Ministry OF Digital Economy and Entrepreneurship
Youth Technology and Jobs Project
Terms of reference (TOR)

COMPREHENSIVE HEALTH SECTOR ASSESSMENT
AND
DEVELOPMENT OF NATIONAL HEALTH SECTOR DIGITALIZATION ROADAMAP FOR
JORDAN
JO-MODEE-331445-CS-QCBS

Background

The Ministry of Digital Economy and Entrepreneurship (MODEE) role is to strengthen the digital economy and support the enabling pillars for this transformation, including Digital Entrepreneurship, Digital Skills, Digital Financial Services, Digital Infrastructure, and Digital Platforms and will put plans in cooperation with other government institutions to overcome the challenges faced by entrepreneurs including, access to markets, access to funding, regulatory challenges and access to talents.

MoDEE is responsible for achieving national goals and objectives within the Digital landscape and should use various means and relationships to achieve them. In addition to developing, incubating, and supporting Digital initiatives at a national level (such as the digitization of governmental services, the National Broadband Program, and others), the Ministry's mandate includes stimulating local and foreign technology investments as well as promoting awareness and adoption of technology by all segments of the population, in an all-inclusive approach.

MoDEE is the implementing agency of the Youth, Technology, and Jobs (YTJ) project, which aims to improve digitally enabled income opportunities and expand digitized government services in Jordan. The YTJ project will build an impetus for private sector-led growth of the digital economy and make interventions to address specific constraints in the supply and demand sides of the economy.

The (YTJ) project components and subcomponents during the five years lifetime are:

Component 1 – Support the supply of digital skills in Jordan.

Sub-component 1.1: Support private sector-led digital skills development.

Sub-component 1.2: Enhance digital skills competencies for public school students.

Sub-component 1.3: Provide working spaces in underserved communities through Tech Hubs.

Component 2 – Support the expansion of digital sector and digital government services in Jordan

Sub-component 2.1: Support the expansion and access to market for digital firms and digital platforms.

Sub-component 2.2: Support digital transformation of service delivery to citizens and businesses.

Sub-component 2.3: Support digitization of payments. Support the government commitment to advance penetration of digital payments in Jordan supporting e-payments for all applicable government services, with a focus on front-end services.

Component 3 - Project management & implementation support

MODEE has developed the Digital Transformation Strategy 2021–2025 in collaboration with partners, stakeholders, and interested parties from all sectors of society. This strategy follows Jordan's Vision 2025, the 2018 General Policy of the Government in the Communications, Information Technology, and Postal Service Sectors, global trends, international best practices in this area, and the 2030 Sustainable Development Goals. It outlines the tactical adjustments and demands necessary to advance the global digital transformation, enhance the delivery of public services, and boost the effectiveness of government operations. This entails meeting the needs of the beneficiaries, including the government, people, locals, tourists, the private sector, entrepreneurs, and civil society, as well as enhancing the quality of life in a more efficient, dependable, and sustainable way and achieving welfare.

The strategy outlines the government's goal to advance digital transformation and the growth of the digital economy in the Kingdom within five years. To that end, it relies on a set of fundamental practices and competencies, which includes continuing to develop an advanced digital infrastructure based on cutting-edge technologies, such as 5G technology, and raising the caliber of governmental services.

To implement the strategy, MODEE is working towards the following:

- Working with government partners in digitalization
- Developing and enhancing government services to digital solutions
- Upgrade the digital skills and knowledge of public sector employees and citizens

Health is one of the key area/priorities of focus for digitalization. The challenges related to digital health implementation mentioned in the recently done exercise for the development of digital health strategy for Jordan include:

a) Absence of a strategic plan to implement digital health activities.
b) Meager and limited financial resources to fund digital health applications.
c) Lack of ICT infrastructure in many health care facilities.
d) Lack of human resources responsible for digital health.
e) Lack of training of staff taking care of digital health.
f) Limited telehealth and telemedicine services for serval reasons among them was resistance of insurance companies (payer system).
g) Absence of awareness, legal and policy frameworks.
h) Semantic and syntactic standards are not used to develop systems.

Objective(s) of the Assignment

The Ministry of Health in Jordan is now undertaking a solid role in the development of the national strategy for digital health in Jordan, 2023-2027. The strategy includes a background to the project and an overview of the Global Digital Health Strategy approved by the World Health Assembly in 2020 as the basis for developing national digital health strategies. The strategy aligns with national health policies and strategies developed and adopted until 2022 and the methods used to develop this strategy. The strategy aims to base itself on a clear understanding of the situation in Jordan as it provides a complete analysis of the situation regarding Information and communication technology (ICT) infrastructure as it constitutes one essential input to digital health in Jordan. Seven strategic objectives were identified:

1) To establish a governance framework based on national capacity,
2) To increase digitization to achieve person-enabled health systems that facilitate delivering safe, equitable, and quality health care.
3) To enhance the use of digital solutions for public health, disease surveillance, and response.
4) To facilitate interoperability of systems using standards for effective and secure sharing of health information across the health sector nationally and internationally.
5) To build the capacity of human resources for digital health.
6) To improve ICT infrastructure and technical support services for sustainable utilization of digital health at all levels of the health care system.
7) To enhance the use of digital solutions for health promotion and awareness.

