

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

December 2018

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INTRODUCTION

This is the fourth report submitted by the Hashemite Kingdom of Jordan in response to the resolution 33C/Resolution 54 of the 2005 UNESCO General Conference, which decided that all member states should submit every four 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*. It should be noted that this report contains several activities explicitly intended to give effect to the *Recommendation Concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace*, in addition to other enabling activities that contribute directly or indirectly to its implementation, such as the enabling legal environment giving effect to the aforementioned recommendation.

Multilingualism in this report covers aspects related not only to plain languages, but also covers the e-literacy, visual and other special methods of communication for disabled people, Linguistic Minorities and use of dialects online, reliable translations, cultural change and respecting multilingualism.

1. DEVELOPMENT OF MULTILINGUAL CONTENT AND SYSTEM

Alleviating language barriers:

In regards to the content regulation in cyberspace as an enabling environment, and for alleviating language barriers by the government sector, the Ministry of Information and Communications Technology MoICT has accomplished significant developments to advance a legal framework related to ICT sector in Jordan including: Cybercrime Law number (27) for the year 2015¹, e-Transactions Law number (15) for the year 2015², The Licensing and Accreditation and Regulation of Certification Authorities Bylaw³ issued in 2018. Moreover, MoICT is working on drafting the Personal Data Protection Law -that besides protecting personal data contents in cyberspace- it calls for respecting multilingualism by requesting the consent in an intelligible and easily accessible form, using clear and plain language. The Ministry has also completed the National Cyber Security Strategy 2018-2023 with a clear vision that calls for “confidence and security in an online world”. The strategy has been approved by the Council of Ministers in December 2018 and due for translation to Arabic language to ensure that the benefit is well spread across all stakeholders in Jordan being individuals or businesses or other sectors. The Strategy also aims at securing the national IT infrastructure and is not only confined to secure the Internet cyberspace.

¹ <http://moict.gov.jo/uploads/Policies-and-Strategies-Directorate/Legislation/Laws/Electronic-crime-Law.pdf>

² <http://moict.gov.jo/uploads/Policies-and-Strategies-Directorate/Legislation/Laws/E-Transaction-Law.pdf>

³ <http://trc.gov.jo/Pages/viewpage.aspx?pageID=1152>

MoICT in cooperation with private sector have worked on a new initiative “REACH 2025⁴,” which is a new initiative launched in November 2016, it seeks to realize a digital economy that empowers people, sectors and businesses to raise productivity and ensure growth and prosperity, creating a highly attractive business destination for investments and international partnerships creating and integrating solutions for content platforms for the Arab market. REACH 2025 designates the “content” as one key enabler for digital economy as very little content is actually available in Arabic language, and the region still has a large potential for growth in e-commerce, which is considered as a key enabler as well in Jordan, besides other key enablers including gaming and professional services. MoICT is also drafting the new Statement of Government Policy for the ICT and Postal Sectors, from which government strategic directions are extracted in this report for all aspects related to implementing the 2003 recommendations. The policy is expected to be approved by the prime ministry by the end of this year, accordingly, will be published on the website of MoICT (www.moict.gov.jo).

In regards to promoting the use of multilingualism in the education system in Jordan, English language is taught compulsorily at every educational level (primary, secondary and higher level) that came in result through the English Proficiency Indicator and the World Economic Forum WEF 2016, where 46% of Jordanians speak English as a second language. Additionally, Ministry of Education is in the process of developing educational management system EMIS in many languages, and with many languages user interface⁵. Additional enabling practices for encouraging multilingualism and alleviating language barriers are stated below:

- Ministry of Culture MoC and MoE, have signed different regional and international agreements and memorandums of understanding with various Arab and foreign countries for cultural exchange, such agreements allows international people especially students to not only build personal relationships, but also to learn about the culture of Jordan in addition to the Arabic language from a local perspective.
- Through the Ministry of Higher Education MoHE, universities such as the- Hashemite University - and Jordan Academy of Arabic language⁶, in corporation with books’ authors and research centers, have executed a translation plan for university references, in addition to adopting students initiatives on Arabization and e-discussions take place in cyberspace.
- German Jordan University GJU is currently working on developing an electronic system for e-learning and students registration system in Arabic, English and German languages. For the past few years, players in the ICT sector in Jordan have implemented several measures to alleviate language barriers. Jordan Open Source Association for example, an NGO registered in the Ministry of Information & Communications Technology,

⁴ <http://www.reach2025.net/>

⁵ www.emis.moe.gov.jo

⁶ <https://www.majma.org.jo/>

concerns open content, open government, open source hardware & software, and open web.

