Jordan Digital Transformation Strategy

وزارة الاقتـــصاد
الرقمي والريادة

2020

Contents

Introduction

The production process is witnessing unprecedented transformations as a result of the accelerated growth of digital technology, development of smart devices, machines, systems, and increased data processing and artificial intelligence capabilities. These developments and transformations led to revolutionary changes in the global economy. Undoubtedly, the significant growth and developments, as well as their subsequent, unprecedented transformations that took place across the various economic sectors and labor market, have had the greatest impact on the competitive advantage of countries and entities, alike. The reason is that the competitive advantage is one of the major drivers of growth for public and private entities. Its importance also lies in ensuring that entities deliver their products efficiently and effectively, as well as in expanding the customer base of businesses.

Given the magnitude of changes brought about by the competitive advantage of digital technologies, any delays in adopting or in using such technologies will limit the potential for realizing the benefits offered by digital transformation processes, such as inclusive and sustainable growth and improved public administration.
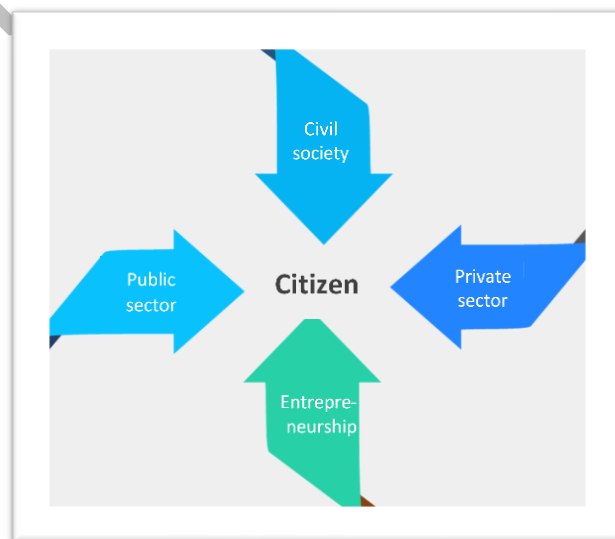
Digital transformation turns vital sectors into a business model that relies on digital technologies in innovating products and services and providing new channels to raise performance efficiency to unprecedented levels. As a result, digital transformation reduces time and cost, achieves greater flexibility and efficiency in production processes and data processing, exploits artificial intelligence technologies, improves quality, streamlines procedures, and creates opportunities to deliver innovative and creative services away from traditional methods. As a major driver of and incentive for digital economy development, digital transformation also plays a role in enhancing transparency, reducing bureaucracy and corruption, expanding operations, and accessing a larger segment of beneficiaries.

In turn, the Government seeks to keep abreast of these developments and take advantage of global best practices and opportunities to enable it to become a distinguished digital government. The digital transformation process is a digital journey that includes several stages, such as digital technologies, data, youth, technology, E-participation, and digital government services. As a policymaker, the Government is keen to involve all citizens, thus enabling them to access basic services at a lower cost by digitizing key sectors, ensuring development in all governorates, focusing on the development of skills to be needed in the future, increasing employment growth rates, and promoting entrepreneurship and E-participation.

Efforts that have been made to launch various digital initiatives in the Kingdom have unveiled many digital transformation avenues and smart solutions that have contributed, for example, the development of national platforms that provide an adequate means for disseminating information and providing citizens with access to diverse sources of information, such as digital educational content, open government information and data, and many other sources.

Today, the Government provides many of its services digitally through mobile smart applications and single-window services with the aim of offering beneficiaries a smooth user experience through the provision of e-payment options to avoid paper-based transactions. The Government is also working to improve the operational efficiency of many sectors by digitizing content.

The success of such initiatives will depend, first and foremost, on the accelerated use of digital technologies by individuals and the public and private sectors, as well as on their implementation according to deliberate plans. The Government recognizes this and believes that adopting the best digital technologies, such as artificial intelligence, cloud computing, and the Internet of Things, has become fundamental to the digital transformation process. It also recognizes that digital transformation consists of long-term processes, each of which requires taking specific steps backed by appropriate procedures within the digital sector to develop the digital skills of citizens. Moreover, the Government acknowledges that realizing the importance of leveraging digital technologies will advance the development of the public sector and contribute to the growth of sustainable public services.