The focus of this TOR is to conduct a holistic assessment of the healthcare ecosystem in Jordan and develop an operational business plan (roadmap) for the health sector digitalization based on digital health strategy and to achieve the following:

- National Electronic Health Record (EHR) according to the international related standards, which can be fed by all medical institutions (Public, military and private) in Jordan.
- Digital health platform architecture that covers all core and supportive processes related to health care in the public sector.
- Telehealth services that will enhance the quality of healthcare services.
- Better utilization of different health care resources (human, monetary, raw materials and capital).
- Improved health system operations, and streamlined processes in hospitals and medical centers.
- Better data access and fast and reliable data for all citizens and health care providers in Jordan.
- Interoperability of digital technologies for health in Jordan.
- Strengthening public health surveillance data use, access, visualizations, integration to support decision makers with evidence-based information.
- National eHealth standards framework for defining the standards national system will use to promote interoperability.

Scope of Services, Tasks (Components), and Expected Deliverables

Scope of Service

MoDEE is seeking to select a firm (hereafter known as "the consultant") to conduct a holistic assessment of the healthcare ecosystem in Jordan and develop an operational business plan (roadmap) for the health sector digitalization based on digital health strategy. The Consultant is expected to follow the WHO handbook on Digital Health Platform (DHP) as a guide to develop the proposal with timeline and cost (including travel to Jordan).

Available: https://apps.who.int/iris/bitstream/handle/10665/337449/9789240013728-eng.pdf?sequence=1&isAllowed=y

The DHP assessment will include two public hospitals using the primary Health Management Information System (HMIS system) (Hakeem), and six health centers; two from each type (comprehensive, primary and peripheral). Those hospitals and medical centers will be determined by MoH.

The DHP assessment will specifically evaluate the following:

- Assess Jordan health system, actors, and digital health assets that are already in place, and classified based on their fit with the DHP.
- Assess the current HMIS technology stack (including Hakeem), with the specific goal of understanding if these systems can support the activities identified in the Digital Health Plan - assessing the stability and capabilities of the existing systems and the potential for further interoperability and integration with other systems in use.
- Quality and Reliability of Services and Systems: Review the structure of the existing systems and ensure reliability, scalability, interoperability with other applications, and high performance of all health systems and services assessing the data centers, hosting platforms, and any all hardware in-use.
- Privacy and Security of all Systems: Ensure systems matches cyber security guidelines and ensure data is private and only accessible with the right permissions.
- Datacenter Environment: ensure readiness and maturity of the Datacenter, including area, cooling, sensors, extinguishers, monitoring tools and equipment and access. With the Disaster recovery (DR) assessment, and the backup system.
  Conduct a data quality assessment for all data in the data centers.
- Identify and redesign priority health system business processes to be improved with digital health interventions (phase wise approach).
- Conduct a stakeholder mapping and analysis for guiding DHP design and promoting its use.
- Assess Usability of the system interface(s) for the different stakeholders including health care workers, health care admins, and any other stakeholder within the Jordanian public health system.
- Assess existence and quality of Patient Electronic health records (EHR) and the integration with the Digital Health Care System(s).
- Assess the documentation for the hospitals systems in place and that the current documentation is according to recognized standards (ISO), ensuring it is usable and comprehendible by different types of users.
- Review structure and quality of available data sharing across these systems including available APIs and their implementation.

Expected Deliverables:

- D1. Assessment Report outlining the results with the context of DHP.
- D2. Current Digital Health Platform (DHP) Architecture.
- D3. Proposed Digital Health Platform (DHP) Architecture.
- D4. Report with recommendations around the current HMIS technology stack to support investment decisions needed to deliver the Digital Health Plan.
- D5. A governance framework detailing leadership and staffing.
- D6. Report with recommendations on better management of public resources through digital platforms.
- D7. Report with recommendations on how to use digital health strategy objectives to translate into business processes and digital health interventions (visuals and diagram preferred).
- D8. Roadmap with recommendations to translate into business processes document for MODEE to use as a basis for implementation.
- D9. Presentation of findings and recommendations with MODEE and stakeholders.
- D10. Final report with findings and recommendations, and the estimated cost for implementing them

All deliverables should be in both languages Arabic and English.

Key stakeholders:

Below are the main stakeholders related to this assessment but not limited to:

- Ministry of Health (MoH)
- Ministry of Digital Economy and Entrepreneurship (MoDEE)
- Royal Medical Services (RMS)
- World Health Organization (WHO)
- World Bank (WB)

Firm area of expertise and Team Composition and Qualification Requirements of the Key Experts

Firm qualifications / past experience Qualification
- The consultant should have successfully accomplished at least one completed project with a similar scope at national or international level within the past 5 years.
- The consultant should have an experience in (HMIS) modules.
- The consultant should demonstrate a previous experience with The Ministry of Health, WHO or any other health organization.