One pillar of the multilingualism topics considered in this report is the technical terminology and localization problems, that often targets technology professionals and ICT students in Jordan. JOSA usually publishes contents in English as the use technical terminology is often limited to the English language, colloquially referred as programming jargon, this usually generates a lexicon that mixes between the two languages.

Linguistic minorities and use of dialects online is another major pillar in multilingualism topics as well. A neutral stance in regards of using of Arabic dialects within its spoken activities, these mainly included the South Levantine dialect (ISO code: ajp) but other dialects as well, i.e. Levantine Bedawi, Najdi and North Mesopotamian. No preferences were given in regards to these spoken dialects, however as JOSA's communication policy, written material in Arabic are provided solely in Standard Arabic (MSA, ISO code: arb). A 2018 initiative from JOSA is planning to document the use, and the cultural context of these linguistic minorities from Jordan online, including; Adyghe and Kabardian, Armenian, Chechen and Domari.

Capacity building for the production of local and indigenous content

In regards to the capacity building for the production of local and indigenous content, there is a wide number of practices among public and private sector.

Health Sector:

- Hakeem Program⁷ is an initiative that automates the public healthcare sector in Jordan, it aims at facilitating efficient, high-quality healthcare in the Kingdom through the nationwide implementation of an Electronic Health Record solution (EHS)⁸. Using Hakeem, physicians, pharmacists, medical technologists and other clinicians are able to electronically access medical records of patients within participating health facilities in Jordan simply by entering the patient's national ID number. EHS also has Arabized and customized the VistA program (the adopted Veterans Health Information Systems and Technology Architecture (VistA)) of Hakeem to match the needs of the health sector to be used both in English and Arabic. EHS through "Hakeem Academy" also is developing the national capacities in the field of health information systems, the academy trains medical persons on using Hakeem Program. The Medical Electronic Library "Elm" is one of EHS programs. It provides a variety of trusted medical references and resources, available for all clinicians in Jordan.

⁷ <https://ehs.com.jo/hakeem-program>

⁸ <https://ehs.com.jo/>

Educational Sector:

- Edraak⁹, is a massive open online course (Massive Open Online Course - MOOC) platform, that is an initiative of the Queen Rania Foundation (QRF). QRF is determined to ensure that the Arab world is at the forefront of educational innovation. Edraak provides free high quality online courses in different subjects, and open educational resources in Arabic for school-aged learners and teachers, in addition to another platform version for learners in a variety of fields. A major role is played by the creator of visual content creators on YouTube and channel owners from Jordan, who contributed directly and indirectly in promoting multilingualism as well as the culture of Jordan.
- Prince Sumayya University for Technology (PSUT) is working on enhancing Arab academic and scientific content (through Medical Science Content Project), the project is being implemented by a scientific research team. Similarly, most of the Jordanian universities hold regular seminars, Arabic language courses, meetings and awareness-raising workshops with foreign students. Such as PUST and Al Tafila Technical University and Faculty of Educational Science and Arts/ UNRWA, who allocate specialized servers to handle the e-content in addition to employing staff for processing content.

Youth, Innovation and local community:

- King Abdullah Award for Youth Innovation and Achievement¹⁰ - through King Abdullah Fund for Development- provides supportive platform for youth innovative ideas and projects in addition to the cooperation with universities in supporting the creation of content in the cyberspace.
- Knowledge Stations¹¹ is a national program initiated by His Majesty King Abdullah II managed and operated by the Ministry of Information & Communications Technology, it aims to bring about a lasting comprehensive sustainable development for community members through bridging the digital divide between different communities. It provides courses for local community in programming web design, mobile software and English language.

The ICT Sector:

- Int@j¹² (an NGO operating in the Information & Communication Technology sector) registered in the Ministry of Information & Communications Technology with more than 600 members, and in cooperation with MoICT has originated the (e-Content Pioneers) initiative to support the e-content in cooperation with the Jordanian universities.

