جامـعة الدول الـعربية
League of Arab States

ARAB DIGITAL ECONOMY VISION
PROGRAMS GUIDELINES

ARAB COMMISSION FOR DIGITAL ECONOMY

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جامــعة الدول الــعربية
League of Arab States

ARAB DIGITAL ECONOMY VISION

PROGRAMS GUIDELINES

Contents

List of Figures

List of Tables

1.0 Introduction

In light of the continuous global development and the rapid changes that affect the financial, economic, political and social systems, our world today stands at the threshold of a fourth industrial revolution, and its impact is not limited to changing the form of industries and production methods, but extends to the knowledge perspective of human beings towards life and human requirements in general. We find that the directions of the Fourth Industrial Revolution are affecting the human life in all economic, social, security and health aspects, and their effects extend to food, public administration, transportation, communications, information, trade and other human activities.

Given that the economy is the permanent partner with any human activity, we find that digital progress has created a new space for the economy that has been termed as the digital economy, which has become the clear vector of the current and future economic movement and it is no longer possible to think about the economy or plan for it away from digital technology that has become Asset is a product of economic value.

From this standpoint, the Council of Arab Economic Unity prepared a vision that looks to the future of the Arab digital economy in the next decade and represents a road map and a general umbrella that aligns with all issued plans and strategies that can be issued in the future. The vision focused on five main dimensions: infrastructure, innovation, digital government, business sectors, and the Arab citizen. From these five axes, a group of strategic goals amounted to twenty general strategic goals that are directly applicable, whether at the Arab state level locally or at the general regional level.

This strategy was prepared in cooperation with Cairo University, Harvard University, the World Bank, United Nations experts, the OECD and several experts with previous experience and expertise in the same field. This strategy was announced in December of the year and this strategy has resulted in several successes, for example:

- A fund was allocated to support and finance Arab digital economy projects at the Beirut Arab Economic Summit in the year, and the planned value of the fund was $ 250 million, and it was opened with a capital of $ 100 million.

- The Arab vision for the digital economy was adopted as a cornerstone and entrance towards the development of an Arab strategy for communications and information systems by the Ministerial Council for Ministers of Communications and Information Systems in cooperation with the ESCWA or the United Nations

Coinciding with the third edition of the Arab Strategic Vision for the Digital Economy, the third edition was updated based on the feedback from Arab countries, and it was decided to issue this booklet as a suggested guide for explaining the possible applications to achieve the strategic goals emanating from that Arab vision for the digital economy.

How to read this book:

This booklet provides a brief description of the most important programs and initiatives that can be applied within the framework of achieving the Arab vision for the digital economy. In this booklet, it was taken into account that the countries concerned with the application (or affected by the application) are mentioned with the priority of the application weighted to represent how important it is to have one of two options:

- **Very important)** The programs that will be applied to other countries are considered - in general - within this category, or those programs that its applications are considered to be a high priority and which entail many other projects and embodies infrastructures or an indispensable basis. This category will be given the symbol **H**

- **Important)** Programs are considered important in a situation that represented additional value and benefit but does not constitute an essential basis for other programs. In all cases, they are important programs with high return and economic value, and they will be given the symbol **M**. Some very important programs may be considered as important only if they are already implemented in the country that do not need to update or upgrade this implementation at the moment.

In addition to the previous clarification regarding the relative importance of the application, the programs were classified according to another dimension as well, which is the time priority of implementation. This priority was estimated according to the extent of readiness of the country concerned with the implementation, whether with the availability of resources or the necessary infrastructure. The expected timeframe for implementation has been divided to show the urgency of the application as follows:

- An urgent matter that must be during the next few period, which is the next two-year period 2020: 2021, symbolized by the number **1.** Some less important initiatives may be implemented urgently or in the near future due to the fact that their application is general and affects all Arab countries or because it is low cost and can be applied easily and quickly, Therefore, the relative importance and timing of application should not be confused.

- As for the cases that cannot be applied urgently due to a lack of infrastructure or lack of resources, it has been estimated that their implementation will begin in the following three years 2022: 2024, and this case is denoted by the number **2**, and it is considered as not urgent.

On this basis, a table for each proposed program will be attached to show, as a guide, the country-specific estimates and their suitability for the extent of {relative importance, priority of application} according to the coding rules that have been explained.

For example, when [M1] is mentioned, it means that the relevance of the program to the country is important and urgent, and when [H2] is mentioned, it means that it is very important but it cannot be applied immediately either because there is a need for prior infrastructure or the need for resources that are not currently available.

After explaining all the programs, various analyzes were reviewed in order to estimate the priority level of application for each program separately and the proposal of the concerned authorities to implement it, especially for programs of a general nature that may be in the form of general protocol agreements or digital platforms to provide specific services or consulting studies that are in favor of implementing the plans of Arab countries for digital transformation as an example.

After reviewing the programs, the applied reality of these programs and projects was analyzed from an administrative and financing point of view, where a group of specialized Arab organizations is proposed technologically and objectively according to the nature of the programs and the scope of their application so that these Arab organizations act as an executive mechanism owned by the Arab countries collectively. Within this framework, the strategic partners and Arab stakeholders have been reviewed, analyzing these different interactions with a view to sustaining the application and achieving the best levels of satisfaction and harmony between the various efforts.

At the end of the book, a set of appendices were presented with the aim of presenting the operational model as a preliminary proposal, and a matrix of responsibilities and support from the relevant authorities, regional and international funding destinations.

PROGRAMS CASCADED

FROM THE ARAB VISION FOR

THE DIGITAL ECONOMY

2.0 Programs

Dimension 1: Digital foundation

Strategic objective 1: Developing the telecommunication infrastructure

Program 1: National broadband plan

Program application:

National broadband plans are necessary to develop the infrastructure to support the digital economy. The plan shall be a living document to keep up with the requirements necessary to support the digitalized economy. The plan must cover the mobile technology development such as 3G, 4G (LTE) and beyond. The plan must also include the development of the fixed network based on Fiber Optics technology for both access and backbone. Spectrum is the basis for all wireless networks and must be managed carefully to optimize its use. The framework may create an Arab group as part of the broadband framework to support spectrum management. International Gateways development and undersea cables shall be part of the broadband Plan. The BB plan will set the expected data speeds, coverage and timeline. The program will provide frameworks to cover the the Arab States with a specified maximum date for implementation.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H2	H1	M1	H1	M1	M1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H2	H2	H2	M1	H2	M1	M1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
	H2	M1	H2	M1	M1	H2

Program 2: Arab datacenters and cloud services

Develop an entity (group, fund, etc.) funded by Arab donor agencies, such as the Arab Development Fund, to help establish datacenters throughout the Arab states in cooperation with data service providers. The entity will provide funds for economically viable proposals and will exit the ventures once it is profitable. This entity will provide technical and financial support to establish regional clouds in partnership with governments/private sector.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M2	M1	M2	M1	M1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	M2	M2	M2	M2	M2	M1	M1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
	M2	M1	M2	M2	M1	M2

Dimension 1: Digital foundation

Strategic objective 2: Enhancing the Internet ecosystem

Program 3: Internet Exchange Points (IXPs) development

Program application:

Establish an Arab IXPs group composed of experts from the Arab regulatory agencies and the Internet service providers to set a roadmap and plan for establishing IXPs throughout the region to optimally realize the technical and economic benefits of the IXPs.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H2	M1	H2	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H2	H2	H2	H1	H2	H1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H1	H2	H1	M1	H2

Program 4: Internet of Things and machine to machine communications

Establish an IoT/M2M group to provide recommendations to the Arab states to harmonize and unify standards and usage of such technologies to achieve economies of scale, interoperability and data interchange between the different states.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M2	H1	M2	H1	M1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	M2	M2	M2	M1	M2	M1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		M2	M1	M2	M1	H1	M2

Program 5: Arab cybersecurity development

This program should build up on the current cooperation between the Arab Computer Emergency Response Team (CERT). It should establish a group of CERT experts and Industry Cybersecurity experts to provide support to all stakeholders (service providers, government and private sector users). Such support may include information on state-of-the-art tools and applications for cybersecurity, capacity building programs for cybersecurity professionals and initiate programs as well to develop indigenous capabilities to protect the Arab cyberspace.

In addition, the support can include regional/national cyber security critical product R&D coordination especially for peripheral layer devices, and regional cybersecurity coordination strategy.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H1	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H1	H1	H1	H1	H1	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H1	H1	H1	H1

Dimension 1: Digital foundation

Strategic objective 3: Implementing regulations and policies for digital economy

Program application:

Program 6: Digital transformation framework

Develop the digital transformation framework including support for the different states to establish the full set of regulatory agencies needed to support the digital economy; establish a digital transformation agency to oversee and direct all technical, legislative, and policy activities required to achieve that goal. The established agency will coordinate digital transformation in the public agencies in their own countries.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H2	M1	H2	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H2	H2	H2	H1	H2	H1	M1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine	
	H2	H1	H2	H1	M1	H2	

Program 7: Intellectual property protection

Establish a group of experts to suggest the necessary legislation to the different Arab states and support the local agencies in implementing the necessary laws.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H2	H1	H2	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H2	H2	H1	H2	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine	
	H2	H1	H2	H1	H1	H2	

Program 8: Data protection framework

Form a group of experts to create a data protection framework, including legislation and to provide technical advice to ensure an environment where all stakeholders enjoy full protection of their data while conducting their business.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H2	H1	H2	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H2	H2	H1	H2	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine	
	H2	H1	H2	H1	H1	H2	

Program 9: Cybercrime legislation

Create Arab joint cybercrime task force to draft a model cybercrime law based on the best international practices. This model must be flexible to accommodate the different contexts in the Arab states.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H2	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H2	H2	H1	H2	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine	
	H1	H1	H2	H1	H1	H2	

Dimension 1: Digital foundation

Strategic objective 4: Enhancing ICT skills and competencies

Program 10: Partnering with universities to develop relevant ICT curricula

Program application:

Establishment of partnerships with higher education institutions such as universities, in order to merge new relevant ICT curricula and upgrade the current curricula so that they cope with the current technologies and trends.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	M2	H2	H1	H2	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	M2	M2	M2	H1	M2	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		M2	H1	M2	H1	H1	M2

Program 11: ICT vocational training / ICT skill accelerator

A program that aims to enhance training and placement opportunities for ICT jobs across the Arab countries' economies, by facilitating the reskilling or upskilling of working individuals and employees so that they meet industry needs.

The program depends on the approval of a specific group of training programs, tests and professional accreditation for information technology jobs collectively and recognized among Arab countries

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H1	H2	H2	H2	H2	H2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H2	H2	H2	H2	H2	H2	H2	H2
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H2	H2	H2	H2	H2

Program 12: e-learning Program / skills for citizens

The e-learning program aims to provide citizens with basic ICT skills delivered in Arabic content in order to develop their fullest potential in terms of technological knowledge, new ICT applications, and general skills throughout life, regardless of their levels.

The program will cover all age groups, starting from preschool years, early career, mid-career and even the silver years. There will be a variety of resources to help each group to attain mastery of skills and knowledge.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H1	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H1	H1	H1	H1	H1	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H1	H1	H1	H1

Program 13: ICT training programs (for SMEs)

The program aims to provide SMEs a shared platform for e-learning sessions that help to enhance the skills of employees in different fields (finance, HR, management …). The training program will be tailored for SMEs and will seek to contribute to the improvement of the internal performances of the SMEs in the Arab countries with affordable fees.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H1	H2	H1	H2	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H2	H1	H1	H1

Dimension 1: Digital foundation

Strategic objective 5: Ensuring the availability of funds

Program 14: Attracting FDI in ICT (EU, World Bank)

Program application:

In order to attract foreign direct investment (FDI) and funds to finance programs and initiatives in the Arab countries, it is critical to adopt enabling legal and regulatory frameworks that support e-development. In addition, a professional technical framework with an action plan and impact analysis for each program should be established to attract FDI and create fertile conditions for ICT-led growth.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H1	M1	H1	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H2	H1	H2	H1	H2	H1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H2	H1	M1	H1

Program 15: Crowdfunding platform

Create a crowdfunding platform, an online platform that funds projects or ventures by raising money from citizens in Arab region who can contribute a relatively small or significant amounts. Such a platform is not only a source of project funding, but also a tool to raise awareness and merge national citizens in the digital transformation.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H2	H1	H2	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H2	H2	H1	H2	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H1	H2	H1	H1	H2

Program 16: Network of digital angels

Develop a new network of digital angels and launch a strategy to approach and attract them to invest in regional projects. Digital angels are a type of entrepreneur companies and organizations that fund and invest in new innovative, creative, or extraordinary ideas to bring them to life.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H2	H1	H2	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H2	H2	H1	H2	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H1	H2	H1	H1	H2

Dimension 1: Digital foundation

Strategic objective 6: Digital governance bodies

Program 17: Develop New Organization for ARAB Commission of Digital Economy (ACDE)

Program application:

Develop a new organization under the name of Arab Commission of Digital Economy (ACDE). The Commission should be able to formulate strategies, develop new ICT programs, assess and evaluate the implementation of digital transformation among all sectors in all the Arab countries, and raise awareness among governments and citizens. It should also be able to open up digital opportunities for people and businesses and enhance the region's position in the digital economy.

One of the important roles of the governing bodies of the Arab Digital Strategy is to monitor and achieve the following objectives:

1. Developing governance systems for each program in order to ensure alignment between the overall strategy, the program strategy and direction, and the path towards the needed outcomes over the life of the program.

2. Coordinating with the Arab countries to measure their performance on the establishment of the Arab Digital Economy Index by collecting the results of the detailed indicators (see Chapter Seven of the study), and then issuing an annual report on the state of the digital economy of each country.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H1	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H1	H1	H1	H1	H1	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H1	H1	H1	H1

Program 18: Partnership with specialized independent exiting Arab bodies and build new ones to implement the strategy

The Arab Commission needs a group of independent Arab organizations affiliated with the League of Arab States to implement a set of programs. The Commission may cooperate with existing specialized organizations or establish new specialized organizations.

The relationship between ACDE and these organizations is focused on their executive role in the strategic programs that fall within their responsibility.
For details on these organizations and their role, please see Chapter 6 and 7 of this study.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H1	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H1	H1	H1	H1	H1	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H1	H1	H1	H1

Dimension 2: Digital innovation

Strategic objective 7: Creating an ecosystem which fosters innovation within a community

Program 19: Create the Arab Digital Innovation Agency (ADIA)

Program application:

The role of the Arab Digital Innovation Agency ADIA is to orchestrate interventions for the ecosystem, take action to support the ecosystem, develop legal and policy framework. Provide R&D grants, R&D loans, as well as funding for young innovative enterprises and for strategic research. The new agency would constantly monitor and assess the results and impact of the projects it funds through assessments and external evaluations. It is the focal point of interaction between stakeholders.