Jordan Digital Transformation Strategy 2020

Jordan Digital Transformation Strategy Document 2020 (the Strategy) represents a strategic framework for Jordan's digital transformation that outlines the changes and strategic requirements needed to keep pace with the progress of digital transformation globally, improve the delivery of government services, and enhance the efficiency of government performance. This also includes meeting the needs of beneficiaries (i.e. the Government, citizens, residents, tourists, private sector, entrepreneurs, and civil society), improving the quality of life more effectively, sustainably and reliably, and achieving well-being.

The Ministry of Digital Economy and Entrepreneurship (the Ministry) has developed this Strategy based on the Jordan Vision 2025, the General Policy for the ICT and Postal Sectors 2018, as well as applicable international deliverables, trends, and practices adopted in this regard, and in line with the Sustainable Development Goals (SDGs) of 2030.
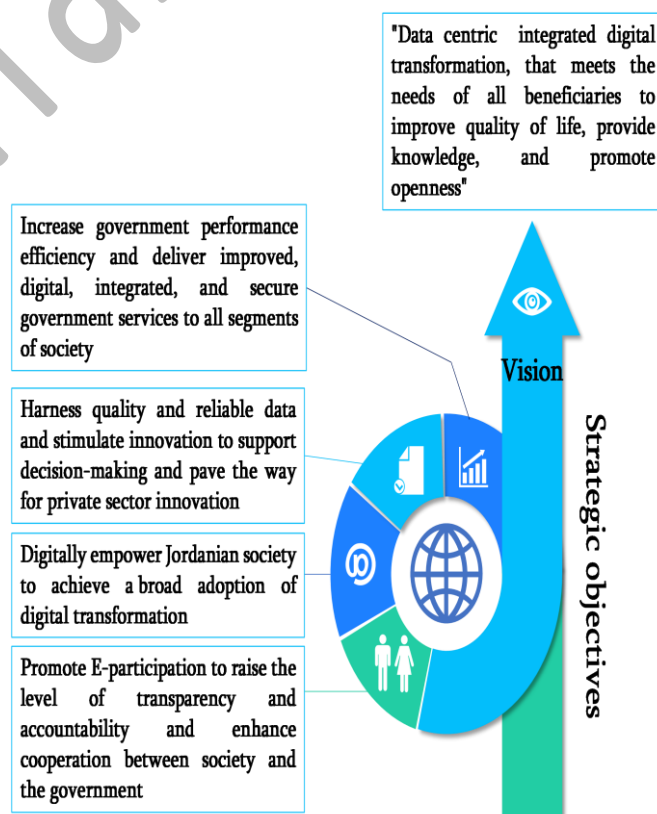
Implementing the Strategy will technologically enable accelerated progress in achieving the 17 United Nations Sustainable Development Goals (SDGs). The implementation of the strategic objectives of digital transformation provides the infrastructure and latest technologies needed to serve individuals and entities, improve government services for all society segments, and contribute to the achievement of SDG 9 in particular, which calls for building resilient infrastructures, promoting inclusive and sustainable industrialization, and fostering innovation, with special attention granted to target (c).

Jordan's efficient and affordable ICT infrastructure and services enable the country to strengthen its digital economy and achieve inclusive economic competitiveness while having a significant impact on financial inclusion, poverty alleviation, and health improvement. The Government realizes the magnitude of changes accompanying the digital transformation process, which include changes in working methods and procedures, individual thinking, and concepts, skills, and competencies required. Such changes are to be realized by working towards achieving Goal 4, which advocates ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. This is to be accomplished by achieving target (4.4) which states to "substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship by 2030."