⁹ <https://www.edraak.org/en/>

¹⁰ <http://www.kaayia.jo/>

¹¹ <http://www.ks.gov.jo/>

¹² <http://intaj.net/>

- JOSA has accomplished a number of actions in this regards that includes providing multiple training and educational activities that aimed to raise the technical skills needed for the creation of Arabic open content on the Internet, especially on Wikipedia and other Wiki-related platforms, conducting several technical sessions, through its Data Science initiative, targeting the Jordanian technical community for the study and implementation of language technologies specific to Arabic, including Arabic information retrieval, processing of Arabic written language (NLP), Arabic OCR, text segmentation, lexical and syntactic analysis. Through its Open Jordan program, JOSA also organized informative sessions to encourage the adoption of Open Content licenses in the Arab World and Jordan, focusing on the creation and reuse (remix) of publicly available creative content online, allowing citizens to freely re-publish, modify and translate the content to Arabic or adapting it to the local context.

Policies of language survival and promotion in cyberspace,

According to the General Policy for the Information & Communications Technology and Postal Sectors, 2018 (General Policy) developed by MoICT in both languages English and Arabic, net neutrality principle, currently employed in Jordan, shall continue to be employed in the future. Jordanian start-up and innovative companies will be able to offer digital economy products & services, the telecommunications services which they use need to be offered in accordance with the net neutrality principle: telecommunications service providers treat all data on the Internet equally, and do not discriminate or charge differently by user, content, website, platform, application, type of attached equipment, or method of communication.

In addition, and according to the General Policy, Government will ensure that law and legislations covering activities of government and of all sectors of the economy accommodates changes arising from the use of IT technologies and applications. In so doing, each ministry will assess the law for which it has responsibility to determine whether the intent of the law and its effectiveness are maintained as the use of IT is extended. Such assessment will need to consider amongst other things, digital content, data privacy, data protection, consumer protection, law associated with third party liabilities, and product liability.

Events on promoting the use of multilingualism and universal access to cyber space.

- MoC arranges frequent cultural projects and festivals all over governorates of the Kingdom that reduces the gaps and the dissemination of culture and dialects throughout the Kingdom.
- MoE published statistical reports for researchers both in English and Arabic languages.¹³
- Telecom regulatory Commission TRC has set up a dedicated team to promote access to ICT services for disabled peoples who will work on implementing a number of initiatives in this regards¹⁴.

¹³ http://www.moe.gov.jo/sites/default/files/ltqryr_lhsyy2016-2017_1.pdf

- Universities also organized a number of events that contributed to the promotion of multilingualism such as the Medical content initiative¹⁵ initiated by a student from the Hashemite University. The initiative aims at enhancing the e-content and has been awarded by the Jordan Academy for Arabic language. The initiative has been adopted by the Hashemite university and transformed into a students' club that is dedicated to e-content. Similar initiatives have been originated such as the initiative that aims at enhancing the Arabic e-content of Mawdoo3 Encyclopedia¹⁶. And Bel-Arabi Initiative has been originated by the University of Jordan Students, and aims at enriching the Arabic e-content¹⁷. The GJU also is participating in two European projects for open education, in which their activities aim at enhancing multilingualism.
- JOSA partnered with the Arabic Wikipedia Community to design and implement the creation of 100,000 articles in Arabic Automated Algorithms (BOTs) to allow the local editors' community to enrich these articles. In addition to a partnership with the PSUT to hold the first Arabic ChatBot Bootcamp, in which students from ICT departments all over Jordan are given the technical know-how to develop -though language technologies- intelligent ChatBot applications to 'speak' in Arabic in an automated manner. JOSA also participated in the organization of the WikiArabia conference in Amman held in March 2016. JOSA has participated as a team member of the "WikiGap Edit-a-thon"; an event in which Jordanian contributors were trained to increase the number of articles related to Jordanian women on the Arabic version of Wikipedia. In 2015, JOSA partnered with the Aramram; first Arabic Web TV, to produce and publish a tech program to provide informative content in Arabic on innovative technologies, such as big data, cryptocurrencies, IoT, etc.