One of the most important roles of the ADIA is to launch a standard framework for e-government by providing a unified set of software tools for the development and operation of e-government applications to improve the efficiency of investment in ICT and the quality of e-government services. It focuses on improving the reusability and interoperability of e-government applications through the development of a standard framework for the development of e-government software.[1]

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H1	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H1	H1	H1	H1	H1	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
	H1	H1	H1	H1	H1	H1

Program 20: Develop a registry of experts and innovators

Develop a network of domestic and international experts. Attract multi-national enterprises, contributing different technological platforms and expertise to be located in Arab innovation hubs. Create a synergy between the new Arab hubs and the existing hubs.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H1	H2	H1	H2	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
	H1	H1	H2	H1	H1	H1

Program 21: ArabTech Universities Alliance (ATUA)

The ATUA aims to partner leading universities in the region to represent the educational arms of the innovation ecosystem. The alliance supports the hubs by providing resources, best practices, transfer of knowledge etc. It also provides a unique framework to exchange and promote entrepreneurship activities across borders.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H1	H2	H1	H2	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
	H1	H1	H2	H1	H1	H1

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[1]http://afyonluoglu.org/PublicWebFiles/presentations/EN-YBS2014-eGOWFW.pdf

Dimension 2: Digital innovation

Strategic objective 8: Building innovation capacities

Program application:

Program 22: Create world class innovation hubs

The Arab Innovation Hub (AIH) is a series of physical centers where the very best of Arab businesses, scientists and engineers work side by side on late-stage research and development, transforming high potential ideas into new products and services to generate economic growth. Example: hubs of IoT, Hub of Cloud Computing, Hub of AI.

This center includes the "Blockchain Technologies" program separately (not only for the financial sector but also for logistics, trade, energy, independent transport, governance, ID authentication, etc.). This program should have a regional working group that provides policies, framework, and application migration scenarios that tackles the challenges of protecting personal data and infrastructure solutions government blockchain

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H1	H2	H1	H2	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H2	H1	H1	H1

Dimension 2: Digital innovation

Strategic objective 9: Promote innovation

Program application:

Program 23: Recognize and reward ICT innovators

Develop Arab ICT awards to promote creativity and encourage innovation; and provide incentives for R&D efforts to acknowledge, recognize and reward ICT innovators. The rewards will be divided on different categories: Innovators, digital transformation achievement for startups, digital transformation achievements for big companies, and digital transformation achievement for e-gov.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H1	H2	H1	H2	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H2	H1	H1	H1

Program 24: Arab Innovation Forum (AIF)

The AIF is an accelerator for science-based ventures. It is an occasion to meet network innovators who seek to build bridges between industry, academia and government. The Forum will focus on the future and the evolution of today's technologies, which range from the nascent stage to the cusp of commercial application.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H1	H1	H1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	H2	H1	H2	H1	H2	H1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H2	H1	H1	H1

Dimension 3: Digital government

Strategic objective 10: Government online services

Program application:

Program 25: Promotion of e-gov initiatives (guidance, policy, recommendations etc.)

Providing a supportive environment for digital excellence by providing government agencies with operating systems, applications, modern communication networks, technical equipment and knowledge resources, including similar success stories, and ending with attracting experts to transfer knowledge and correct implementation experiences.

And launch competitive competitions between Arab government agencies in the field of institutional excellence and comprehensive quality

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H1	M1	H1	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H2	H1	H2	H1	H2	H1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H2	H1	M1	H1

Dimension 3: Digital government

Strategic objective 11: Increase inter-government interaction

Program application:

Program 26: Create e-ID

An electronic identification (e-ID) is a digital solution for proof of identity of citizens or organizations to access benefits or services provided by government authorities, banks or other companies, for example, for mobile payments. A regional e-ID system can solve many problems and save costs. With e-ID, citizens can sign agreements with the any Arab government or a bank without the inconvenience of paper documents and physical identification. With e-ID, it is possible to verify citizen's identity when signing an agreement or purchase. This also reduces the risk of fraud and makes it easier to conduct secure transactions.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H2	M1	H2	M1	M1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H2	H2	H2	M1	H2	M1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	M1	H2	M1	M1	H2

Program 27: e- procure-ment program

It is a business-to-government purchase system; a regional e-procurement system in tender opportunities and tender documents online, e-submission for all contracting authorities and all procurement procedures. This program must be initiated to achieve great contracting benefits such as increased efficiency and cost savings (faster and cheaper) in government procurement and improved transparency (to reduce corruption) in procurement services.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M2	M1	M2	M1	M1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	M2	M2	M2	M1	M2	M1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		M2	M1	M2	M1	M1	M2

Program 28: Develop Regional Single Window (RSW) (customs and trade)

The RSW program is a trade facilitator idea. As such, the implementation of a single window system enables regional (cross-border) traders in the Arab countries to submit regulatory documents at a single location and/or single entity. Such documents are typically customs declarations, applications for import/export permits, and other supporting documents such as certificates of origin and trading invoices. Such services facilitate access to markets, increase confidence in and stimulate competition across the single market.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	M2	H2	H1	H2	H1	H2	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	M2	H2	M2	H2	M2	H2	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H2	M2	H2	H1	M2

Dimension 3: Digital government

Strategic objective 12: Build public data content as economic growth driver

Program application:

Program 29: Open data program[2]

As public bodies are progressing in areas like the e-government and data analytics, the potential of data and -in particular- open data to help deliver economic, social and democratic benefits has become clearer. Opening data and services between public administrations on both the micro and macro scales will increase their efficiency and facilitate the free movement of businesses and citizens. The lives of citizens of Arab countries are becoming increasingly digital, leading to higher acceptance and demand digital public administration processes. Furthermore, by opening up to and engaging with stakeholders in decision-making, public administrations will become more trustworthy and more accountable. In addition, opening public sector data and services to third parties, in full compliance with the legal framework for the protection of personal data and for privacy, can contribute to growth and competitiveness.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M2	H1	M2	H1	H2	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	M2	M2	M2	H2	M2	H2	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		M2	H2	M2	H2	H1	M2

[2]Opening data and services between government departments, in part and in whole, will increase their efficiency and facilitate the movement of companies and citizens. The lives of citizens in Arab countries are becoming increasingly digital, which has led to increased demand for digital government services and a demand for more effective, efficient and comprehensive systems. In light of the development taking place in public bodies in the areas of e-government, the power of data, especially open data, has become a catalyst and catalyst for achieving economic and social benefits.

Dimension 3: Digital government

Strategic Objective 13: Enhance citizen education by ICT usage

Program 30: Arab-wide platform for digital higher education (Arab e-university)

Program application:

Support the development higher education by providing a robust remote digital higher education platform that supports distance learning. The first Arab e-university would provide high quality online education, whether bachelors or masters diplomas, in order to increase access to education in remote and inaccessible areas.

Introduce the best educational approaches such as the Life - Event Approach.

Ensure cross-border recognition of studies.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M2	H1	M2	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	M2	M2	M2	H1	M2	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine	
	M2	H1	M2	H1	H1	M2	

Program 31: Peer to peer learning platform

A peer-to-peer platform in the Arab region can be a platform for students to interact directly with each other, without third party intermediaries. Such platforms bring together individuals to work on joint projects, share information or communicate without intermediation.

These platforms are useful for exchanging software, tools and technical inventions that help them solve problems in the field of digital applications

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M1	M1	M1	H1	M1	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	M1	M1	M1	H1	M1	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine	
	M1	H1	M1	H1	H1	M1	

Program 32: Create Arab ICT scholarship program

Create fully and partially funded ICT scholarship programs to encourage and attract talents in the Arab region who wish to make ICT their career of choice. Scholarships would also support individuals with strong aptitude for ICT to put them on the right track and provide them with the right educational tools. This will help in affording quality higher education, provide learning opportunities, and reducing knowledge and educational gaps between front-runners and laggards in the Arab countries. On the long term, it would help in building the right infrastructure of capable and well-educated human resources.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M1	M1	M1	M1	M1	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	M1	M1	M1	H1	M1	H1	M1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine	
	M1	H1	M1	H1	M1	M1	

Program 33: Innovative technologies for hightech classrooms (ITHTC)

ITHTC is a large-scale project, focused on the design of the future classroom, and exploring the integration of technologies into teaching and learning. The objective of the ITHTC is to provide tools that will overcome learning barriers and provide education in remote, rural, and inaccessible areas. All that students need is an internet connection and a laptop to learn.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M1	M2	M1	M2	H1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	M2	M1	M1	H1	M2	H1	M2
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine	
	M1	M1	M2	H1	M2	M2	

Dimension 3: Digital government

Strategic objective 14: Foster cross-border healthcare, health security, solidarity and equity

Program application:

Program 34: Platform For telemedicine program[3]

Telehealth or telemedicine is a digital platform that connects doctors to patients through video mode. By providing the basic infrastructure in remote and rural areas, patients can reach doctors and consult them online. The service consists of delivering health service at-a-distance. A regional telehealth framework must deliberately focus on a set of manageable telehealth services that will deliver the greatest health and wellness outcome.[4]

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M2	M2	M2	M2	M1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	M2	M2	M2	M1	M2	M1	M2
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
	M2	M1	M2	M1	M2	M2

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[3]Through the platform, you can write prescriptions, direct them to pharmacies, pay the price electronically, or transfer them to health insurance, while applying all the rules of medical governance set by the government.
[4]This system must be qualified with medical tools and equipment that have started to appear consecutively and are expected to spread in the future, which are devices that monitor some vital functions and record readings and send them to the doctor within the patient's digital file

Dimension 4: Digital business

Strategic objective 15: Open market for additional economic growth

Program application:

Program 35: Develop E-Trade Platform Management

Develop a platform composed of a set of integrated applications and services to facilitate business transactions between countries. The platform can be developed to integrate most of the functions of intra-Arab trade between companies and individuals and in conjunction with financial and customs authorities and other concerned bodies.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M2	H1	M2	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	M2	M2	M2	H1	M2	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
	M2	H1	M2	H1	H1	M2

Program 36: Create a Pan-Arab Cross-border FinTech Regulatory Sandbox

An integrated lab for collaboration between Arab banks, microfinance institutions, non-banking financial institutions and regional FinTechs. The platform will facilitate development and experimentation of innovative digital financial products and services and support financial services innovation and inclusion in less developed markets within the Arab region. Businesses will be able to test innovative products, services, business models and delivery mechanisms without immediately incurring all the normal regulatory consequences of engaging in the activity in question in the Arab financial services market.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M2	H1	M2	H1	H1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	M2	M2	M2	H1	M2	H1	H1
	Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
	M2	H1	M2	H2	H1	M2

Program 37: Smart Manufacturing Testbeds[5]

Smart manufacturing testbeds will be placed at different locations across the Arab region depending on the competency and requirements of the manufacturing sector within that region. These testbeds will provide practical environments for designing, testing, experimenting with and deploying technological solutions. In addition to that, companies will be provided with technological and market understanding, including training and specific tools.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
M2	M2	M2	H1	M2	H1	M1	H1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
H1	M2	M2	M2	M1	M2	M1	H1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		M2	M1	M2	M1	H1	M2

Program 38: Smart Factory

Smart factory will assist manufacturing companies across the Arab regions in their digital transformation into factories of the future. It will support members and customers in all phases of a consulting project from the identification and assessment of possible applications to the design and embedding of individual industry 4.0 solutions in existing production processes. The platform will also serve as a testbed for new technologies, and control architectures and components in a realistic, industrial production environment.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H2	M2	H2	M2	M1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	H2	H2	H2	M1	H2	M1	M2
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	M1	H2	M1	M2	H2

Program 39: Smart Agri- Food Accelerator

Smart Agri-Food Accelerator program will assist SMEs, agricultural entrepreneurs and individuals working in smart agrimatics to transform innovative ideas into new agriculture technology (AGTECH) applications and services. It will support their growth by providing access to various funding sources, offices, workshops and expert advice. In addition to that, SMEs will receive incubation support from mentoring teams as they will work with them to develop and commercialize their agri-food products. Projects will address one or more of the three representative farming sub-sectors: Arable farming, horticulture and livestock farming.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H1	H1	M2	H1	M2	M1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	H2	H2	H2	H1	H2	H1	M2
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H2	M1	M2	H2

[5]The goal is to support traditional industries to turn smart and digital

Dimension 4: Digital business

Strategic objective 16: Increase digital employment

Program application:

Program 40: Arab Tele-work-place Platform

Create an Arab Tele-workplace Platform that will provide companies and employees with the necessary tools and functions to perform their work seamlessly away from the primary workplace. The platform will also connect companies with job seekers looking for part-time or full-time jobs and enable them to work remotely across border constraints.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	H2	H2	M1	H2	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H2	H2	H2	H1	H2	H1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H1	H2	H1	M1	H2

Dimension 4: Digital business

Strategic objective 17: Increase the adoption of digitization by SMEs and businesses

Program application:

Program 41: SMEs Go Digital program

SMEs Go Digital program aims to help SMEs use digital technologies, build strong digital capabilities and participate in the Digital Economy. ACDE will collaborate with ICT vendors to provide ready and proven digital solutions to deliver productivity gains to SMEs through digital roadmaps, digital consultancy and curated digital solutions.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H2	H1	M1	H1	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H2	H2	H2	H1	H2	H1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H2	H1	M1	H2

Program 42: The 100,000 SMEs Online program

A region-wide campaign to help 100,000 SMEs set up new websites for free for 12 months and achieve online presence. SMEs will be also provided with ongoing tips and education via email and free online advertising trials with Google AdWords.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H1	H1	M1	H1	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H1	H1	H1	H1	H1	H1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H1	H1	M1	H1

Program 43: Arab Open Solution Platform

A virtual crowd-sourcing platform that connects problem owners and problem solvers and match the digital requirements of businesses to solutions created by ICT experts. SMEs and companies looking to develop innovative solutions for their complex business challenges will collaborate with startups, companies and research institutes with multi-disciplinary digital expertise.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H1	H1	M1	H1	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H1	H1	H1	H1	H1	H1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H1	H1	H1	H1	M1	H1

Dimension 5: Digital citizen

Strategic objective 18: Ensure inclusive and equal access to digital technology

Program application:

Program 44: Digital Content program

The program aims to establish, support and stimulate the development of high-quality online content that is appealing, educational and culturally distinctive. ACDE will support joint collaborations between public and private media providers to produce, stream or make available local digital content.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H2	M2	H1	M1	H2	M1	H1	M1
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M1	H2	M2	M2	H1	H2	H1	M1
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H1	H2	H1	M1	H2

Program 45: New generation of telespace[6]

Define and identify isolated and underserved communities; Enhance and develop the next-generation of telecentres which function as sustainable catalysts for smart and innovative communities. The new generation of telecentres will be implemented to provide small business supports in low income areas, farming supports in agricultural areas, access to e-government and e-health services, community based multi-media training and production opportunities.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H2	H1	M2	H1	M2	H1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	H2	H2	H2	H1	H2	H1	M2
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H1	H2	H1	M2	H2

[6]The new contact centers differ from Internet cafes in that they are more interested in providing specific types of services and support to the communities according to the needs of the individual members of each community.

