardize the reputation of the author
  - e. Withdraw the product from the market if good reasons require that and provided that the Author must compensate financially any person who purchased the right of his/her product exploitation.
3. Article (9) stipulates that the Author has the only right to financial benefit and exploitation of his/her product by any means he/she desires, unless he sold the rights to somebody else.

4. Article (30) stipulates that the exclusivity duration is up to (50) years after the death of the author starting from January of the year of death.
5. Article (45) stipulates that the author is protected even if the computer software was not registered at the Jordan National library.
6. Article (56) stipulates that Jordanians and non-Jordanians are equal under this law.

Jordan's *Labor Law* No (8) of 1996 as revised in Jordan's *Labor Law* No (26) for the year 2010 includes provisions as follow:

- i. Article (20) a) stipulates that; Insofar as the employee utilizes the experience and expertise of the business owner (employer), his/her equipment, raw materials, tools and information, the rights to an invention or intellectual property are identified in writing and in agreement between the two parties.
- ii. Article (20) b) stipulates that; The employee is automatically granted rights to an intellectual property upon the discovery of a new invention that falls outside the work scope of the employer unless a written agreement stating otherwise was issued to that effect . However, the employer is granted the priority to purchase the invention from the employer if he so desired.

#### **D. Maintaining Cultural Identity**

Reference to the Statement Of Government Policy 2012 On The Communications, Information Technology, And Postal Sectors the government adopted the policy of Encouraging Arabic Language E-Content. Issuance of the Government Policy on the Telecommunications and Information Technology Sectors (2012) intended to replace the earlier document (the 2007 Policy Statement) without detracting from or affecting the validity of any regulatory decisions or actions taken during the periods that the previous Policy Statements were in effect.

The 2012 Policy Statement addressed several issues related to the facilitation of access to networks and services. for instance in the Telecommunications domain the issues of mitigating the effects of dominance, reducing barriers to market entry, creating new market entry possibilities, maintaining a culture of regulatory compliance, enhancing Internet access, effective management of the radio frequency spectrum, and convergence of telecommunications, information technology and media were addressed. In addition some issues in the Information Technology domain such as promotion of IT research and development, encouraging Arabic language e-content, improving the business environment, stimulating supply and demand from business organisations and stimulating demand from individuals, improving expertise, facilitating e-commerce, safeguarding intellectual property rights, in addition to maintaining IT security.

## E. Encouraging Arabic Language E-Content

Article (90): In recognition of the importance of overcoming the linguistic digital divide and promoting cultural diversity and identity, the Government will take the following actions in order to facilitate the broadest possible use of the Internet:

- a) Through the NITC and in coordination with other relevant public and private sector stakeholders, both in the Kingdom and internationally, the Government will take appropriate steps to encourage and support the use of Arabic language domain names, e-mail addresses, and keyword look-up on the Internet, and to maintain global interoperability on the Internet as domain names expand to include Arabic characters.
- b) The Government will establish a 'Content Advisory Board' in order to encourage and stimulate the creation and development of suitable Arabic language and local digital content that is accessible online not only in the Kingdom but throughout the Arabic-speaking region. This board will consist of members from the public sector, the private sector's content industry (including authors, developers, aggregators, and publishers of Arabic language content), the academic sector, the financial sector (lending agencies and investment funds), and business accelerators, for example business incubators.

- 1) *Developing Arabic Search Engine: ARABI (عربي)* is the first global Arabic search engine that was developed by Jordanians in Jordan. [www.araby.com](http://www.araby.com)
- 2) *Digital library:* The National Jordanian Library for Arab Heritage Committee under the directives of the Arab League and under the auspices of the Ministry of Culture in Jordan is working toward filing, indexing, documenting and publishing a wide range of online Arabic content and thought across different time series in all fields of interest: the Scientific, the cultural, historic heritage, and literature. It aims to provide researchers in the Arab community with a comprehensive online information database on a wide range of subjects in the Arabic language to enhance the collaborative sharing of knowledge of Arabic content and protect Intellectual Copyright works as well as stimulate research among researchers via an online database: <http://www.dhakhira.jo>.
- 3) *Cultural and Recreational Portals:* Local companies emerged as vehicles for ICT growth to provide Arabic content that is recreational for local users. For example, Intel invested in two Jordanian firms the first of which is [www.Jeeran.com](http://www.Jeeran.com), it is a review site centered around places include Arabic, English French language versions of the Maghreb and purchasing Jordan's start-up Talasim.com, the region's first comedy community. The second is: Shoofee TV, an online aggregator.
  - Maktoub is now the most popular Arabic-language online portal with 16.5 million users. Yahoo's purchase of the portal was based on forecasts that spending on online advertisements in the MENA region would increase by up to 40% in 2010. [www.maktoub.com](http://www.maktoub.com)