2. FACILITATING ACCESS TO NETWORKS AND SERVICES

Support universal Access

As mentioned in General Policy for the Information & Communications Technology and Postal Sectors, 2018, government –through MoICT- will review the Universal Services Policy that will redefine the universal service obligations according to the new trends.

In regards to the service universality, according to the same government policy, government aims to make digitally provided services the primary means of interacting with beneficiaries. To do this, Government will make its services universally smartly available from anywhere, at any time for all beneficiaries. A full digitization program is employed by the Jordanian Government and is fully addressed in the General Policy in the fourth section for more details.

¹⁴ <http://trc.gov.jo/Pages/viewpage.aspx?pageID=1142>

¹⁵ <https://outreachdashboard.wmflabs.org/courses/>

¹⁶ <https://mawdoo3.com/>

¹⁷ <http://www.bel-arabi.com/>

Government will set direction and priorities, and through the Commission manage scarce resources and regulate appropriately. Government will support the provision of services in underserved and unserved areas. Infrastructure provision and service delivery will generally be determined by market forces and subject to appropriate regulation.

MOICT and the commission have made several efforts over the last years to strengthen competition in the market and to further consumer benefits in a number of ways. The government have objectives regarding access to Internet. The government represented by MOICT is conducting a household survey on a yearly basis, tackling internet users penetration, mobile users penetration ,smart device users and many other KPI which are related to internet access for house hold users. In 2016 the percentage of internet of house hold users has reached to 55.6%.The percentage of Jordanian families that owns smart phone in 2016 has reached 82.8%.The percentage of Jordanian families that owns a mobile phone has reached 98.3% in 2016.All of those figures and numbers can be found in the ICT household surveys¹⁸.

Affordable and accessible telecom cost

According to the General Policy for the Information & Communications Technology and Postal Sectors, 2018, Government recognizes that the state of development of telecommunications in any country is a major contributor to that country's competitiveness. More specifically, an efficient, capable and resilient national telecommunications network provides the essential foundation for the development of Jordan's digital economy and of its evolving government services. Furthermore, for the digital economy to develop in Jordan, the telecommunications services offered to the users in the Kingdom need to be affordable, universally available, secure and reliable. Affordability and universal availability of such services will ensure that all Jordanians are included in the digital economy and that the full range of e-government applications can be used.

According to the policy, Government requires that telecommunications licensees are able to implement telecommunications networks at a reasonable cost across the Kingdom to meet the needs of the digital economy for broadband telecommunications services. A number of factors affect operators' ability to do so. These factors include the availability of rights of way, the possibility of sharing infrastructure and thereby spreading the costs over several operators, and the availability of spectrum at economically justifiable prices. Government therefore requires the following.

In addition, for Jordanian start-up and innovative companies to be able to offer digital economy products & services, the telecommunications services which they use need to be offered in accordance with the net neutrality principle: telecommunications service providers treat all data

¹⁸ <http://moict.gov.jo/uploads/Policies-and-Strategies-Directorate/Surveys/Households/ICT-Households-Survey-Report-2016.pdf>

on the Internet equally, and do not discriminate or charge differently by user, content, website, platform, application, type of attached equipment, or method of communication.

In Jordan, telecommunications networks and services are provided by licensed commercial telecommunication operators and service providers in a regulated market. In light of this, the Policy aims to encourage these licensees to deploy the infrastructure and to develop the services needed to support the vision for delivering the digital economy that the Policy envisages.

Facilitates community access and support cooperation on ICT among public service institution.

Government Infrastructure: National Broadband Network NBN through the Ministry of Information and Communications Technology MoICT has been established in 2003 to connect government entities in one secure network. The implementation of the Universities' education and scientific research network was completed in 2005, linking eight public universities in Jordan. Moreover, the implementation of the schools network started, which aims to link 3600 educational sites including public schools, community colleges and knowledge stations Kingdom wide. To maximize the benefit of this network to develop and modernize the public sector, the scope of the network has been expanded to include all Governmental and Healthcare entities. 977 sites have been connected to date: 675 Schools, and 204 Governmental entities and 98 Healthcare entities, distributed over different geographical areas.

Health Sector: EHS is applying the biggest e-transformation journey in the health sector via Hakeem program, through the implementation of the national health plan 2018-2022.