**Program 46:
Provide free
access to
wireless inter-
net**

Identifying communities that are isolated or underserved; partner with local telecom providers to deliver free access to wireless internet to reduce the gap of accessibility.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H2	H1	M2	H1	M2	H1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	H2	H2	H2	M1	H2	H1	M2
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	M1	H2	H1	M2	H2

Dimension 5: Digital citizen

Strategic objective 19: Enhancing digital literacy and social inclusion

Program application:

**Program 47:
Develop basic
level of ICT
competence**

An education and awareness program will be launched to boost ICT competencies, media literacy as well as confident, critical and safe use of the Internet. The program will be implemented at community level. Vulnerable groups will be a major focus.

The means of implementation will be dependent on the Internet and audiovisual media

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H2	H1	M2	H1	M2	H1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	H2	H2	H2	M1	H2	H1	M2
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	M1	H2	H1	M2	H2

**Program 48:
Promote daily
lifestyle apps
Program**

Promote Innovative ICT applications that lead to a better lifestyle in a joint partnership with the private sector. The initiative will focus on developments that enhance daily activities such as shopping, banking, commuting and entertainment.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H2	H1	M2	H1	M2	H1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	H2	H2	H2	H1	H2	H1	M2
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H1	H2	H1	M2	H2

Dimension 5: Digital citizen

Strategic Objective 20: Enhance fixed broadband internet tariffs

Program 49: Social coverage incentives

Program application:

Providing incentives for social coverage through employers, as a means of their societal contribution to delivering services and lowering their prices to remote areas, especially for vulnerable groups.

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H2	H1	M2	H1	M2	H1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	H2	H2	H2	H1	H2	H1	M2
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H1	H2	H1	M2	H2

Program 50: Develop a legal framework to promote healthy ICT competition

Promote the adoption of pro-competitive ICT regulatory framework by Arab countries to attract foreign investors and raise investments in ICT Infrastructures to expand networks and the boundaries of service provision, reduce prices, and improve service quality (the micro level).

Iraq	Somalia	Sudan	Saudi	Algeria	Bahrain	Jordan	UAE
H1	H2	H1	M2	H1	M2	H1	M2
Oman	Syria	Djibouti	Comoros	Tunisia	Yemen	Morocco	Kuwait
M2	H2	H2	H2	H1	H2	H1	M2
		Mauritania	Egypt	Libya	Lebanon	Qatar	Palestine
		H2	H1	H2	H1	M2	H2

DIGITAL ECONOMY

PROGRAMS IMPLEMENTATION

3.0 Digital economy implementation

The application of these programs needs a practical approach to choose the most appropriate and then the next one, respectively, whether the approach to the implementation of the program is by the concerned Arab organization or each country separately. Therefore, we suggest that the priority of implementing each program is to be determined within a sequential framework, so that each program is implemented in a timely manner and in a way that does not contradict each country's action plan, and as per the economic and objective conditions for implementation allow.

Then, all fifty programs went through a filtration process in order to define the highest priority programs. This filter is called the prioritization matrix and is composed of two axes. The first axis is the Implementation Complexity Axis, composed of three criteria that evaluate the feasibility to implement and sustain the program. The three criteria are: Ease of implementation, funding availability, and sustainability risk. The weighted total score of the three criteria will define the magnitude of the implementation complexity. The second axis is the Impact Axis, composed of four criteria to evaluate the impact of each of the programs. The four criteria are: Economic growth, social impact, employment and enhancement of quality of life. The weighted total score of the four criteria will define the magnitude of the impact.
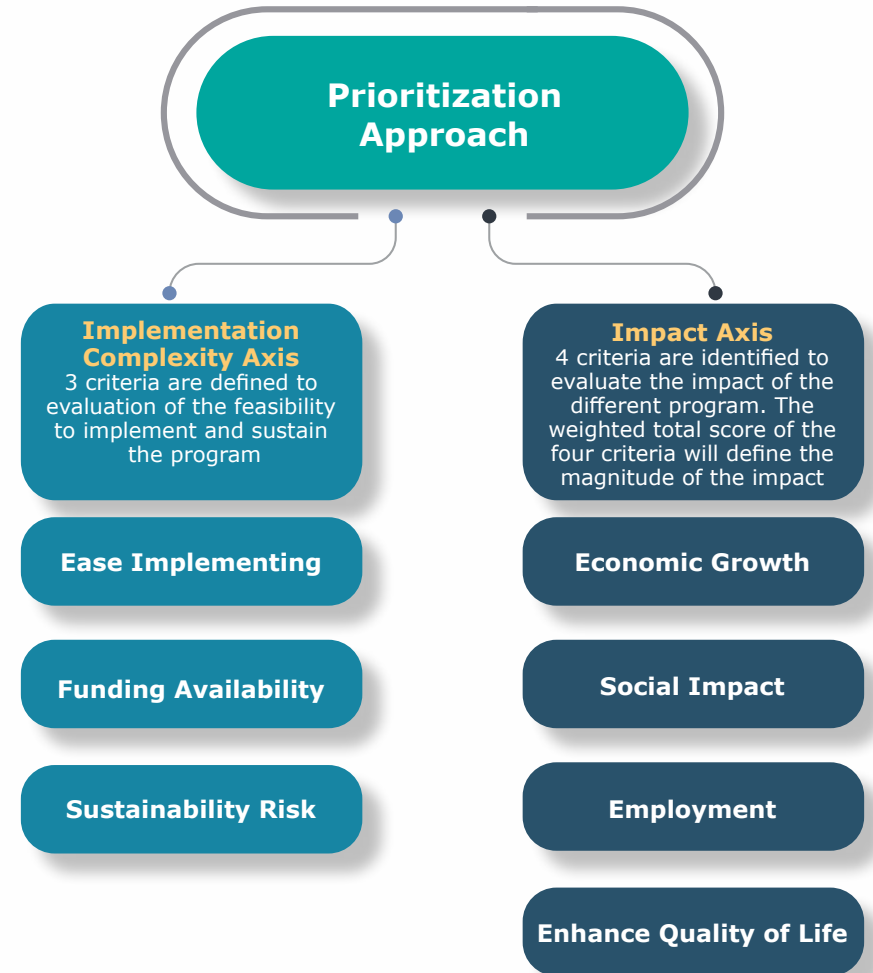

Figure 1 Prioritization Approach

The scoring in the figure below reflects the importance of each of the criteria for example, funding availability (50%) is considered the most vital criterion under Implementation Complexity.
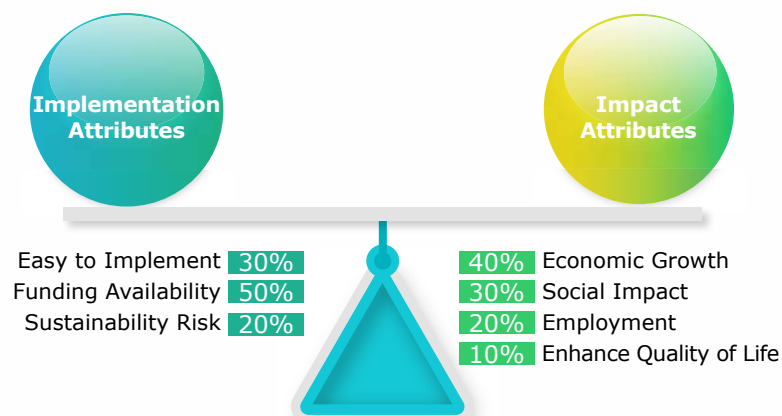
Figure 2	**Implementation and Impact Attributes**	

3.1 Program prioritization and where to start

The programs have been divided based on their nature to three categories in the impact vs implementation matrix:

i. Easy to fund
ii. Challenging
iii. Need drivers

Category 1	Easy to Fund
Program 3	Internet Exchange Points (IXPs) development program.
Program 7	Intellectual Property Protection
Program 8	Data Protection Framework
Program 9	Cybercrime Legislation
Program 11	ICT Vocational Training / ICT Skill Accelerator
Program 12	e-Learning Program / Skill Citizen

Program 15	Crowdfunding Platform
Program 17	Develop a new organization for Arab Commission of Digital Economy
Program 18	Partnership with specialized independent exiting Arab bodies and build new ones to implement
Program 19	Arab Digital Innovation Agency
Program 20	Develop a Registry of Experts and Innovators
Program 23	Recognize and Reward ICT Innovators
Program 24	Arab Innovation Forum
Program 43	Arab Open Solution Platform
Program 44	Digital Content Program
Program 47	Basic level of ICT competence
Program 48	Promote Daily lifestyle Apps Program
Program 50	Develop a legal framework to promote healthy ICT competition

18 Projects

Category 2	Challenging
Program 1	National Broadband Plan
Program 4	Internet of Things and Machine to Machine communications Program.
Program 5	Arab Cybersecurity Development
Program 6	Digital Transformation Framework
Program 10	Partnering with universities to develop relevant ICT curricula
Program 16	Network of Digital Angles
Program 26	E-id
Program 27	e-Procurement Program
Program 28	Develop Regional Single Window (custom & trade)
Program 29	Open Data Program
Program 31	Platform Peer to Peer learning
Program 32	Create Arab ICT Scholarship Program

Program 33	Innovative Technologies for High-tech Classroom (ITHTC)
Program 37	Smart Manufacturing Testbeds
Program 39	Smart Agri-food Accelerator
Program 40	Arab Telework Platform
Program 42	The 100,000 SMEs Online Program
Program 45	New Generation of Telespace for Isolated Communities

18 Projects

Category 3	Need Drivers
Program 2	Arab Datacenter and Cloud services program
Program 13	CT Training Programs for SMEs
Program 14	Attracting FDI in ICT : EU, World Bank..
Program 21	Arab Tech Universities Alliances
Program 22	Create World Class Innovation Hubs
Program 25	Promote e-Gov Initiatives (Guidance, Policy, recommendations...)
Program 30	Arab-wide platform for digital higher education (e-university)
Program 34	Platform for Telemedicine Program
Program 35	Develop e-Trade Platform Management
Program 36	Create a Pan-Arab Cross-border Fintech Regulatory Sandbox
Program 38	Smart Factory
Program 41	SMEs Go Digital Program
Program 49	Social Coverage Incentives
Program 46	Provide Free access to wireless Internet

14 Projects

Figure 3 **Program Prioritization and Where to Start**
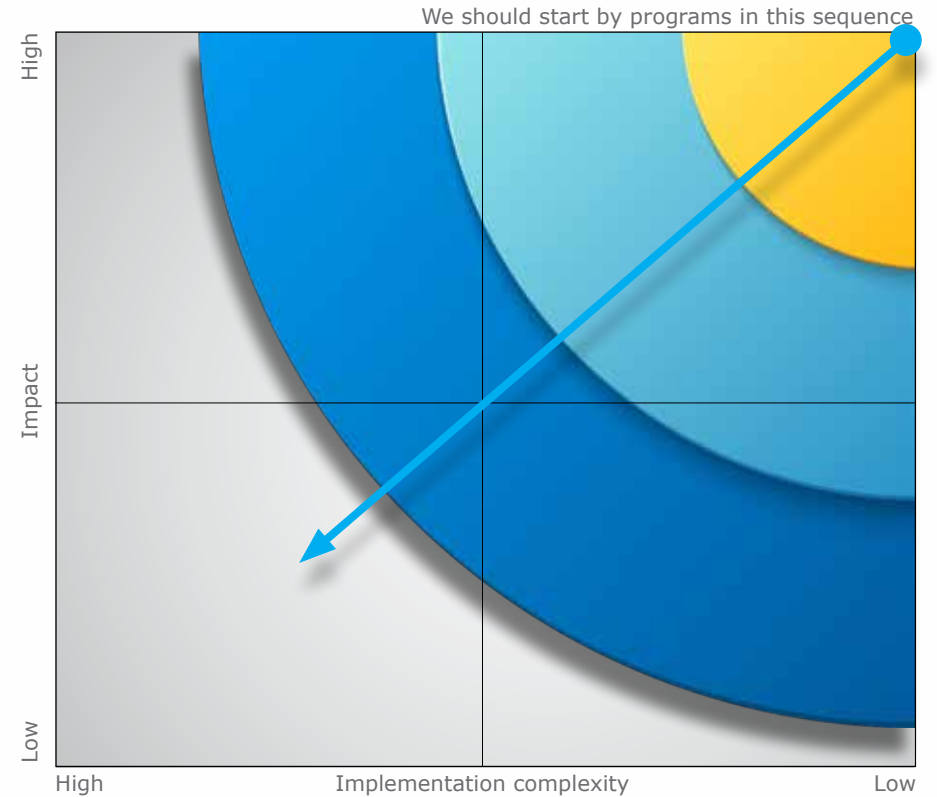

Figure 4 **Impact vs Implementation Complexity**
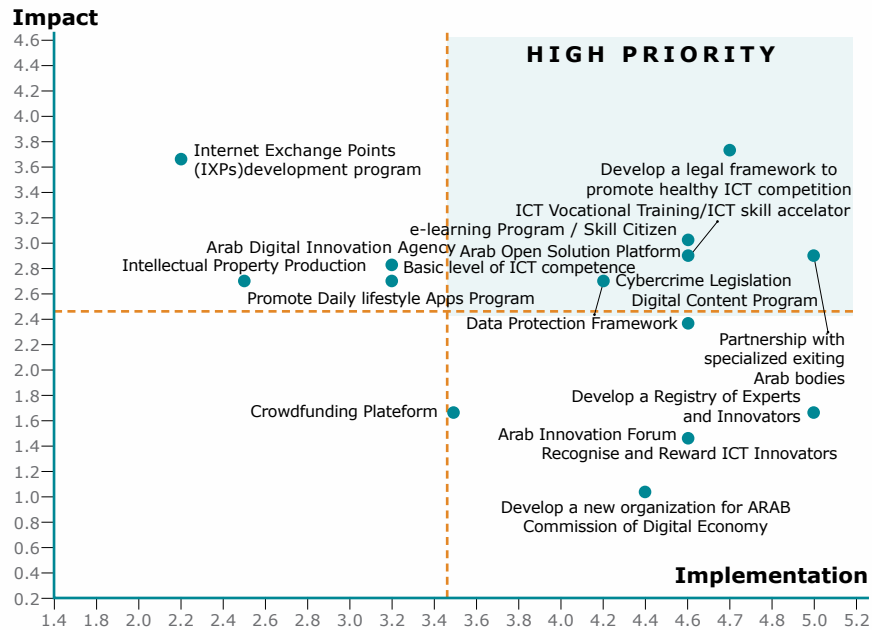
Category 1: Easy to fund