- Time Warner with Jordanian animation company Rubicon to produce shows in Arabic for children.
- Ministry of Tourism Portal and the Jordan Tourism board: <http://www.visitjordan.com/>

## **FACILITATING ACCESS TO NETWORKS AND SERVICES**

During the last quadrennium (2011-2014), the ICT environment in the Hashemite Kingdom of Jordan witnessed significant developments in the facilitation of access to the networks deployed and services offered within this environment. These developments have built upon and enhanced the achievement highlighted in the previous quadrennium report (2007-2010).

### **Community Knowledge Stations. <http://www.ks.gov.jo>**

Digital divide is lack of computers, access and training. It also refers to the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regards to opportunities to access Information and Communication Technologies (ICT) and use of internet for wide variety of ICT activities. Income is an important determinant of PC penetration and access, as are gender level of education, geography, and ethnic background. Low-level income groups, rural communities and women are less likely to have access to ICT. An initiative to ensure that every Jordanian has access to Information and Communications Technology has begun; significantly. These efforts are targeted towards those communities who, under ordinary circumstances, would not be able to experience ICT easily. The majority of these communities reside in the rural and remote areas of Jordan, where access to ICT is difficult to obtain. The establishment Knowledge Station (KS) was launched in 2001. This initiative is intended to implement IT in local communities in remote areas in preparation for the E-government process. Number of KS around 192 are scattered over Jordan.

According to the *Statement of Government* (see reference number 1), chapter 3-3, articles 58-62:

**Article (58):** Government declares that fast, reliable, and affordable Internet access for all users is an important national goal and that Internet penetration, particularly broadband access, should be significantly increased, in all areas of Jordan, particularly in rural areas. Government further declares that such access should be made available using both wired and wireless technologies and using a variety of Internet access devices, particularly those which provide mobile access.

**Article (59):** Government will explore the use of tax relief and other incentives in order to encourage increased penetration of PCs and other Internet-capable devices.

**Article (60):** Government recognizes that Knowledge Stations may provide a first encounter with IT, as well as the best continuing affordable Internet access, for many people living in remote or deprived areas. The Government also recognizes the importance of restructuring and providing a unified framework for Knowledge Stations as well as reviewing and adapting, as appropriate, the locations and roles of Knowledge Stations in the light of increased Internet penetration and

availability, the general increase in IT awareness, as well as the changing needs and priorities of the target users.

**Article (61):** Government encourages the Commission to assist in achieving the goal of significantly increasing the level of Internet penetration, particularly broadband access, in all areas of Jordan by considering a variety of actions, including, but not limited to the following:

- Supporting the further deployment of new technologies and maximizing the benefit from the frequencies that will become available as a result of transition to digital broadcasting in order to increase and extend Internet access.
- Enforcing infrastructure and facilities sharing between operators, and encouraging sharing of facilities with public utilities (such as electricity providers), at reasonable prices and conditions, in order to reduce the costs of providing and extending Internet service.
- Ensuring the provision of physical network infrastructure access services such as Local Loop Unbundling and all forms of unbundled and shared access to local loops and sub loops at each feasible location, including access to associated facilities and services on a nondiscriminatory basis
- Continuing to ensure the introduction of wholesale broadband access services at each feasible location, including access to associated facilities and services, on a non-discriminatory basis.

**Article (62):** Government encourages the creation and expansion of local/regional Internet Exchange Points (IXPs) in order to improve the Kingdom's Internet infrastructure and performance, to reduce Internet transit costs and network latency, and to facilitate access to online content.

### **DEVELOPMENT OF PUBLIC DOMAIN CONTENT**

The Hashemite Kingdom of Jordan submitted an application on Dec 12, 2009 to the ICANN for permission to develop IDN ccTLD top level domain name in Arabic. This was approved on April 19, 2010 and ICANN and IANA have successfully implemented and tested the system on our servers. The service is now up and running for those utilizing the DNS servers. Many challenges were faced due to Arabic script which, unlike the English language, consists of many variables, prefixes and suffixes. Below, please find Jordan's up and running IDN ccTLD utilizing DNS servers.