Educational Sector: MoE is leading the e-transformation through the ICT strategy and e-transformation plan. MoE also established the ERFKE I & II (Education Reform for Knowledge Economy) and has created a special unit to execute development projects. It also established a division for the initiatives specialized in IT Projects in Queen Rania Center, through which more than 40 learning resource center across the country for community to access communication and resources that MoE supports. MOE also is a part of the Government Service Bus GSB that MOICT established for exchanging data between different government entities.

University students also are supported to access to the cyberspace via printed guidelines that also describes the platforms of blended learning systems (or mixed education) that allows student to attend classes and meet instructors while staying at home such as systems adopted by the Hashemite university. In addition to the students e-registration systems and mobile apps mentioned above that facilitate accessibility to students' services. Universities also adopted rural schools and charity associations by donating a number of computers and holding ICT capacity building programs.

the GJU has established recently an infrastructure that supports open source via the European project OSSCOM, through which the local community will be enabled to access the cyberspace.

Jordan Government recognizes that Telecommunication services must continue to operate in the face of emergency, unrest or disaster. Hence Government requires the protection of Public Telecommunications Networks and Services in accordance with public policy.

Jordan Government also recognizes that the development of the digital economy is reliant on the transformation of domestic industries that serve both Jordan and international markets in a highly competitive world through the widespread use of IT. Government, through the Policy, is supporting this digital transformation. As part of this transformation, Government is promoting “Smart” digital zones where public utilities and services are delivered using smart technologies.

Many countries are in the process of establishing “smart cities”. A smart city is one where a large number of services are provided through digital channels and where IT is deployed to manage and operate resources and services. Smart city services cover, inter alia, utilities, transport, local government services, environmental services, health, financial and education services. In Jordan, these services are provided by many different entities, some by government, some by municipality, and some by private companies, and it is therefore difficult to plan for a smart city environment in a particular place. Nevertheless, Government aims to establish “Smart” digital zones in cities across Jordan where utilities, transportation, financial and other services are operated and managed using advanced IT to provide an efficient and well managed city environment.

Jordan government through MOICT will implement short listed smart zones in accordance with budgetary and other constraints in partnership with utilities, municipalities and the private sector. Government through the Ministry of Information & Communication Technology will monitor the implementation and subsequent performance of the smart zones to determine the economic and social impact of the investment made.

Government through the Ministry of Labor MoL and concerned municipalities will facilitate and promote the opportunity for IT workers, particularly women, to work from their homes as employees. Women may be lost from employment once they become mothers, and their skills are often lost from the economy thereafter. Women comprise a relatively high proportion of employees in the IT sector, therefore their loss is particularly noticeable there.

Concessionary rates for internet access in public service institutions.

Government is committed to the exemptions adopted in 2016 to stimulate the IT sector, attract new investments and increase the number of jobs available in Jordan. One of the major roles played by TRC is to monitor the quality of services provided by the operators. Moreover, for disabled people, TRC encouraging internet companies on configuring their websites to enable disabled peoples to access websites, such configurations considers audio and visual assistance tools.

Refer to 2. Affordable and accessible telecom cost paragraph

DEVELOPMENT OF PUBLIC CONTENT AND SYSTEM

Public and government held records.

In order to facilitate access to open government data, increase transparency and confidence in government performance, and encourage investment, innovation and job creation, MoICT is playing a central role to implement the open government data policy approved by the Council of Ministers on 1/8/2017.

Identifying and promoting repositories of information and knowledge in the public domain and making them accessible by all.

The Ministry is currently working on the implementation of the Open Data Policy to allow access to government data open to the public, where the Joint Committee for Open Data was formed to include representatives from public & private sector, academia and civil society organizations, for the following purpose:

- Propose an executive plan for the policy.
- Propose mechanisms and standards for the dissemination of government data by government agencies.
- Propose and coordinate initiatives to encourage the use of open data by individuals, the private sector and civil society institutions.

The Access to Information Law number 47 for the year 2007 aims to facilitate the public's access to official documents, granting access to almost all types of information except those classified as “secret”, as per legislation on protecting state documents and secrets. It seeks to draw the best practices necessary to provide information to visitors of public departments, and to help institutionalize mechanisms of classifying documents.