Figure 5 Prioritization of Easy to Fund Programs

As indicated in the above matrix, there are six high priority projects:

- **Program 50:** A legal framework to promote healthy ICT competition

- **Program 12:** E-Learning Program / Skills citizen

- **Program 11:** ICT vocational training / ICT skill accelerator

- **Program 43:** Arab open solution platform

- **Program 9:** Cybercrime legislation

- **Program 8:** Data protection framework

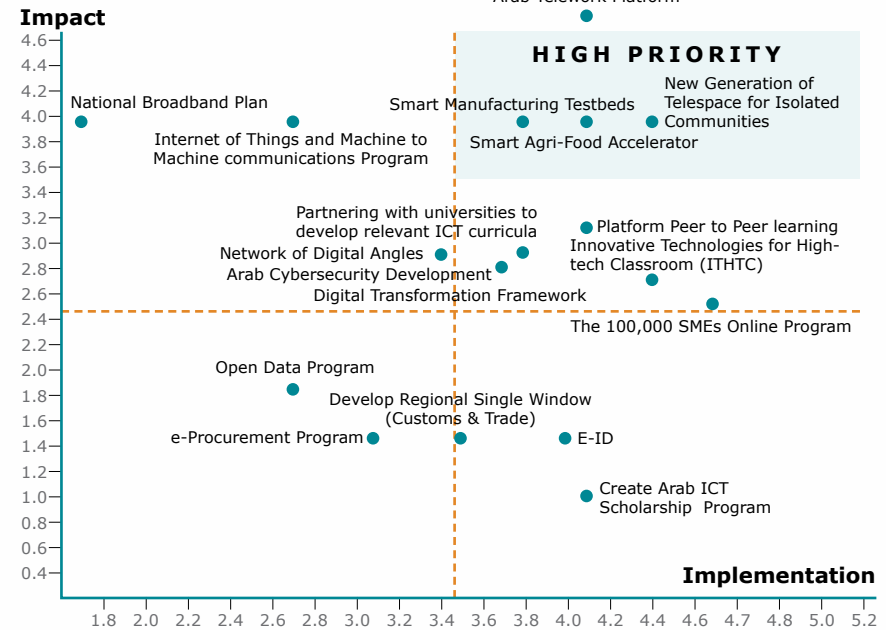## Category 2: Challenging

Figure 6 Prioritization of Challenging Programs

In this matrix, there are four high priority projects:

Program 45: New generation of telespace for isolated communities

Program 37: Smart manufacturing testbeds

Program 39: Smart agri-food accelerattor

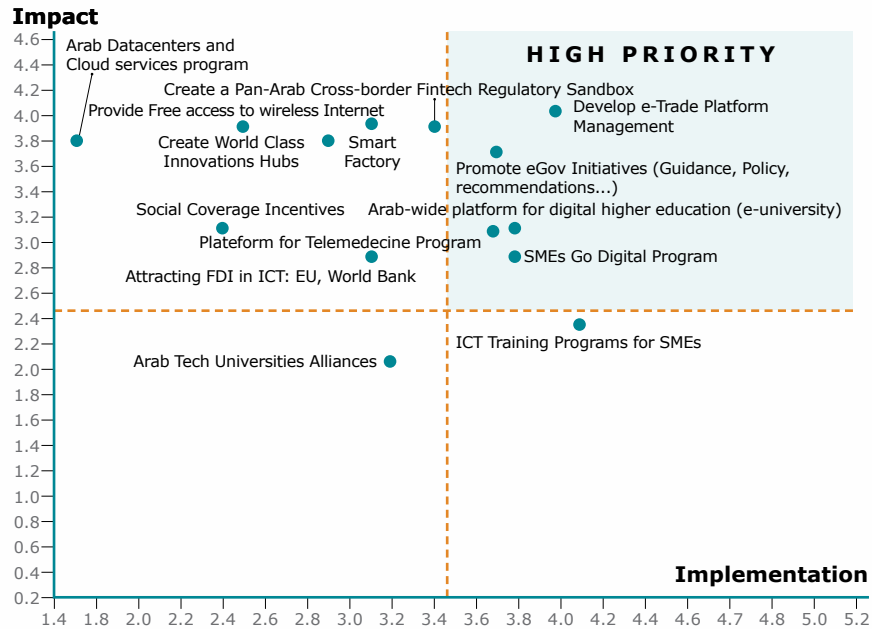**Program 40:** Arab telework platform

Category 3: Need drivers

Prioritization of Need Drivers Programs

In this matrix, there are six high priority projects:

Program 25: Promote e-gov initiatives

Program 30: Arab-wide platform for digital higher education (e-university)

Program 34: Platform for telemedicine program

Program 35: Develop e-trade platform management

Program 36: Create a Pan-Arab cross-border FinTech regulatory sandbox

Program 38: Smart factory

Program 21: Arab tech universities alliances

Thus, one can phase out the 50 programs based on the master plan below:

3.2   Methodological approach

As deliberated in the previous chapters, the strategy is built on five dimensions: Digital foundation, digital innovation, digital govern¬ment, digital business and digital citizen. These five dimensions were then elaborated into fifty programs that would lead to the strategy's vision of successful digital transformation in the Arab countries.

To clearly define each program, we established a unified dashboard including 13 elements that explain in detail the implementation approach for each program. These elements are:

1. Dimensions: The strategy covers five dimensions: Digital foundation, digital innovation, digital government, digital business, and digital citizen. A relevant dimension will be set for each of the programs.

2. Theme: For each of the five dimensions, we have identified a set of themes that need to be covered in the strategy statement, totaling 15 themes. The related themes will be assigned to their relevant programs.

3. Objective: We have identified a set of objectives for each program.

4. Description of the program: Each program description includes information on what outcome the program is designed to impact, the program target, etc.

5. Target audience: Selected Arab countries of each program.

6. Target segment / beneficiaries: The target audience of each program and key beneficiaries.

7. Customer base size: Size of the targeted segment.

8. Program main phases: We identified the detailed program phases between the project kick-off and project closeout.

9. Capital needed: The budget defines only the CAPEX of each project; it does not take the OPEX into consideration.

10. Program owner: The responsible party for the program's execution, whether it is the ACDE, an independent authority, private sector, or any other relevant party.

11. Possible source of fund: The relevant funding sources that would fund this specific kind of program e.g. UNESCO funds education-related programs only; they do not fund healthcare.

12. Critical success factors: Steps or procedures which facilitate and control the operational conditions of a certain program's establishment and promote conditions that are favorable for the execution of that program.

13. Expected timeframe: Setting an estimated time for program execution

3.3 Implementation plan for top ten programs

As mentioned in the previous section, the 50 programs have been filtered in order to identify the highest priority programs, and the result is that there are ten such programs that should be implemented in the pilot phase, with one program (program 17) considered a prerequisite:

Program 17:	Develop a new organization: the Arab Commission of Digital Economy (ACDE)
Program 5:	Arab cybersecurity development
Program 6:	Digital transformation framework
Program 12:	E-learning program / skills citizen
Program 25:	Promote e-gov initiatives
Program 30:	Arab-wide platform for digital higher education (e-university)
Program 34:	Platform for telemedicine program
Program 35:	Develop e-trade platform management
Program 36:	Create a Pan-Arab cross-border FinTech regulatory sandbox
Program 37:	Smart manufacturing testbeds
Program 39:	Smart agri-food accelerator

Detailed description of the programs

Before we go further in the program's details, below is the cumulative budget of the ten programs:

Table (1): Perquisites and Top 10 Programs

Program	Required Budget-CAPEX ($Million)
Prerequisite program	
Program 17: Develop new organization: the Arab Commission of Digital Economy (ACDE)	10
Top 10 programs	
Program 5: Arab cybersecurity development	5
Program 6: Digital transformation framework	5
Program 12: E-learning program / Skills citizen	20
Program 25: Promote e-gov initiatives	10
Program 30: Arab-wide platform for digital higher education (e-university)	40
Program 34: Platform for telemedicine program	40
Program 35: Develop e-trade Platform management	45
Program 36: Create a Pan-Arab cross-border FinTech regulatory sandbox	50
Program 37: Smart manufacturing testbeds	30
Program 39: Smart agri-food accelerator	4.5
TOTAL	259.5

GOVERNANCE

AND STAKEHOLDERS MAPPING

4.0 Governance and stakeholders mapping

4.1 Governing bodies

In order to define the roles and responsibilities of the ACDE, the 50 programs will be divided into two categories: Dependent programs and independent programs. This categorization serves to cluster the programs into programs that will be fully executed and funded by the ACDE and others that will be partially supported, guided and funded by ACDE.

Independent programs:
These are programs that will be fully implemented and executed by the Commission and managed in the operation phase by independent bodies.

Dependent program:
These are the programs where the Commission will provide partial support and give guidance and consultancy without involvement in the execution. The project phase of those programs will be managed directly by the Commission.

Table (2): Dependent and Independent Programs

Programs	Independent	Dependent
Program 1: National broadband plan	✓	
Program 2: Arab datacenters and cloud services program.	✓	
Program 3: Internet exchange points (IXPs) development program.	✓	
Program 4: Internet of things and machine to machine communications program.	✓	
Program 5: Arab cybersecurity development		✓
Program 6: Digital transformation framework		✓
Program 7 Intellectual property protection		✓

Programs	Independent	Dependent
Program 8 Data protection framework		✓
Program 9 Cybercrime legislation		✓
Program 10 Partnering with universities to develop relevant ICT curricula	✓	
Program 11 ICT vocational training / ICT skill accelerator	✓	
Program 12 e-learning program / Skills citizen	✓	
Program 13 ICT training programs for SMEs	✓	
Program 14 Attracting FDI in ICT: EU, World Bank		✓
Program 15 Crowdfunding platform		✓
Program 16 Network of digital angels		✓
Program 17 Develop New Organization for ARAB Commission of Digital Economy		✓
Program 18 Partner with existing specialized independent Arab bodies and build new partnerships to implement the strategy		✓
Program 19: Arab digital innovation agency	✓	
Program 20: Develop a registry of experts and innovators	✓	
Program 21: Arab tech universities alliances	✓	
Program 22: Create world class innovation hubs	✓	
Program 23: Recognize and reward ICT innovators	✓	
Program 24: Arab innovation forum	✓	
Program 25: Promote e-gov initiatives (guidance, policy, recommendations etc.		✓
Program 26: E-ID		✓
Program 27: e-procurement program		✓
Program 28: Develop regional single window (customs & Trade)		✓

Program		
Program 29: Open data program	✓	
Program 30: Arab-wide platform for digital higher education (e-university)	✓	
Program 31: Peer to peer learning platform	✓	
Program 32: Create Arab ICT scholarship program	✓	
Program 33: Innovative technologies for high-tech classrooms (ITHTC)	✓	
Program 34: Platform For telemedecine program	✓	
Program 35: Develop e-trade platform management		✓
Program 36: Create a Pan-Arab cross-border Fintech regulatory sandbox	✓	
Program 37: Smart manufacturing testbeds	✓	
Program 38: Smart factory	✓	
Program 39: Smart agri-food accelerator	✓	
Program 40: Arab telework platform	✓	
Program 41: SMEs go digital program	✓	
Program 42: The 100,000 SMEs online program	✓	
Program 43: Arab open solution platform	✓	
Program 44: Digital content program	✓	
Program 45: New generation of telespace for isolated communities		✓
Program 46: Provide free access to wireless internet	✓	
Program 47: Basic level of ICT competence	✓	
Program 48: Promote daily lifestyle apps program	✓	
Program 49: Social coverage incentives		✓
Program 50: Develop competition in the ICT sector to encourage lower prices	✓	

Independent programs

Independent programs (33) are those programs that will have independent bodies to operate them and will only be supported, guided, supervised, fully or partially funded by ACDE:

Program 1: National Broadband Plan	Program 12: e-learning Program/Skill Citizen	Program 23: Recognize and Reward ICT Innovators
Program 33: Innovative Technologies for Hightech Classrooms (ITHTC	Program 40: Arab Telework Platform	Program 2: Arab Datacenters and Cloud services program
Program 13: ICT Training Programs for SMEs	Program 24: Arab Innovation Forum	Program 34: Platform for Telemedicine Program
Program 41: SMEs Go Digital Platform	Program 3: Internet Exchange Points (IXPs) development program	Program 19: Arab Digital Innovation Agency
Program 29: Open Data Program	Program 36: Create a Pan-Arab Cross-border Fintech Regulatory Sandbox	Program 42: The 100,000 SMEs Online Program
Program 4: Internet of Things and Machine to Machine Program	Program 20: Develop a Registry of Experts and Innovators	Program 30: Arab-wide platform for digital higher education (e-university)
Program 37: Smart Manufacturing Testbeds	Program 43: Arab Open Solution Platform	Program 10: Partnering with universities to develop relevant ICT curricula
Program 21: Arab Tech Universities Alliances	Program 31: Platform Peer to peer learning	Program 38: Smart Factory
Program 44: Digital Content Program	Program 11: ICT vocational Training/ICT skill accelerator	Program 22: Create World Class Innovation Hubs
Program 32: Create Arab ICT Scholarship Program	Program 39: Smart Agri-Food Accelerator	Program 47: Basic Level of ICT competence
Program 46: Provide Free access to wireless Internet	Program 50: Develop a legal framework to promote healthy ICT competition	Program 48: Promote Daily lifestyle Apps Program

The 33 independent programs will then be clustered –based on their mutual scope and framework- into eight groups. These eight groups are actually eight independent bodies that will fully manage and work independently under the umbrella and the supervision of ACDE.

Dependent programs (17) are those programs that will be completely implemented, managed, audited, and financed by the ACDE directly. Most of these programs have a fixed timeline meaning that they will start and finish within a defined period.