The Strategy outlines the tasks and obligations that must be fulfilled by government entities in order to achieve the Government's Digital Transformation Vision. The Ministry is also committed to collaborating with the relevant, public and private sector authorities and civil society organizations to formulate and prepare a clear and comprehensive roadmap for the implementation of relevant Strategy projects and initiatives. This also includes defining measurable performance indicators to effectively oversee and monitor the implementation of the Strategy within one month of approval.
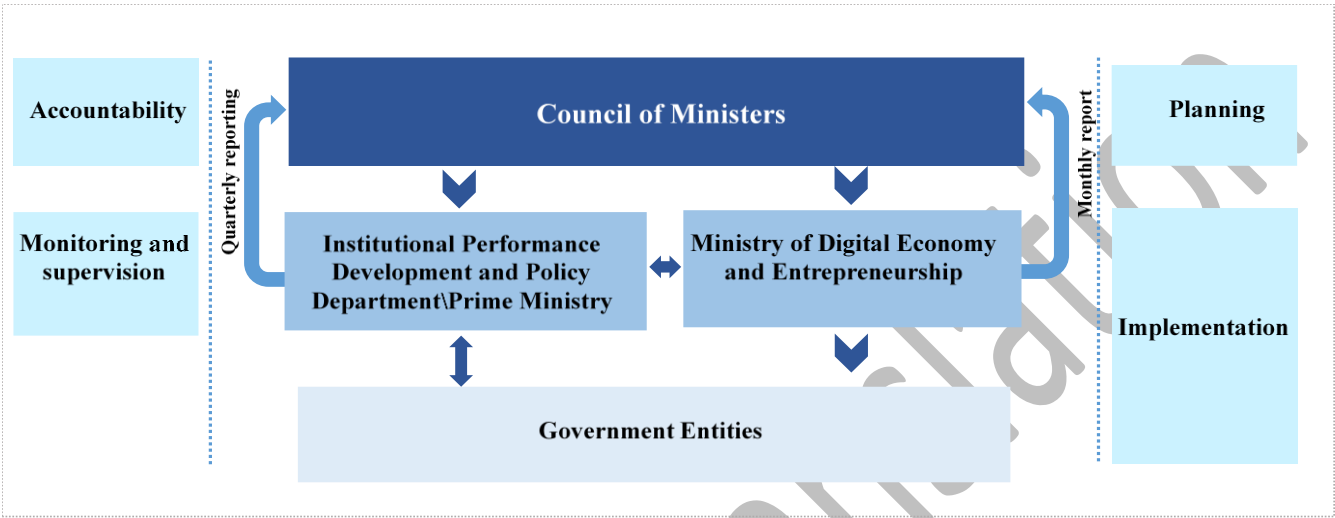
Vision and Strategic Objectives

The Government has been launching various promising national plans and initiatives for digital transformation and digital government throughout the Kingdom to empower ICT and digital transformation technologies to meet local needs, keep abreast of global changes, and overcome the economic, social, and environmental challenges facing the Kingdom. The Government seeks to achieve this by adopting tools aimed at accelerating the digitization journey across the Kingdom to build on the strengths of Jordanian society, leverage opportunities offered by the technologically talented and youthful community, and support, empower, and inspire the next generation of digital entrepreneurs. These steps will help the Kingdom in its transformation into a digital state. However, there are still several challenges facing the digital transformation process in Jordan. These include the lack of competencies needed to lead and implement digital transformation programs and bring about the required change within relevant entities, bureaucratic procedures, limited budgets, and concerns about information security risks resulting from the use of technology.

"Data centric integrated digital transformation, that meets the needs of all beneficiaries to improve quality of life, provide knowledge, and promote openness"

Vision

Increase government performance efficiency and deliver improved, digital, integrated, and secure government services to all segments of society

Harness quality and reliable data and stimulate innovation to support decision-making and pave the way for private sector innovation

Digitally empower Jordanian society to achieve a broad adoption of digital transformation

Promote E-participation to raise the level of transparency and accountability and enhance cooperation between society and the government

Strategic objectives

Digital Management (Digital Transformation Governance)

The following institutional structure is an essential pillar of digital transformation. It ensures the continuity and effectiveness of the implementation of projects and initiatives that achieve digital transformation at all stages, helps to regulate the ecosystem associated with digital transformation, and provides a clear way to facilitate business in a balanced way to achieve strategic objectives.

Implementation Mechanisms

Ministry of Digital Economy and Entrepreneurship

- Prepare relevant legislation for digital transformation.
- Implement infrastructure requirements for government digital transformation.
- Develop a road map in cooperation with the relevant authorities.
- Cooperate with government entities for implementation.