Other practices on repositories of information and knowledge in the public domain in the health sector is that EHS company has agreed -based on the abovementioned open data policy- to manage the database of Hakeem that contains medical records for patients letting these records open for researchers and decision makers in Jordan.

In 2018, the Ministry of Information and Communications Technology (MoICT) has signed a Memorandum of Understanding (MoU) with Jordan Open Source Association to cooperate in several fields that positively affects the development of public domain content, including:

1. The creation and adoption of an open license, (e.g. Open Government License - OGL) to allow free access and reuse of public data and information without legal constraints.

2. The identification and adoption of Open Standards in the public administration, including web accessibility standards that will allow public websites of official authorities and public institutions to be better accessible by persons with disabilities, like W3C's WCAG, and standards that apply to multilingualism, such as character sets, IDNs and language tags, and other open standards primarily affecting the Arabic language, inter alia, Unicode and IETF's RFCs.
3. Continuing the efforts for the creation of an open data platform and disseminating public content that is available in the form of publicly accessible datasets, bringing more transparency, efficiency and accountability in the public sector.

And to allow the access to knowledge and services in the public domain by all, government – through MoICT and other public and private entities- is implementing the law number (20) for the year 2017. The Law introduces a robust legislation offering rights and protection to disabled persons in education, healthcare, workplace and access to ICT services, amongst other things. The Law also emphasizes the importance of raising public awareness of the rights of the disabled. MoICT -in response to the commitments of the abovementioned law- is working providing assisting techniques for disabled peoples to access e-government services online¹⁹.

ICT literacy.

Government intends that the skills necessary for the IT sector and for the wider digital economy are readily available. Jordanian universities have for many years provided a large number of graduates in IT and IT-related disciplines. There has been some criticism of business and communication skills, including English language skills, amongst these graduates. Also, their technical training has not always met business requirements. It is important that universities and businesses keep current in their theoretical knowledge and practical skills, and that new employees gain the business skills necessary for them to progress and take on new responsibilities.

Jordan government, through the Ministry of Information & Communication Technology, is promoting the idea of knowledge stations and post offices to provide training and support for e-business and effective use of IT by micro and small businesses.

Government will through MoICT and Jordan Post Company (JPC), implement Citizen Service Centers within Knowledge Stations and post offices. Citizen Service Centers will be in locations where beneficiaries can access digital government services with support from staff in the Centre. The staff will have the training necessary to provide support and will be able to call upon second line support within the relevant Skill Centre should it be necessary to complete a transaction.

¹⁹ www.jordan.gov.jo

Some beneficiaries may need support in using the e-services through their own devices. The staff in the Citizen Service Centers will in addition provide support and training for individuals and businesses in the use of particular e-services.

E-Literacy is considered one of the multilingualism topics discussed in the report, and as a practical example content is generated in a readability/simplicity level that can be easily understandable by a non-technical audience i.e. media professionals, journalists or lawyers.

E-literacy may extend to educate clinicians on ICT such as the training programs provided by Hakeem. Also for educators to enhance their ICT skills like the ICDL courses provided by MoE. Students also are getting their ICT learning through a special curricula from the basics grades.

Open access solutions and web accessibility of public domain information.

Jordan Government is keen to support academic and commercial research through the publication of disaggregated datasets. Such datasets can be used for medical research and research in many other fields to the benefit of everyone. Nevertheless, Government understands the need to maintain the privacy of the subjects of such data. Such data cannot be released as open government data, since combinations of such datasets may enable individual subjects to be identified. Therefore, Government will provide anonymized datasets (datasets with all identifying information about legal persons removed) to selected trusted public sector organizations and private businesses within a privacy policy that maintains anonymity of the data taking account of other such datasets that have been released by Government and datasets available from other sources.

Government requires that Government entities will continue to disclose, publish and update aggregated data subject to availability, national security and privacy constraints and in accordance with the Open Government Data Policy. The same requirement has also been emphasized in the General Policy for the Information & Communications Technology and Postal Sectors, 2018.