Figure 8 Relationship between Arab independent organizations and programs

Knowledge Arab Center
- Program 13: ICT Training Programs for SMEs
- Program 12: e-learning Program / Skills Citizen
- Program 11: ICT Vocational Training / ICT skill accelator
- Program 43: Arab Open Solution Platform
- Program 42: The 100,000 SMEs Online Program
- Program 40: SMEs Go Digital Program
- Program 47: Basic level of ICT competence
- Program 40: Arab Telework Platform

Arab Innovation Hub
- Program 19: Arab Digital Innovation Agency
- Program 22: Create World Class Innovation Hubs
- Program 24: Arab Innovative Forum
- Program 20: Develop a Registry of Experts and Innovators
- Program 23: Recognize and Reward ICT Innovators
- Program 48: Promote Daily lifestyle Apps Program

Arab E-Health Organization AeHO
- Program 34: Platform for Telemedicine Program

Arab Fintech Agency
- Program 36: Create a Pan-Arab Cross-border Fintech Regulatory Sandbox

Arab Union for Precision Agriculture
- Program 39: Smart Agri-Food Accelerator

Accessibility & Communication Excellence Center
- Program 1: National Broadband Plan
- Program 2: Arab Datacenters and Cloud service Program
- Program 29: Open Data Program
- Program 4: Internet of Things and Machine to Machine Program
- Program 50: Develop competition in the ICT selector to encourage low prices
- Program 3: Internet Exchange Points (IXPs) development program
- Program 46: Provide Free access to wireless Internet

Arab Union for Modern Manufacturing
- Program 38: Smart factory
- Program 37: Smart Manufacturing Testbeds

United Arabs E-Unversity
- Program 32: Create Arab ICT Scholarship Program
- Program 30: Arab-wide platform for digital higher education (e-university)
- Program 21: Arab Tech Universities Alliances
- Program 10: Partnering with universities to develop relevant ICT Curricula
- Program 33: Innovative Technologies for High-tech Classrooms (ITHTC)
- Program 31: Platform Peer to Peer learning
- Program 44: Digital Content program

Dependent Programs:
- Program 5: Arab Cybersecurity Development
- Program 15: Crowdfunding Platform
- Program 27: e-Procurement Program
- Program 6: Digital Transformation Framework
- Program 16: Network of Digital Angles
- Program 28: Develop Regional Single Window (Custom & Trade)
- Program 7: Intellectual Property Protection
- Program 17: Develop a new organization for Arab Digital Union
- Program 35: Develop e-Trade Platform Management
- Program 8: Data Protection Framework
- Program 18: Develop a governance framework for each program
- Program 49: Social Coverage incentives
- Program 9: Cybercrime Legislation
- Program 25: Promote eGov Initiatives
- Program 45: New Generation of Telespace for isolated communities
- Program 14: Attracting FDI, EU, World Bank
- Program 26: E-ID

Given the nature of the strategic programs and their unified vision, the formation of the Arab commission of digital economy is the first necessarily initiative to be implemented in order to carry out the 50 programs.

Some initiatives and programs may require the signing of special and limited cooperation agreements regarding the extent and type of cooperation required between the organization and the state - in order to launch it - and to ensure the project's harmony with other similar Arab projects and to ensure joint Arab action and obtain the desired benefit from this cooperation and benefit from a common market size of more than 400 one million population.

Independent bodies

Arab Union for Precision Agriculture AUPA

- AUPA is made to support farmers on the small scale and agriculture ministries on a larger scale in the Arab countries by providing customized information and services that increase productivity, profitability and environmental sustainability.

- Such union can offer many other benefits such as better working conditions for farmers, increased animals welfare and the potential to improve various aspects of environmental stewardship.
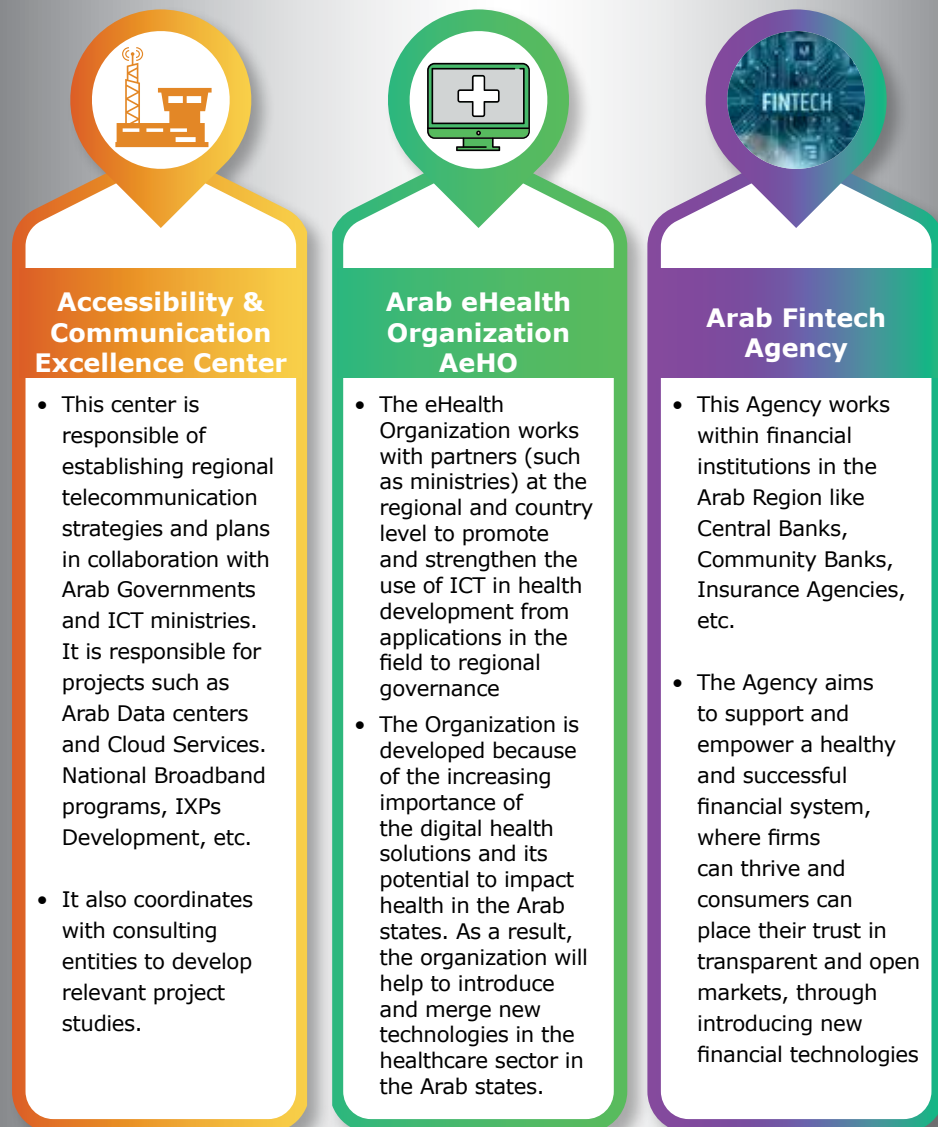
Knowledge for Arabs Center

- The Center is an exceptional partner in developing of new ideas and implementing ICT regional projects

- It manages specialized programs with an aim of enhancing and improving basic ICT knowledge, culture and educational processes in all societal and professional spheres

- The Center provides ICT vocational training, customized training programs for SMEs, basic ICT skills training etc.

Arab Innovation & Technology Institute (AIT)

- The AIT institute enables cross-border Arab collaboration by providing an innovation hub in each Arab state. It offers the benefits of regional ecosystems, partners' facilities, factories and classrooms for joint programs and projects.

- The AIT focus on developing innovative products, services and training in a specific area to create a new innovative and creative generations.
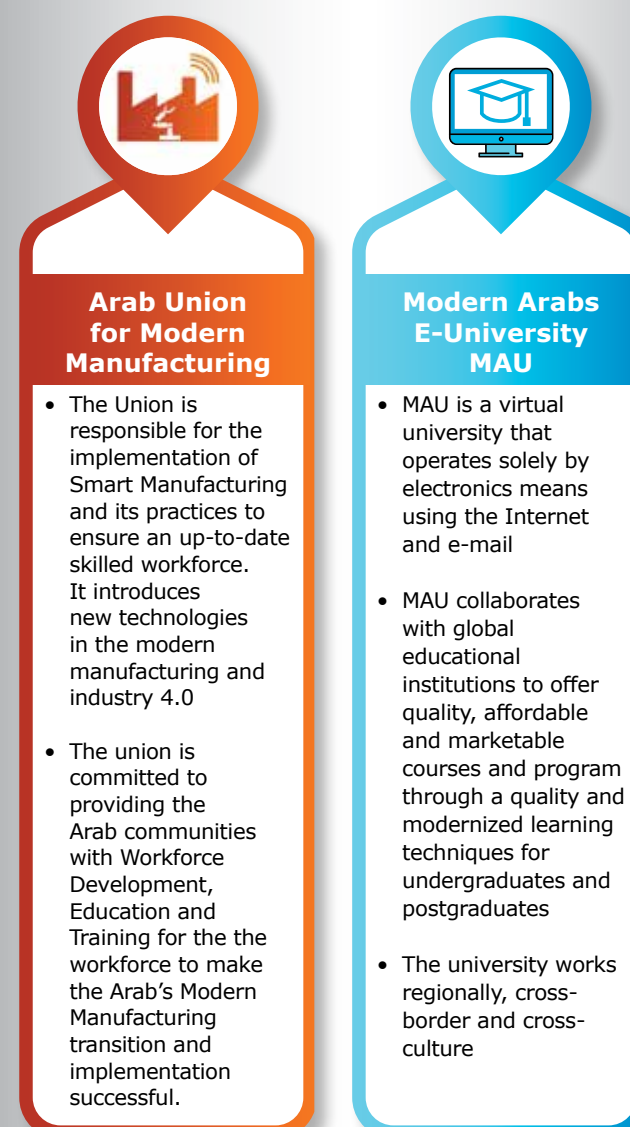
Independent bodies

Accessibility & Communication Excellence Center

- This center is responsible of establishing regional telecommunication strategies and plans in collaboration with Arab Governments and ICT ministries. It is responsible for projects such as Arab Data centers and Cloud Services. National Broadband programs, IXPs Development, etc.

- It also coordinates with consulting entities to develop relevant project studies.

Arab eHealth Organization AeHO

- The eHealth Organization works with partners (such as ministries) at the regional and country level to promote and strengthen the use of ICT in health development from applications in the field to regional governance

- The Organization is developed because of the increasing importance of the digital health solutions and its potential to impact health in the Arab states. As a result, the organization will help to introduce and merge new technologies in the healthcare sector in the Arab states.

Arab Fintech Agency

- This Agency works within financial institutions in the Arab Region like Central Banks, Community Banks, Insurance Agencies, etc.

- The Agency aims to support and empower a healthy and successful financial system, where firms can thrive and consumers can place their trust in transparent and open markets, through introducing new financial technologies

Independent bodies

Arab Union for Modern Manufacturing

- The Union is responsible for the implementation of Smart Manufacturing and its practices to ensure an up-to-date skilled workforce. It introduces new technologies in the modern manufacturing and industry 4.0

- The union is committed to providing the Arab communities with Workforce Development, Education and Training for the the workforce to make the Arab's Modern Manufacturing transition and implementation successful.

Modern Arabs E-University MAU

- MAU is a virtual university that operates solely by electronics means using the Internet and e-mail

- MAU collaborates with global educational institutions to offer quality, affordable and marketable courses and program through a quality and modernized learning techniques for undergraduates and postgraduates

- The university works regionally, cross-border and cross-culture

Figure 9 Independent Arab Organizational Bodies - suggested

For more information about the Commission and its work system, please refer to the book "The Arab Vision for the Digital Economy" Chapter Five - Towards the Implementation of the Arab Vision for the Digital Economy

In the coming sections, we will review the work environment and the various interlocking interests that are influenced and affected by the work of the Arab Commission for the Digital Economy.

4.2 Stakeholders' mapping

According to Project Management Institute (PMI) stakeholders are defined as an individual, group or organization that is actively involved in the project, anyone who may affect, be affected by, or perceive itself to be affected by a decision, activity, product or any type of outcome of the project".[7]

Proactive stakeholder engagement will be critical for the effective delivery of the digital economy strategy. Proactive stakeholder engagement requires the cultivation of relationships that will be critical to the success of the strategy, alongside regular communications about the delivery effort and associated priorities. In the formulation of digital strategy for the league of Arab States we have identified the primary and the secondary stakeholders which include government ministries, international organizations, individual beneficiaries, private sector organizations, government authorities and partners. The roles and responsibilities of each of these stakeholders are listed below.

Internal stakeholders are those who are directly involved in the project whereas the external stakeholders are linked indirectly to the project, though their contribution can be vital for the project completion.

Similarly, in the formulation of the digital economy strategy for the League of Arab States, we have identified a list of Internal and external stakeholders who will play a key role in the successful implementation of the strategy. The table below highlights these stakeholders.

Table (3): Internal and External Stakeholders

Internal	External
Arab Commission for Digital Economy	SMEs
Ministry of ICT	FinTech Firms
Ministry of trade and commerce	Manufacturers
Ministry of finance	Startups
Ministry of education	Hospitals
Ministry of interior Ministry of health care	Education and research institutes
Ministry of culture	Business organizations
Government authorities	Telecom providers
World Bank Group	Internet service providers
European Union (EU)	Citizens, students, employees, medical staff
World Health Organization (WHO)	Marketer, content creator
International Telecommunication Union (ITU)	Equipment providers
UNESCO	ICT experts

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[7]https://www.clarizen.com/project-management-stakeholders/

Government ministries

Within the public sector, goals identified will be considered as high priority and strategic directions will be given. Ministries will achieve the digital economy through political will, supportive policy and adequate funding. These government bodies will:

- Promote the development of ICT infrastructure and uptake of digital services within different sectors.

- Be responsible for the decision making and implementation of the ICT strategy.

- Provide focus on ultimate goals, overall governance and the engagement of relevant parties.

International organizations

The successful implementation of the strategy requires the contribution of international organizations both in kind and cash. These organizations will:

- Provide financial support in each of their respective focus areas such as health, education, ICT infrastructure, finance, and education etc.

- Plan, budget, monitor, audit and market the strategy.

- Act as an implementing agency.

- Provide guidance and advice.

- Establish and coordinate the steering committee.

- Support services for the overall implementation of the project.

- Provide skills, care and diligence to ensure the success of the project.

Individual beneficiaries

These include the list of individuals who will be affected by the outcome of the digital strategy and will help in the evaluation of its impact.

Private sector organizations

These include beneficiary organizations as well as bodies which provide support in terms of telecommunication services, consulting services and training. These organizations will allow the problem solvers to address the problems and create something new. Private-public partnerships will be key for the realizations of digital transformational plans. They will play a fundamental role in the implementation of digital strategy since they will:

- Assist in identifying regional needs as in case of manufacturing sector for smart manufacturing test bed initiative.

- Identify experts and consultants in the region to work with.

- Host training programs conducted under the project.

- Promote the program in the region.