- <http://موقع.مركز-تكنولوجيا-المعلومات-الوطني.الأردن/>
- <http://موقع.متمو.الأردن/>
- <http://موقع.وزارة-الاتصالات-وتكنولوجيا-المعلومات.الأردن/>
- <http://موقع.وزارة-الاتصالات.الأردن/>

**E-government Portal <http://www.jordan.gov.jo/wps/portal/MyArabicPortal>**

Today Citizens and Businesses have access to about 85 e-Services on the National Government Portal (Jordan.gov.jo). Many more online information and interactional services are offered on government official websites.

**National Broadband Network (NBN ) [http://www.moict.gov.jo/MoICT\\_NBN.aspx](http://www.moict.gov.jo/MoICT_NBN.aspx)**

The National Broadband Network is an open access network established by the government of Jordan to support the growth of traffic demand as the pace of technology diffusion accelerates. The NBN Program contributes to strengthening Jordan infrastructure for broadband networks and its direct effect on accelerating growth, social and economic development through the distribution of such endeavors all over the Kingdom and bridge the digital divide between cities and remote villages, in addition to increase the effectiveness, efficiency and performance of various economic sectors , and to fulfill the rapid need for extra capacity for data transfer , both at the level of everyday life « digital » or the vital economic areas including health , education , and government services in all parts of the Kingdom in an equal manner.

It has connected around 962 sites to the network which consist of ,678 public schools, 92 health center and hospitals, 174 government entity, 18 electrical companies' points From which 19 aggregate point and around 1647 Km fiber cables were laid (899 KM induct cables and 748 ADSS cables), which is now being deployed across the kingdom with a capacity of (100 Mbps) per site in a bid to provide a high speed broadband platform for Jordanian to improve both educational system and healthcare system as well as increase access to under-served areas, future plans are being studied to utilize the network to support the business sector in Jordan

**Department of the National Library**

The Right of Access to Information Law No. (47) For the year 2007 was issued in order to guarantee freedom of access to information and to ensure high level of transparency in providing information to applicants. According to the Law, any Jordanian can apply to get the information he/ she wants, regardless of his/ her place of residence.

The National Library has made available proactive disclosure of information in line with the Jordanian government trend towards open government and transparency.

For the Department of the National Library, information can be obtained through website where all the contents of the Library are available, including:

- Official Gazette
- Government Documents
- Private Documents
- His Majesty Speeches
- Photographs
- Bibliographic information for the books deposited in the Library

Taking into consideration that the Department had made 500.000 documents available on the website for researchers, this number of the documents increases on a daily basis.



## Open Source Software

Government is not the only service provider, but it possesses vast range of data pertaining to all aspects of citizens' lives. Some of the data are confidential and should not be shared without citizen's consent, but wide range of data does not fall under confidential classification and can be published or provided as platform independent downloadable and searchable databases that are built based on open standards. Since knowledge is power, Open data will serve as an invitation to all citizens to provide informed feedback to the government which will contribute to policy making and shaping service delivery design.

Open data, not only will enhance transparency, but also, it will offer entrepreneurs and Non-Government Organizations (NGOs) such as Unions, Agencies, and Associations to use this data to produce non-governmental services that cater to targeted segments of society especially vulnerable groups, citizens with disabilities and chronic diseases and the unemployed. Currently, the government of Jordan has tendered a new portal that includes a platform for hosting the open data for the public use.

**Cloud Computing:** The Government of Jordan recently has launched its first private cloud project which serves the government entities through providing the infrastructure as a service (IAAS) where any government entity can be provided with virtual servers (VM) in a very short time while in the past this process was taking months to purchase the required servers.

**National call center:** The NCC (06-5008080) is currently serving citizens and businesses by answering calls for 22 government agencies regarding over 200 services in addition to receiving citizens' complaints and suggestions against government services. In addition, as of today, 77 government Agencies have subscribed to National SMS Gateway push services.

**National Mobile gateway:** The National Mobile Gateway and SMS Gateway (94444) offer 40 Government e-Services that are offered by 22 government agencies

**Central Applications across government agencies:** Government Agencies have central applications to integrate with such as the Government Finance Management Information System (GFMIS) by Ministry of Finance, Human Resource Management Information System (HRMIS) being developed by the Civil Status Bureau and Inventory Management System that is developed by the General Supply Department

**Whole of Government Approach:** To improve government efficiency and enable each entity to focus on its core functionality rather than managing administrative and financial systems, government must work as a holistic government by organizing and standardizing processes across government entities around user needs. This will solve the current silos of public sector which create redundancy and fragmentation in government. This approach can also enable different entities to

reap the benefit of information sharing to facilitate service provision and reduce the burden on citizens in term of running around different agencies to authenticate documents and clearances.