Qualification of the required skilled staff
List of the min. required key professionals whose CVs and experience would be evaluated. The bidder may propose other resources that might be required to execute the project:
- Project Manager
  - Minimum 10 years of experience in the relevant filed.
  - PMP Certified or equivalent.
- Enterprise Architect
  - Minimum 10 years of experience.
  - Certified in Enterprise Architecture Frameworks such as TOGAF.
  - Proven experience in designing digital health platform architecture in minimum two projects.
  - Experience in systemization and institutionalization of data-driven decision making at all levels of the health system.
  - Experience implementing large-scale national landscaping analyses of health information systems in low- and middle-income countries.
  - Experience in user-centered design, principles of digital development, or appropriate use of technology in public sector programs.
  - Expertise in appropriate analytic approaches, including, but not limited to, rapid thematic analysis, stakeholder analysis, mapping of data flows to understand bottlenecks.
  - Expertise in appropriate analytic approaches, including, but not limited to, quantitative analysis of large health/survey data sets, record linkage across databases, and thematic analysis of qualitative data
- Health Management Information System Specialist:
  - Minimum 10 years' of experience with reviewing/development of electronic medical records systems.
  - Demonstrated knowledge of international standards such as ICD and LONIC, SNOMED and others.
  - Experience with health services that includes lab systems, mobile system, pharmacy, logistics, finance and insurance and surveillance systems.
  - Experience with health data integrations for the exchange of digital health data.
  - Experience with health indicators reporting (SDG3) and aggregated analytical dashboards for health
  - Experience with health data dictionary.
  - Experience with digital health decision support tools.

- Business Process Consultant
    - Minimum 10 years of experience.
    - Knowledge and experience in open-source e-health technologies.
    - Strong knowledge of Health International standards.
- Data Analyst
    - Minimum 5 years of experience.
- Technology & Infrastructure Specialist
    - Minimum 10 years of experience.
    - Experience and certificates in systems, storage, databases, and hardware.
- System analyst
    - Minimum 5 years of experience
    - Proven expertise in development of health information management systems.
- Information Security Specialist
    - Minimum 10 years of experience.
    - CISSP certified or equivalent.
    - Strong skills and knowledge of international standards and control frameworks.
- Legal Consultant with experience in Health legislations.

Reporting Requirements and Time Schedule for Deliverables

- Format, frequency, contents of reports, and dates of submission
  The consultant will work under the guidance and supervision of the **e-Government Directorate** at MoDEE. The E-government Team will be responsible for coordinating with MoDEE team to ensure full ownership of the assessment and its findings.

  The consultant will prepare bi-weekly progress reports and coordinate with the designated point of contact at MoDEE.

  The consultant will provide **biweekly** updates of implementation progress by email to the PMU. These should include:
    - Reporting on activities scheduled for the period, per component, and describing any change to the schedule or activities.
    - Reporting on results, for the period, per component.
    - Flagging findings, lessons, or emerging issues of interest or concern.
    - Identifying issues or problems that have affected or may affect task implementation.

- All deliverables should be submitted electronically for revision purposes, while the final approved deliverables should be submitted properly bound, stamped, and signed by the company, and approved by MoDEE in cooperation with MoH. In addition to a soft copy (CD ROM)

- Deliverables / specific outputs expected from consultant

#	Deliverables	Schedule
1	Assessment Report outlining the results with the context of DHP.	3 months
2	Current Digital Health Platform (DHP) Architecture.	3 months
3	Proposed Digital Health Platform (DHP) Architecture.	4 months
4	Report with recommendations around the current HMIS technology stack to support investment decisions needed to deliver the Digital Health Plan	5 months
5	A governance framework detailing leadership and staffing	5 months
6	Report with recommendations on better management of public resources through digital platforms	5 months
7	Report with recommendations on how to use digital health strategy objectives to translate into business processes and digital health interventions (visuals and diagram preferred)	5 months
8	Roadmap with recommendations to translate into business processes document for MODEE to use as a basis for implementation	5 months
9	Presentation of findings and recommendations with MODEE and stakeholders	6 months
10	Final report with findings and recommendations	6 months

Contract Duration and Form

Expected commencement date is (July) 2023**. The expected completion period is 6 months** from the order to proceed. The consultant will be selected following the World Bank's Procurement Regulations for IPF Borrowers of July 2016 and revised on November 2017 and August 2018. The contract would be Lump Sum .

Consultants may associate with other firms to enhance their qualifications but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.

Payment schedule

The Consultant will be paid upon the following payment schedule. All payments are bound to receiving an approved and signed document for each deliverable mentioned in the expected deliverables section above.

Payment %	Payment
30 %	Upon submission and the PMU's acceptance of deliverables D.1, D.2, D3
55 %	Upon submission and the PMU's acceptance of rest deliverables
15 %	Upon submission and the PMU's acceptance of deliverables D.9 & D10

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