Government Authorities

These authorities oversee the digital transformation plans and telecommunication sector within their countries. They will enable the management of the inter-dependencies and interaction between players and mitigate the risks associated with adopting different policies and implementing various actions. These authorities will report to the ministry responsible for digital economy and will:

- Oversee the implementation of the strategy ensuring the necessary commitment and involvement of various stakeholders.

- Provide leadership, mentorship and support to stakeholders in understanding and implementing the strategy.

- Oversee progress and provide direction on major ICT investments.

- Develop framework and tools to measure the benefits gained from digital experience and make the results accessible to all.

- Market and promote the strategy and associated actions and initiatives.

- Re-calibrate the strategy as necessary.

- Celebrate and share success stories.

Partners

Partners include tech equipment providers, marketeers, IT support individuals and ICT experts. These individuals will:

- Provide tech guidance, marketing and IT support as well as advice and expertise on digital strategy formulation.

- Partner with implementing agency in the purchase of the recommended equipment- hardware support.

- Provide project facilities, resources and conduct training sessions.

- Provide hardware and software facilities as properly required by the project.

The figure below maps each of the stakeholder within the ecosystem of Arab digital economy strategy, along with the role of each actor.
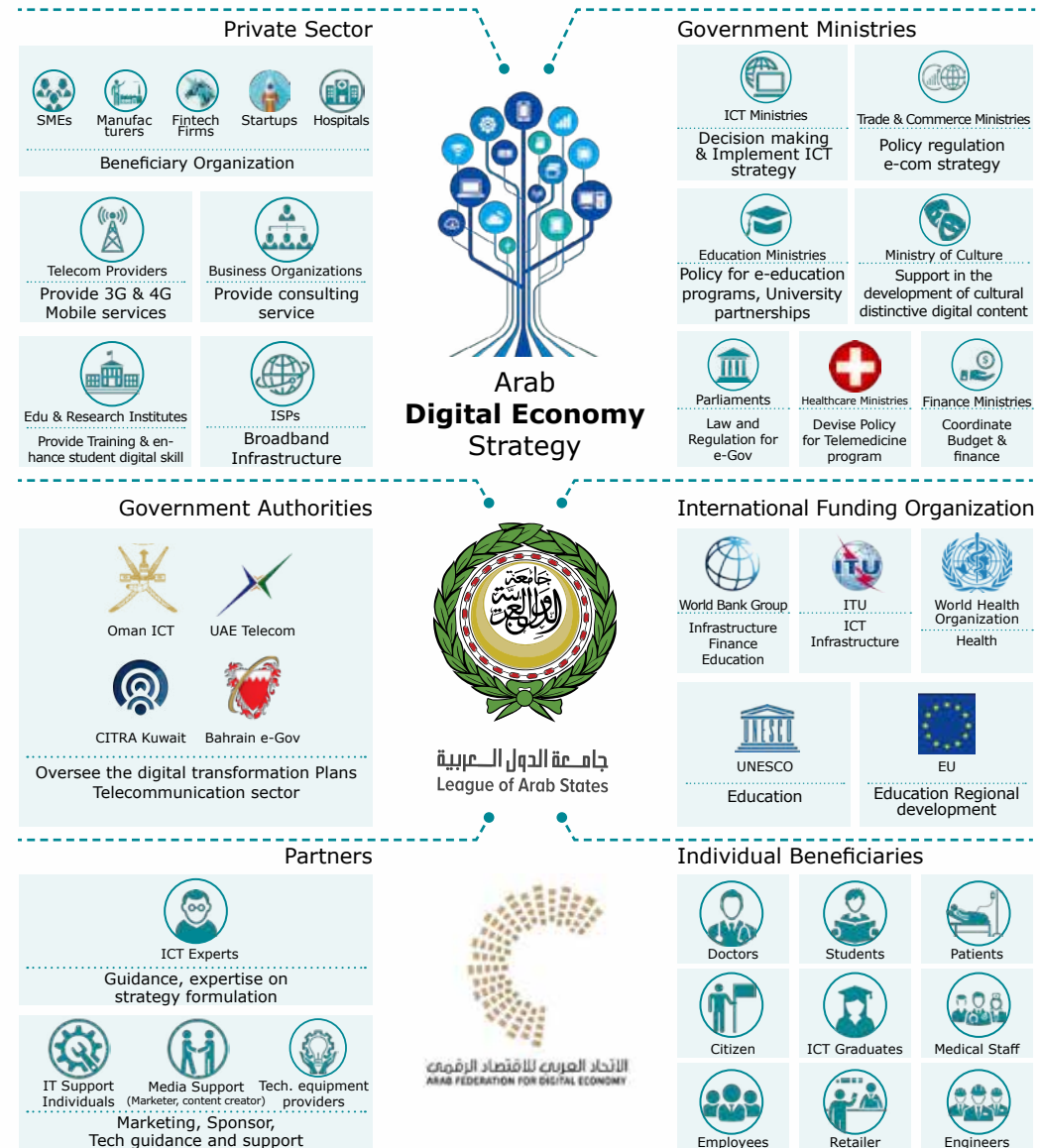
Figure 10 Stakeholders Mapping

Power vs interest matrix

After mapping all the interactions of the stakeholders, we will qualify the stakeholders based on power vs. interest matrix.
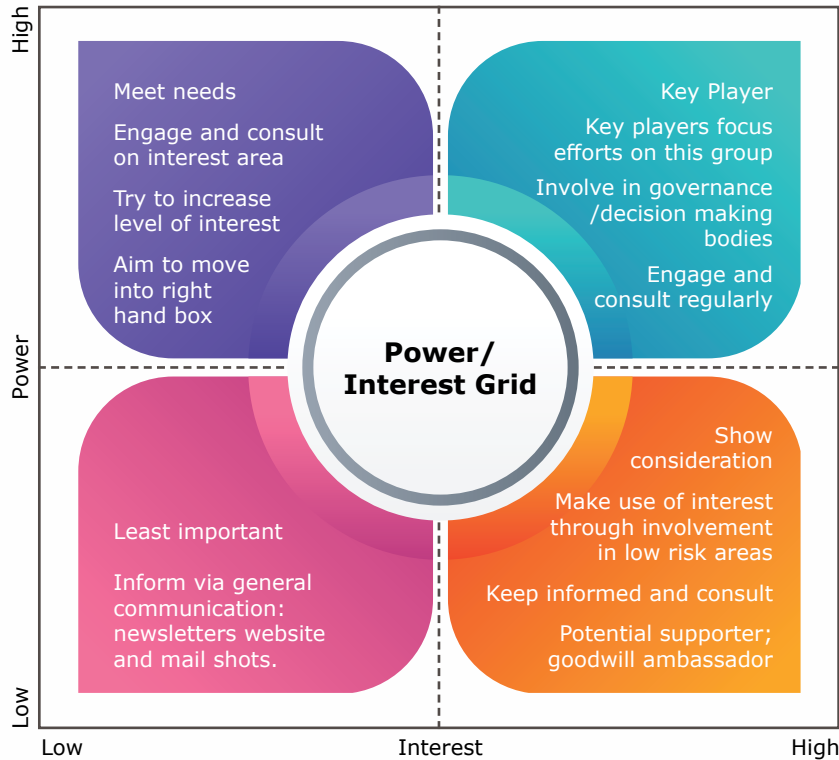
Figure 11 Power vs interest matrix

Power vs Interest Matrix
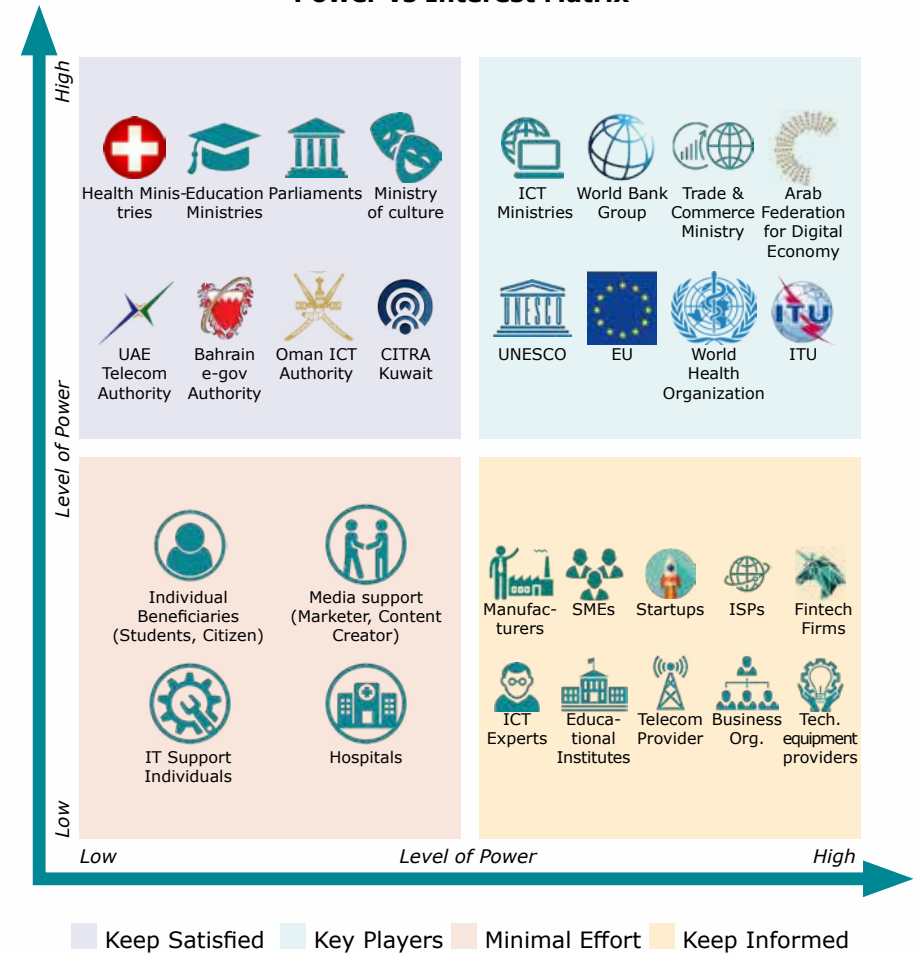
Figure 12 Power vs interest matrix

Figure (20) illustrates the strategy for communication and relationship management with each group of stakeholders in general, which must be flexible and able to accommodate the changing communication requirements, with the aim that the work environment of the Commission be dynamic and dynamic and lead to the desired goals and decreed for it.

The corporate institutional communication strategy with its partners should be based on the following:

Key players
ICT ministry along with international organizations (ITU, WHO, World Bank, EU, UNESCO) will be key players in the digital economy strategy. They will be directly involved in decision making and need to be informed on regular basis about the progress achieved. These international organizations will act as implementing agency in some of the programs and will provide funding and support clearly indicating their high stakes in this strategy. ICT ministry together with these international organizations will be an enabling arm for governments of Arab countries in planning, coordinating and directing efforts to initiate and launch digital strategy programs within their countries. Thus, these stakeholders possess high level of power and interest in the digital economy strategy and will be key stakeholders in the successful implementation of the digital strategy.

Keep satisfied
Some of the stakeholders falling in this category such as the ministries of education, interior, health, and culture ministry will be engaged and consulted on the programs/initiatives targeting education, governance, health and cultural inclusion respectively. Several e-government, ICT and telecom authorities are already overseeing the digital transformation plans within their countries. Hence there is an utmost need to collaborate with these authorities wherever possible to avoid conflict of interest and in the process, keep them satisfied. These stakeholders possess high level power but low level of interest as compared to key players.

Keep informed
These stakeholders are potential supporters and goodwill ambassadors for the digital economy strategy. They play a critical role in digitization efforts as startups will create innovative solutions; manufacturers and SMEs will incorporate industry 4.0 concept within their industry; FinTech firm will lead the innovation in finance sectors; educational institutes will provide education training and support and will carry out research and development activities; and ICT experts and business organizations will provide their professional services. These roles clearly demonstrate the high level of interest as these stakeholders will be directly affected by digitization efforts and programs need to consider their interest closely. At the same time, they have low level of power as they don't have the power to influence the strategic objectives. A special consideration will be given to these stakeholders for their continued efforts towards achieving digital economy.

Minimal Effort
These groups of stakeholders consist of individual beneficiaries (students, citizens, patients etc.), technology equipment providers, marketeers and content creators. For the most part these stakeholders (citizens, students) are not even fully aware of the digital strategy efforts being carried out. As far as equipment providers, marketeers and content creators are concerned they will be only involved in specific activities with limited scope. This clearly depicts them as having limited amount of interest and power in the digital strategy and need only be informed via general communication newsletters, websites, and emails.

4.3 Financing the strategy

As shown in the illustration below, there are three sources of funding for the strategy development and implementation:

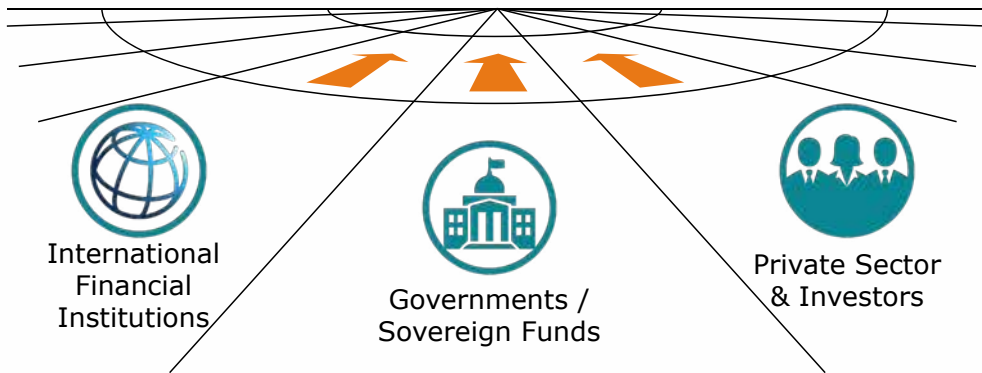**50 Programs for Digital Transformation**

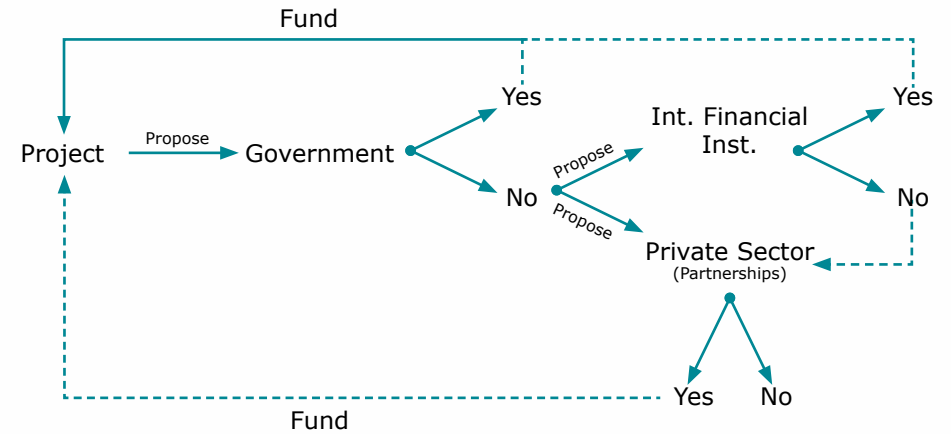**Figure 13** **Main Three Sources of Funding**

Funding process

Figure 14 **Funding Process**

ACDE represents the Arab countries. However, it does not speak on behalf of their competent authorities, rather it offers support to the Arab countries in achieving common objectives. National projects will be managed and executed directly by the Arab governments, while projects that are of a regional nature will be managed directly by the Commission and its affiliated organizations.