For the first time in Jordan, domain names are ending in the upper Arab (Jordan) and the Latin upper domains (.Jo). Entities were given the opportunity to register and activate Internet Organization for Assigned Names and Numbers (ICANN) In the university, following the best international practices and standards, with some modifications to suit the national regulations in Jordan.

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

Copyright

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.

However, additional copyright measures are adopted. For example, MoE is adopting the Open Education Resource Platforms to access and publish information under the international OER copyrights terms and conditions.

Technical wise, a large engagement in the promotion of Open Access and copyright reform in Jordan has been noticed during the past few years through workshop, campaigns and public activities that promote the availability and use of alternative intellectual property arrangements such as Creative Commons licenses. Practical actions include:

- The plan to create an open license for governmental and public data, based on a Memorandum of Understanding MoU signed with the Ministry of ICT in 2018.
- Participation in the Arabic translation and porting of creative commons licenses. conducted several public sessions, including one at the IGF and another at the Arab IGF, to encourage that the legal frameworks for intellectual property protection, in Jordan and in the Arab World, take into account the interests of information users in ways that promote innovation and creativity are among the activities performed by the NGO Jordan Open Source Association.

Technological innovation:

REACH 2025 has key relevance to the economic development of Jordan. The vision and action plan focuses the role of government as a policy maker, regulator and potential innovation platform/adopter. According to this vision, in 2025, Jordan will be the platform for digital innovation by being an innovative-creating center for generation solutions driven by strong partnerships between champions and global IT companies. Jordan will also drive globally competitive and innovative digital solutions in six key sectors: health, education, clean tech, financial sector, transport, communication and security, in which Jordan will support the transformation towards being a platform for innovation in international partnerships. According to REACH 2025 vision, the government is working on transforming the public sector to be “digital by default” by 2020 by developing open data policy, changing models of implementation based on public-private partnerships and leading and accelerating digital innovation across government.

Additional practices for actions that aim at developing technological innovation are the following:

- In the educational sector, open EMIS is an example of using the open source software that MoE is applying in all schools and developed under UNESCO fund²⁰.
- For the government system and services level, government incubator under the Ministry of Public Service Development MOPSD and is responsible to study all innovative ideas and solutions proposed by government officials in all areas that support the government systems and services. Innovative ideas are awarded and implemented.
- VistA Program, adopted for Hakeem in the health sector, is an open source software that came originally to digitize the health sector in Jordan. It is has been developed over the twenty years customized after that to the health systems in Jordan. As an open source system, Hakeem is being developed continually by EHS company in cooperation with VistA

²⁰ <https://emis.moe.gov.jo>

developers. Hakeem Academy (one of EHS initiatives) released a competition among university students to encourage them to innovate in the e-health sector.

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- The development of Free and Open Source Software (FOSS) could be considered JOSA's raison d'être, and the majority of JOSA's activities primarily target that. Generally, JOSA is actively conducting these actions in regards to FOSS:
 - Organizing technical sessions, workshop and training courses to raise the Open Source technical skillset in Jordan.
 - Promoting the adoption of Open Source software in the private sector, civil society and public administration.
 - Encouraging the use of Open Source licenses for locally developed software.
 - Managing code repositories for Jordanian Open Source software, and promoting them in the local and global context.
 - Promoting and facilitating the teaching of Open Source technologies in Jordanian universities.
 - Building technical communities around Open Source technologies to facilitate their use and development at the local level.
 - Fostering collaboration between different companies and entities to create and adapt Open Source projects.

5. FINAL COMMENTS

Promoting Multilingualism in cyberspace; main issues, new challenges and actions.

In today's circumstances of the era of digitizing the economy, and in regards to the enabling environment of promoting multilingualism ad content in cyber space, it is important to work together on an international level on regulating the cyber Space and shared economy's applications to ensure a free, save and open internet which furthers innovation, freedom and participation. It is important to ensure that the use of the internet is secure and to regain users' trust in ICT and the internet by ensuring privacy and human rights and values are upheld in using the internet. Therefore, it is important to develop the necessary technologies, but also to ensure that internet governance takes into account these values. Therefore, in addition to the existing legislations that Jordan has such as Telecom Law, Law on right to access information, Open Government Data Policy, we are working on – as mentioned previously - developing the Personal Data Protection law and in the final stage of launching the second Cyber Security Strategy 2018-2013.