Government is working to utilize the existing shared and composite services, integrate related vertical services and integrate government systems through Enterprise Service Bus (ESB) which was developed for the purpose of providing cross governmental services and currently 22 government services are connected to this middleware system.

**E-Participation and e-Inclusion:** The government are keeping up with latest communication and participation tools in order to build rapport with their beneficiary such as discussion forums, web logs, surveys, polls, and live chat. To reach the vast majority of Jordanians, the government are working to active participants on Facebook, Twitter, LinkedIn and other popular social media as they become available. Furthermore, government entities will have an opportunity to promote their services through social media and collect beneficiaries' feedback on how to improve and develop these services.

**Mobile Government:** The government is working dynamically to capitalize on the wide spread use of mobiles by offering services through this 100+ % accessible channel. Mobile coverage have reached all geographic locations in the Kingdom of Jordan through three main mobile service providers operated by the private sector and regulated by Telecommunication Regulatory Commission (TRC). Jordan Central Bank has implemented a mobile payment solution by end of 2013. Currently, many government entities are launching mobile applications for their services and the one of them was the inspection system prepared to have feedback regarding the inspection performed by government entities. The government of Jordan is working to launch the Mobile applications initiative that aims to provide the government services through potable smart machines. In this initiative startup companies will be encouraged to develop mobile applications and enter into national completion to select the wining applications. This initiative will be initiated in cooperation with national and international ICT companies.

**Deployment of new technologies: (4G+)** Zain Jordan, a unit of Kuwaiti-based Mobile Telecommunications Co., has acquired frequencies that enable it to provide 4G services in return for JD142 million, and the company also acquired other frequencies for JD50 million to enhance and expand its third generation network. The government had invited the country's three operators — Zain Jordan, Orange Jordan and Umniah — to submit requests to acquire frequencies to provide 4G services after it turned down bids from two companies. There will be no exclusivity for Zain Jordan. Any other operator can acquire frequencies to introduce the services at any time. A WiMax license was also granted to (3) ISPs to increase internet access, especially in under-served and remote communities.

## **INCENTIVES**

Jordan is providing several incentives to the private sector by means of tax exemptions and tax breaks for ICT companies establishing a commercial presence in Development Zones across the kingdom. Another is the establishment of a one stop shop for those seeking to establish investments in the country allowing for a 100% ownership of FDI in line with Jordan's liberalization policy and its commitments to the WTO. Incentives and exemptions granted to foreign and local investors according to the new Investment Promotion Law (2014):

1. Custom duties and Sales Tax exemptions on production inputs requirements and fixed assets.
2. Income Tax exemptions according to the area in which the project is located:
  - a. 50% income tax reduction on projects located in: Ma'an, Tafieleh, Karak, Mafraq, Ajloun and Jerash.
  - b. 30% income tax reduction on projects located in: Balqa and Madaba
3. Full ownership allowed for foreign investors in the sectors mentioned in the Investment law (currently software development and Call centers)
4. The non-Jordanian investor shall be entitled to remit abroad without delay, and in a convertible currency, the invested capital together with any returns and profits accrued, the proceeds of liquidation of the investments as well as the proceeds of the sale of all or part of the project.
5. Investment disputes between an investor of foreign capital and Jordanian governmental agencies shall be settled amicably. If no amicable settlement can be reached within a period not exceeding six months, either party may resort to litigation or may refer the dispute to the International Centre for the Settlement of Investment Disputes (ICSID)

Exemptions and incentives by the current law include **Software development** and **Call Centres** whereas the new law will include **Information Technology** projects and anything that lies underneath including communication services. Furthermore, Companies providing WiMAX services have been exempted from custom duties and charges on a range of wireless communication technologies going into infrastructure development and services production. They have also been exempted from annual frequency fees conditional upon lowering access costs and increasing internet coverage area as well as penetration rates in underserved areas. ICT exporting companies also have been exempted from income taxes to increase bilateral and multi-lateral export trade in ICT.