ACDE is a non-profit organization supervised by the Arab countries through the League of Arab States and is directed by a general commissioner. In order to implement its initiatives and programs, ACDE seeks grants or long-term loans. It is recommended that the execution of programs be delegated to specialized Arab organizations or private entities through agreements. These entities take charge of the payment of loan installments annually through the rental fees or the exploitation of rights to assets owned by the Commission.

For the programs that are of a national nature, ACDE can have a restricted role of guidance and support by providing consulting services (concept document). During the execution of the program by the government of an Arab country, and upon request, ACDE can offer technical and/or financial support by providing direct investments, loans, grants or by initiating PPP partnerships. The main advantage of international fund or other financing sources in the actual context of implementation comes from the feasibility of proposed program within the strategic context of the Arab digital economy. The Commission can also provide project control and management services for projects of a special nature based on the request of interested states.

One of the most important roles of the Commission is that it is mandated by Arab countries to cooperate, communicate and manage sustainable relations with donors and investors in the Arab and international contexts. For international donors, the Commission is a neutral body and an assembly organization of start-ups and feasible programs that are well integrated and unified around one strategic vision.

It is important to note that the return on investment from the programs is going to impact their medium- and long-term financial sustainability. At initial stages, the programs will rely only to external donors and lending agencies and gradually will become less reliant on the external financial sources and more depended on their generated revenues. This would help each program to sustain itself during its later and maturity phases stages.

List of funding sources
As shown in Appendix 4, there is a list of the most recognized funding sources, their funding scope, their most recent allocated budgets for funds in 2018, and their funding seal (limit) per one project.

(For more information on Arab and international funding providers, please refer to Appendix 4).

APPENDICES

Appendix 1.0: Detailed description of Top 10 Programs

Program 5: Arab cybersecurity development

Dimension	Digital foundation	Theme	Infrastructure	Objective	Enhancing the Internet Ecosystem
Description of the program	This program should build on the current cooperation between the Arab CERTs. It should establish a group of CERT experts and industry cybersecurity experts to provide support to all stakeholders (service providers, government and private sector users). Such support may include information on state-of-the-art tools and applications for cybersecurity, capacity building programs for cybersecurity professionals and programs to develop indigenous development capabilities to protect the Arab cyberspace. In addition, the support can include regional/national cyber security critical product R&D coordination especially for peripheral layer devices, and regional cybersecurity coordination strategy.	**Target Audience**	Regional		
		Target Segment **Beneficia-ries**	CERTs, telecom service providers, banks, government agencies, utilities,		

Program main phases	1. The ACDE expert committee together with the Arab CERTs group will establish a working cybersecurity group. The group will be composed of senior cybersecurity experts from CERTs, universities, and leading banks and utilities. 2. The working group will establish a cybersecurity institute. The institute will provide capacity building in cooperation with international cybersecurity training schools for cybersecurity professionals in the Arab region. 3. The working group will establish a cybersecurity development program. The program will provide grants for cybersecurity research centers and relevant universities to develop indigenous cybersecurity technology and applications for the Arab states users. The program may support cybersecurity application developers in the Arab states. 4. The group will continue its activities after the program is complete. The program is needed for a longer period due to the nature and importance of cybersecurity in maintaining the transformation to digital economy.	**Customer base size**	About 20,000 cybersecurity professionals employed in the target segment
		Capital Needed	USD 5 million for the initial program USD 1 million yearly support after that
		Program Owner	Arab Commission for Digital Economy (ACDE)
		Possible source of fund	Arab states governments, Arab Fund for Social and Economic Development, EBRD
Critical success factors	Commitment of Arab CERT group and Arab government to support the program.	Expected timeframe: 5 Years	

Program 6: Digital transformation framework

Dimension	Digital foundation	Theme	Policies and Regulations	Objective	Implementing Policies and Regulations for Digital Economy
Description of the program	Develop the digital transformation framework including support for the different states to establish the full set of regulatory agencies needed to support the digital economy, and establish a digital transformation agency to oversee and direct all technical, legislative, and policy activities required to achieve that goal. The established agency will coordinate digital transformation in the public agencies in their own countries.	**Target Audience**			Regional
		Target Segment			Arab states
		Beneficia-ries			Arab governments
Program main phases	1. Establish ACDE expert committee for digital transformation. 2. The committee will produce the tender documents for the selection of an international consulting firm to design and produce the digital transformation framework. 3. Select an international consulting firm. 4. The consulting firm in cooperation with the committee will perform all the tasks specified in the scope of work as per the tender to produce the digital transformation framework customized for the Arab region. 5. Versions of the framework will be produced to fit the countries in the Arab region. 6. Arab states will establish a local expert committee for digital transformation reporting to the digital transformation agency in the state. 7. The ACDE expert committee will assist all the Arab states to create their own versions in cooperation with the local committee established in each state.	**Customer Base size**			22 Arab states
		Capital Needed			Regional framework country development USD 2 million. Framework per state USD 200 K.
		Program Owner			Arab Commission for Digital Economy (ACDE)
		Capital Needed			Kuwait Fund for Arab Economic Development, World Bank Group and Arab Fund for Economic and Social Development

Critical success factors	Arab states must designate the digital transformation as a top priority. Each state will establish a high level agency reporting to the head of state to manage and direct its digital transformation.	Expected Timeframe: 2 Years

Program 12: E-learning program /skills citizen

Dimension	Digital foundation	Theme	Human Capital Sills	Objective	Enhance ICT Skills & Competences at different levels
Description of the program	A program that aims to provide citizens in general with the opportunities to develop their fullest potential in terms of technological knowledge, new ICT applications and general skills throughout life, regardless of their starting points. The program will cover all age groups, starting from preschool years, early career, mid-career or even silver years. There will be a variety of resources to help each group to attain mastery of skills and knowledge.	**Target Audience**			Regional
		Target Segment/ Beneficia-ries			High schools, university students, workers and professionals
Program main phases	1. Define the training catalog to be delivered to citizens 2. Partnerships with training firms to deliver the training content online 3. Develop an online e-learning platform that is available for any Arab citizen (to be accessed with passport or ID number) 4. Develop the operating model to manage the training activities (subscription, follow-up, evaluation, payment etc.) 5. Provide incentives and additional civic benefits for the users	Customer Base Size			Over 200,000,000 Arab citizens
		Capital Needed			$ 20,000,000
		Program Owner			Knowledge for Arabs center
		Possible Source of Fund			AGFUND, Saudi Fund for Development, UNCTAD, United Nations Economic and Social Commission for Western Asia.

Critical success factors	ICT infrastructure, internet access, program designers, videographers, legal and policy framework, web developer, marketers.	Expected Timeframe: 6 Months to 1 year

Program 25: Promote e-government initiatives

Dimension	Digital Innovation	Theme	Ecosystem of Innovation	Objective	Building Innovation Capacity
Description of the program	Provide the technical framework that supports the implementation of e-government sectors, benchmark success and e-government transformation stories by providing similar operating systems, applications, and tools. Bring in experts to transfer knowledge and the know-how for correct execution.	**Target Audience**	Regional		
	Introduce the best practices of e-gov such as Registered E-Mail (REM); establish Points of Single Contact (PSCs) for the business world.	**Target Segment/ Beneficiaries**	ICT agencies, ministries		
	Develop regional PSCs as e-government portals that allow service providers to obtain the information they need and complete administrative procedures online.				
Program main phases	1. Publish - broadening access to government information. Examples: Online laws, regulations, and judicial opinions, websites for environmental data and health information, government portals (services).	Customer Base Size	22 governments		
		Capital Needed	$10,000,000		
	2. Interact - increasing public participation in government decision-making. Examples: E-mail addresses for public officials, online comments on proposed laws, and online forums.	**Program Owner**	ACDE		

	3. Transact – making government services more readily available to the public. Examples: E-procurement, e-filing of government documents, online permits, and electronic tax payments. 4. Support – provide technical support to governments to implement the e-government (solutions ready to use, subject matters expert, ITC companies, benchmark etc.)	**Possible source of fund**	World Bank Group, WTO, IMF, French Development Agency
Critical success factors	ICT expertise in different sectors, regulation framework, authorization, ICT infrastructure.	Expected Timeframe: 5 Year	

Program 30: Arab-wide platform for digital higher education (e-university)

Dimension	Digital Government	Theme	Citizen Welfare	Objective	Enhancing the Internet Ecosystem
Description of the program	Support the development higher education by providing a robust remote digital higher education platform that supports distance learning; establishing the first Arab e-university that provides high quality online education, whether bachelors or masters diplomas, in order to increase accessibility in remote and inaccessible areas. Introduce the best education approaches such as Life - Event Approach. Ensure cross-border recognition of studies.	**Target Audience**	Regional		
		Target Segment/ Beneficiaries	High School and University Students		

Program main phases	1- Registration and licensing of the university. 2- Design the operating model (administrative and academic). 3- Define the infrastructure and technologies needed to run the e-university. 4- Create partnerships with top local and global universities to build the curriculum and recruit highly skilled professors. 5- Set up a team to create a smooth online platform taking into consideration the benchmarks (EU universities). 6- Attain international certifications on all provided courses (part of it is recorded lectures and material, and the other part is live). 7- To guarantee the quality of education (especially online education), one of the key success pillars is to create partnerships with leaders of industries to provide training and internships for the students (as an integral part of the curriculum).	Customer Base Size	35,000 to 65,000 entrants per semester (for all majors)
		Capital Needed	USD 40 Million for the implementation
		Program Owner	United Arabs E-University
		Possible source of fund	World Bank, UNESCO, USAID
Critical success factors	Professors from different backgrounds, videographers, web developers, affiliation and accreditations with highly ranked universities, course designers, maintenance team (IT engineers) and administration team.		Expected Timeframe: 3 Years

Program 34: Platform for telemedicine program

Dimension	Digital Government	Theme	Citizen Welfare	Objective	Foster cross-border healthcare, health security, solidarity and equity
Description of the program	Telehealth or Telemedicine is a digital platform that connects doctors to patients through videos. By providing the basic infrastructure in remote and rural areas, patients can reach doctors and consult them online. The service consists of delivering health service at --distance. A regional telehealth framework must deliberately focus on a set of manageable telehealth services that will deliver the greatest health and wellness outcomes.			Target Audience	Selected Arab Countries
				Target Segment/ Beneficiaries	Patients and hospitals
Program main phases	1. Define clear objectives and goals from the telemedicine program (visits via video to increase access to medical services, cost reduction, etc.) 2. Select technology partner to design and implement the platform. 3. Put a cross functional team from the beneficiary hospitals and ITC providers. 4. Define laws and regulations supporting the telemedicine program in the targeted countries. 5. Implement telemedicine technologies in the selected hospitals. 6. Wide marketing activities to communicate the new service providers.			Customer Base Size	1.2 million patients Network of 20 hospitals
				Capital Needed	USD 40 million implementation
				Program Owner	Arab E-Health Organization (AeHO)
				Possible source of fund	Arab Fund for Economic and Social Development, Development Bank Southern Africa, Kuwait Fund for Arab Economic Development.
Critical success factors	Adjustment of regulations and policies / training / protection of the patients				Expected Timeframe: 5 Years

Program 35: Develop e-trade platform management

Dimension	Digital Business	Theme	Contribution of digital in GDP	Objective	Open market for additional economic growth
Description of the program	Develop a platform composed of a set of integrated applications and services to facilitate business transactions between countries. The platform can be developed to integrate most of the functions of intra-Arab trade between companies and individuals and in conjunction with the financial and customs authorities and other concerned bodies.	**Target Audience**			Selected Arab Countries
		Target Segment/ Beneficia-ries			e-retailers / B2B business
Program main phases	1. Define the legal framework that allows digital transactions between countries (retail / B2B business) 2. Define technical and financial conditions by category of business 3. Define the infrastructure and technologies needed to run the platform and allow secure and safe transactions 4. Partner with IT company to develop the IT platform and ensure interfaces between the different stakeholders involved in the value chain of the e-trade transaction (bank, customs, companies, governments etc.) 5. Define progressive roadmap of integration of the business /sectors 6. Provide technical and legal support to the users of the platform.	Customer Base Size			100,000
		Capital Needed			USD 45 million Implementation
		Program Owner			Arab Union for E-Commerce
		Possible source of fund			UNCTAD
Critical success factors	E-commerce framework; high speed broadband; internet infrastructure, coordination between different authorities; build consumer trust; consumer with internet knowledge.				Expected Timeframe: 3 Years

Program 36: Create a Pan-Arab cross-border FinTech regulatory sandbox

Dimension	Digital Business	Theme	Contribution of digital in GDP	Objective	Open Market for more additional economic growth
Description of the program	An integrated lab for collaboration between Arab banks, microfinance institutions, non-banking financial institutions and regional FinTechs. The platform will facilitate development and experimentation of innovative digital financial products and services and support financial services innovation and inclusion in less developed markets within the Arab region. Businesses will be able to test innovative products, services, business models and delivery mechanisms without immediately incurring all the normal regulatory consequences of engaging in the activity in question in the Arab financial services market.	**Target Audience**			Selected Arab Countries
		Target Segment/ Beneficia-ries			FinTech firms and banks
Program main phases	1. Develop a financial conduct authority which will act as a regulator for sandbox and real-life environment to test FinTech applications before launching. 2. Develop the real-life environment in partnership with financial institutions. 3. Develop the process of integration of FinTech firms in the sandbox: • Application and selection: Identification of FinTech models relevant to local development and areas that would benefit from real-life experiments.	Customer Base Size			500 FinTech firms
		Capital Needed			USD 50 million Implementation
		Program Owner			Arab Fintech Agency