## **REAFFIRMING THE EQUITABLE BALANCE BETWEEN THE INTERESTS OF RIGHTS-HOLDERS AND THE PUBLIC INTEREST.**

Pursuant to Jordan's Copyright Law (22) of 1992 as amended by Law (9) in 1995, Copyrights are exclusive to the author in the exception of fair use such as the use of the product for purposes of criticism, comment, news, reporting, teaching, scholarships or research. The aforementioned uses are not an infringement of copyright. In general, and as things now stand, public interests weigh heavier in the balance.

The Hashemite Kingdom of Jordan is taking a progressive stance and concrete measures to elaborate and implement an Enterprise Innovation Policy and R&D in accordance with the Euro-Mediterranean Charter for Enterprise. This is demonstrated, among other measures, through the following:

- I. The R&D policy which sets out specific targets to be achieved, one of which is the establishment of the R&D fund.
- II. The contribution of \$10 Million dollars by HM King Abdullah II to the Science and Technology Youth Fund in the 2008 Conference for Nobel Laureates.
- III. The Royal Scientific Society (RSS) which has made significant contributions to the development of Science and Technological research by making advancements in nanotechnology, biotechnology, in addition to establishing the iPARK, Jordan's first IT incubator.
- IV. The El-Hassan Scientific City initiative of establishing an "Intellectual Property and Commercialization Center (IPCO)" in cooperation with the European Union will be staffed with commercialization professionals who are ready to help universities and research centers and industrial enterprises identify, evaluate and commercialize research outputs.
- V. Oasis 500 is Jordan's premier ICT Venture Capital Company. It provides prospective young entrepreneurs the opportunity to turn their business idea into a business reality by means of extending guidance and support, education Capital funds to open up and start their business.
- VI. Jordan is a member of the EUMEDCONNECT 2, a project that connects over (180) Mediterranean Universities to a network of about 3, 500 institutions in Europe to engage in collaborative research work on a range of issues as: health, environment, content and culture.

However, much is still required in the areas of strategizing, capacity-building and R&D legislation.

### **Final Comments**

Jordan's National Agenda of 2005 set out the guiding framework for national programs and strategies across a diverse range of sectors, one of which is the information technology and telecommunication sector services. The National Agenda subcommittee on ICT provided the foundation and direction for the regulatory environment and ICT policy and subsequent strategies in line with the recommendations of the WSIS.

A catalyst in the implementation of the decisions taken at the WSIS is, however, the National ICT Strategy 2013-2017, which has been prepared in full partnership with the private sector, covers the issue of ICT diffusion as a necessary requirement for economic growth. The strategy explicitly calls for developing intersections between the ICT sector and competitive economic sectors like pharmaceuticals, Architecture and Engineering and Clean Technology to identify issues which can be effectively addressed by ICT to improve the competitiveness of the individual sectors. It is through the effective intersection of ICT and the individual sectors that diffusion will be facilitated. Diffusion will be facilitated because developed ICT products and services will have obvious utility to the sectors.

The purpose of the strategy is to provide Jordan with a defined strategy for addressing areas of specific weakness and opportunity for the purpose of improving the role of ICT in Jordan's economic development and job creation. Robust economic development and job creation must be linked with exports. The strategy is designed to be aligned with the Government of Jordan's Policy in the Telecommunications and IT Sectors in its recommendations.

### **THE MAIN ISSUES AND NEW CHALLENGES THAT NEED TO BE FURTHER ADDRESSED FOR PROMOTING MULTILINGUALISM AND UNIVERSAL ACCESS TO CYBERSPACE**

Jordan's primary challenge is to achieve universal service/access to cyberspace. This poses significant constraints due to the lack of capital investment required to expand ICT into rural and under-served areas. However, the government is exploring innovative ways to finance and manage ICT-based projects that foster and promote the development of Public-Private Partnerships (PPP) to achieve universal access, build National Broadband Network (NBN), and provide e-services. Another challenge is the slow uptake of ICT among Jordanian enterprises, which is a matter of concern that requires further awareness-raising on the vital importance of utilizing ICT for enterprise development and efficiency.

At issue is the misconceived fear and perception that the internet is an unsafe environment, which limits uptake of ICT, with the exception of mobile phones in which penetration rates stand at 142% in Jordan, and internet usage by some segments of society who are living in remote areas. While Jordan's literacy rate is high, rising unemployment rates together with the high cost of new technologies in addition to the lack of practical experience and exposure to disruptive technologies is limiting people from spanning their boundaries and accessing the rich and numerous resources available on the internet. Also, the paucity of informative Arabic content in critical fields of interest as healthcare, management and sciences is another important barrier that needs to be addressed.

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