Program main phases	• Authorizations: After acceptance the FinTech firms have to complete all the paperwork and set up the capabilities to obtain the necessary authorizations • Testing: Develop customer safeguards including strict trial scope, clear exit strategy, and risk management measures. • Exit and implementation: Define clear and harmonized criteria framework for product launch that includes application, preparation, experimentation and product validation and finally launch.	Possible source of fund	World Bank Group, The OPEC Fund For International Development.
Critical success factors	Lab for testing FinTech product. Contribution from financial institutions such as banks, FinTech regulation standards and licensing flexibility for FinTech firms	Expected Timeframe: 3 Years	

Program 37: Smart manufacturing testbeds (5 labs will be installed)

Dimension	Digital Business	Theme	Contribution of digital in GDP	Objective	Open Market for more additional economic growth
Description of the program	Smart manufacturing testbeds will be installed at different locations across the Arab region depending on the competency and requirements of the manufacturing sector within that region. These testbeds will provide practical environments for designing, testing, experimenting with and deploying technological solutions. In addition to that, companies will be provided with technological and market understanding, including training and specific tools.			**Target Audience**	Selected Arab Countries
				Target Segment/ Beneficiaries	Manufacturers

Program main phases	1. Setting up five labs in different locations based on regional competency. 2. Creating national and regional ecosystems and interrelated networks of companies and knowledge institutions by lab. 3. Providing companies with technological and market understanding, best practices and tools and digital test environment. Specific activities cover presentations, a website, online training modules and business team trainings. 4. Strengthening R&D incentives in field labs and developing a long-term smart industry research agenda together with top sectors to allow participants to design, test and experiment technological solutions. 5. Deploying technological solutions within the manufacturing industry as pilot projects.	Customer Base Size	50
		Capital Needed	USD 30z million Implementation
		Program Owner	Arab Union for Modern Manufacturing
		Possible source of fund	French Development Agency, AbuDhabi Fund for Development
Critical success factors	Setting up framework to adopt industry 4.0; strong ICT infrastructure and knowledge position. Expert research to address key challenges and potential impact on industry and society; encourage industry and technology organizations to launch SI and support in implementation of activities	Expected Timeframe: 4 Years	

Program 39: Smart agri-food accelerator

Dimension	Digital Business	Theme	Contribution of digital in GDP	Objective	Open Market for more additional economic growth
Description of the program	Smart agri-food accelerator program will assist SME's, agriculture entrepreneurs and individuals working in smart agrimatics to transform innovative ideas into new agriculture technology (AGTECH) applications and services. It will support their growth by providing access to various funding sources, offices, workshops and expert advice. In addition to that, SMEs will receive incubation support from a mentoring team which will work with them to develop and commercialize their agri-food products. Projects will address one or more of the three representative farming subsectors: Arable farming, horticulture and livestock farming.			**Target Audience**	Selected Arab Countries
				Target Segment/ Beneficia-ries	Agri Entre-preneurs
Program main phases	1. Carry out research to identify the need for smart agriculture applications and services. 2. Set up an accelerator program through government and industry partnerships where SMEs can develop prototypes and carry out end user trials and business models for new products and services for agriculture. Collaborate with leading ICT companies that already working on agriculture technology. 3. Develop a B2B collaboration platform by creating a marketplace with a large number of affordable smart apps and services with high end user take up			Customer Base Size	50
				Capital Needed	USD 4.5 million
				Program Owner	Arab Union for Precision Agriculture
				Possible source of fund	African Development Bank, World Bank Group, International Fund for Agriculture Development, UNCTAD.

4. Allow access to open source platforms in order to use powerful APIs in their products and services.
5. Integration of business to business platforms which will connect entrepreneurs with business partners, suppliers and other companies.

Critical success factors	Open-cloud infrastructure, application programming interface (APIs), funding and agritech providers.	Expected Timeframe: 2 Years

Appendix 2.0: Masterplan of Digital Economy

Dimension	Themes	Strategic Objectives	Programs	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
1 - Digital Foundations	Infrastructure	1. Developing the Telecommunication Infrastructure	1. National Broadband Plan		█	█								
			2. Arab Datacenters and Cloud services program.				█	█						
		2. Enhancing the Internet Ecosystem	3. Internet Exchange Points (IXPs) development program.		█									
			4. Internet of Things and Machine to Machine communications Program.					█	█					
			5. Arab Cybersecurity Development				█	█	█					
	Policies & Regulations	3. Implementing Regulations and Policies for Digital Economy	6. Digital Transformation Framework			█								
			7. Intellectual Property Protection			█								
			8. Data Protection Framework			█	█							
			9. Cybercrime Legislation			█								
	Human Capital Skills	4. Enhance ICT Skills & Competences at different levels	10. Partnering with universities to develop relevant ICT curricula			█								
			11. ICT Vocational Training / ICTskill accelator				█	█						
			12. e-learning Program / Skills Citizen		█									
			13. ICT Training Programs for SMEs					█						

Appendix 2.0: Masterplan of Digital Economy

Dimension	Themes	Strategic Objectives	Programs	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
1 - Digital Foundations	Funding	5. Ensuring fund Availability	14. Attracting FDI in ICT: EU, World Bank ..		█	█								
			15. Crowdfunding Plateform		█	█								
			16. Network of Digital Angles		█	█								
	Governance	6. Establishing Digital Governance Bodies	17. Develop a new organization for ARAB DIGITAL UNION	█										
			18. Partnership with specialized independent exiting Arab bodies and build new ones to implement the strategy	█										
		7. Creating Environment which fosters innovation within a community	19. Arab Digital Innovation Agency		█									
			20. Develop a Registry of Experts and Innovators		█									
2 - Digital Innovation	Ecosystem of Innovation	8. Building Innovation Capacity	21. Arab Tech Universities Alliances				█	█	█	█	█	█		
			22. Create World Class Innovation Hubs										█	
		9. Promote The innovation	23. Recognise and Reward ICT Innovators											
			24. Arab Innovation Forum											

Dimension	Themes	Strategic Objectives	Programs	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
3- Digital Government	Service Delivery	10. Government Online Services	25. Promote eGov Initiatives (Guidance, Policy, recommendations …)		X	X								
			26. E-ID											
		11. Increase inter-Government interaction	27. e- Procurement Program			X		X						
			28. Develop Regional Single Window (customs & Trade)			X	X		X					
	Open Data	12. Build Public Data Content as Economic Growth driver	29. Open Data Program							X	X			
		13. Enhance citizen Education by ICT usage	30. Arab-wide platform for digital higher education (e-university)		X	X	X							
			31. Platform Peer to Peer learning		X		X							
			32. Create Arab ICT Scholarship Program				X							
	Citizen Welfare		33. Innovative Technologies for High-tech Classrooms (ITHTC)		X		X		X				X	
		14. Foster cross-border healthcare, health security, solidarity and equity	34. Platform For Telemedicine Program		X	X	X	X						

Appendix 2.0: Masterplan of Digital Economy

Dimension	Themes	Strategic Objectives	Programs	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
4- Digital Business	Contribution of digital in GDP	Open Market for more additional economic growth	35. Develop e-Trade Platform Management		X	X	X							
			36. Create a Pan-Arab Cross-border Fintech Regulatory Sandbox		X	X	X							
			37. Smart Manufacturing Testbeds					X						
			38. Smart Factory										X	
			39. Smart Agri-Food Accelerator			X								
		Increas the Digital employment	40. Arab Telework Platform				X		X					
	SMEs	Incrrease the Adoption of ICT by SMEs	41. SMEs Go Digital Program						X					
			42. The 100,000 SMEs Online Program						X					
			43. Arab Open Solution Platform		X									
			44. Digital Content program				X							
5- Digital Citizen	Adoption / Inclusion / Accessibility	Ensure inclusive and equal access to digital technology.	45. New Generation of Telespace for Isolated Communities				X				X			
			46. Provide Free access to wireless Internet							X				
		Enhancing Digital Literacy and Social Inclusion	47. Basic level of ICT competence				X				X			
	Affordability	Enhance the Fixed broadband internet tariffs	48. Promote Daily lifestyle Apps Program								X			
			49. Social Coverage Incentives					X						
			50. Develop a legal framework to promote healthy ICT competition					X						

Appendix 3.0: List of Funding Sources

Name of Organiza-tions	Scope	Reference	Allocated Funding Budget 2018	Funding Seal/ Project
World Bank Group	Agriculture, education, energy, financial sector, health, industry and trade, public administration, transportation, social protection, water and sanitation	https://www.worldbank.org/	USD 10.7 billion	USD 191.071 million
United Nations Children's Fund (UNICEF)	Health and well-being of Children	https://www.unicef.org/what-we-do	USD 24.0 billion	*
World Health Organization (WHO)	Health care	https://www.who.int/	USD 4.422 billion	USD 902.8 million
African Development Bank (ADB)	Agriculture and agri-business, economic and financial governance, education, energy and power, human capital development, health, ICT, infrastructure, private sector, transport	https://www.afdb.org/en/	USD 1.954 billion	*
World Trade Organization (WTO)	Trade	https://www.wto.org/	USD 0.199 billion	USD 132.841 million
United Nations Educational Scientific and Cultural Organization (UNESCO)	Education	https://en.unesco.org/	USD 1.225 billion	USD 396.816 million
United Nations Economic and Social Commission for Western Asia (UN ESCWA)	Economic development technology and innovation social development, natural resources	https://www.unescwa.org	USD 0.027 billion (2017)	*
United Nations Conference on Trade and Development (UNCTAD)	Trade ICT and ecommerce, leadership training and skill development, private sector and enterprise development, transport and logistics	https://unctad.org/en/Pages/Home.aspx	USD 0.141 billion	USD 29.074 million
International Monetary Fund (IMF)	Funding for sustainable economic growth, facilitate trade, promote high employment and financial stability	https://www.imf.org/external/index.htm	USD 1.099 billion	USD 30.528 million
International Telecommuni-cation Union (ITU)	Telecommunication infra-structure	https://www.itu.int/en/Pages/default.aspx	USD 0.161 billion	USD 91.449 million
European Bank for Re-construction and Develop-ment (EBRD)	Financial institutions, agribusiness, ICT, manufacturing, municipal infrastructure, transport, power and energy, property and tourism	https://www.ebrd.com/home	USD 10.713 billion (2017)	USD 26.003 million
Islamic Development Bank (IsDB)	Science and technology, health, education, infrastructure	https://www.isdb.org/	USD 131.3 billion	*
Asian Infrastructure Investment Bank (AIIB)	Infrastructure	https://www.aiib.org/en/index.html	USD 100 billion	USD 329 million
Kuwait Fund for Arab Economic Development (KFAED)	Agriculture and irrigation, transport and communi-cation, energy, industry, water and sewage	https://www.kuwait-fund.org/en/web/kfund/home	USD 0.090 billion	USD 17.091 million

The OPEC Fund for International Development (OFID)	Energy, transport, finance, agriculture, Industry, Health care and education	http://www.ofid.org/	USD 22.5 billion	USD 99.960 million
Saudi Fund for Development (SFD)	Transportation and communication,			
Saudi Fund for Development (SFD)	Transportation and communication, social infrastructure, energy, agriculture industry and mining	https://www.sfd.gov.sa/en/web/guest/home	USD 0.434 billion	USD 99.960 million
energy, agriculture	Energy, transport tele-communication, water	https://www.dbsa.org/EN/Pages/default.aspx	*	*
industry and mining	https://www.sfd.gov.sa/en/web/guest/home	https://www.idrc.ca/en	USD 0.147 billion (2017–2018)	USD 157.556 million
USD 0.434 billion	USD 99.960 million	https://www.afd.fr/en/agence-francaise-de-developpement	USD 0.221 billion	*
Japan International Cooperation Agency (JICA)	Education, health governance, transportation, agriculture, private sector development, social security, energy, urban regional development	https://www.jica.go.jp/english/	USD 12.538 billion	*
Spanish Agency for International Cooperation and Development (AECID)	Culture and science health, education, economic growth, environmental and climate change, rural development, water and sanitation, democratic governance	http://www.aecid.es/ES/la-aecid	USD 0.263 billion	*
International Fund for Agriculture Development (IFAD)	Agriculture	https://www.ifad.org/en/	USD 0.032 billion	*

European Investment Bank (EIB)	Innovation and skills infrastructure, climate and environment, SMEs	http://www.eib.org/en/index.htm	USD 62.354 billion	USD 1.367.264 million
Abu Dhabi Fund for Development (ADFD)	Agriculture, health industry, transportation, housing	https://www.adfd.ae/english/Pages/Home.aspx	USD 4.356 billion	USD 7.792 million
Arab League Educational, Cultural and Scientific Organization (ALECSO)	Education, culture and heritage, ICT scientific research	http://www.alecso.org/en/	*	*
Arab Fund for Economic and Social Development (AFESD)	Energy, Infrastructure modernization of communication system	http://www.arab-fund.org/default.aspx?pageId=1	USD 0.515 billion	USD 184.697 million
Arab Fund Program for Development (AGFUND)	Education, youth empowerment	http://agfund.org	*	*

Appendix 4.0: List of Sovereign funds

Below is also a list of sovereign funding sources in the Arab states.

Country	Sovereign Fund	References
UAE	Abu Dhabi Investment Authority	https://www.adia.ae/En/home.aspx
	Abu Dhabi Investment Council	https://www.adcouncil.ae/#
	Emirates Investment Authority	http://www.eia.gov.ae
	Sharjah Asset Management	http://sam.gov.ae/pages/about
	Investment Corporation of Dubai	https://www.icd.gov.ae/about-icd/
	Mubadala Investment Company	https://www.mubadala.com/en
Saudi Arabia	Public Investment Fund	https://www.pif.gov.sa/en/Pages/AboutPIF.aspx
	SAMA Foreign Holdings	https://www.investopedia.com/terms/s/sama-foreign-holdings.asp
Oman	Oman Investment Fund	http://www.oif.om
	State General Reserve Fund	https://www.sgrf.gov.om/Index.php?r=en%2Fsite%2Findex
Qatar	Qatar Investment Authority	https://www.qia.qa
Kuwait	Kuwait Investment Authority	http://www.kia.gov.kw/en/Pages/default.aspx
Libya	Libyan Investment Authority	http://www.lia.ly/ar/
Bahrain	Mumtalakat Holding Company	http://www.mumtalakat.bh
Algeria	Revenue Regulation Fund	https://www.investopedia.com/terms/r/revenue-regulation-fund.asp
Iraq	Development Fund for Iraq	https://www.swfinstitute.org/swfs/development-fund-for-iraq/
Palestine	Palestine Investment Fund	http://www.pif.ps/en
Mauritania	National Fund for Hydrocarbon Reserve	https://www.investopedia.com/terms/n/national-fund-for-hydrocarbon-reserves.asp