Council of Ministers

- Identify national digital transformation priorities.
- Provide funding for Strategy implementation.
- Accountability of government entities that do not implement the tasks assigned to them under the Strategy.

Institutional Performance Development and Policy Department\ Prime Ministry will monitor and supervise the implementation of the Strategy and submit a periodic report to the Council of Ministers every three months.

Strategy Enablers

The Government strives to create an integrated business ecosystem to ensure the implementation of the strategic objectives of digital transformation, which imply ensuring the provision of the relevant digital transformation infrastructure based on the latest and best technologies available and in a manner that serves individuals and entities; enhancing government services provided for all segments of society; digitizing internal processes in government entities; maximizing the use of high-quality and reliable government data and information in decision-making and innovation processes; and providing competent Jordanian individuals, institutions, and business owners with relevant skills to ensure the adoption and use of digital technologies and to enable E-participation in a manner that ensures alignment with the Vision and achieves the strategic objectives.

Digital Infrastructure	Data	Youth, Technology and Jobs	Digital Government Services	E-participation	Change Management	Government Resources Management
• Digital transformation technologies • Cloud platforms • E-payment • Jordan as a Platform • Digital ID • Broadband internet • Fiber-optic network • Secured Government Network	• National Information System • Classification of government data • Personal data • Open data	• Youth and Technology • Digital skills • Expansion of digital sector and digital government services	• Digital by default • One stop shop • Once only principle • Simple, fast, and satisfactory services • Leaving no one behind	• Transparency • Accountability • Unified e-portal for E-participation	• Capacity building • Raising awareness • Knowledge development • Creating a desire for change • Promoting change	• HR management • Centralized database for state personnel • Document management and archiving • Finance and budgets • Paperless services • Statistical analytics • Increasing public sector productivity

Digital Infrastructure

The increasing diffusion of digital technologies provides an opportunity to build a new digital economy that enhances economic activity by connecting communication networks between individuals, institutions, and devices to allow the transfer of data and the performance of daily operations. Today, these technologies have succeeded in changing mobility and social communication and have completely changed learning, government interaction, the acquisition of experiences, and daily lifestyles. They have also played a role in enhancing efficiency and increasing productivity.

It is evident from international practice that the greatest focus in the future will be on data warehouses, cloud platforms, developed data, protection from cyberattacks, smart devices,

Applications, blockchain technology, and big data analytics. These technologies, along with others, are deemed of great importance, especially when it comes to investing in ICT, and will play an important role in enabling governments to materialize the dream of becoming digital.

Digital Transformation Technologies

5G: The Government recognizes that 5G mobile phone services have started to spread since 2019 in some countries, including in the Middle East. It is clear that this technology will become the prevailing trend in public life and the world of business and finance over the next few years. Therefore, improving ICT infrastructure, particularly in terms of modernizing networks to enter the age of 5G systems, has become inevitable. This is true not only because these networks offer unprecedented communication and data download speeds, but also because they have proven to be a real driving force for the development of businesses and services in all industries and sectors. They also have a major role to play in establishing the safe and stable infrastructure needed for realizing the concept of sustainable smart cities.

The Government requests the Telecommunications Regulatory Commission to remove any obstacles that may prevent the implementation of this technology in the Kingdom as soon as possible, and to provide the bands needed at sufficient capacities and at reasonable prices in accordance with international best practices.

Internet of Things: The Internet of Things is one of the most important bridges connecting physical and digital applications. The growing number of Internet-related devices enables companies to further control and exploit their assets and activities, thus affecting all industries. This approach focuses on sensor technologies, connected devices, and accessories resulting from this interconnected communication. The network of devices will drive virtual reality and simulation, and will have important implications for citizens, governments, and businesses alike. Organizations will have to examine their clients' behaviors and take relevant results into account to adapt to the experiences of conscious users and to shift design processes from limited application to the holistic network of products and services included in the user journey.

The Government, through the Telecommunications Regulatory Commission, issued instructions related to Internet of Things Ecosystem in mid-2020. The Government requests that these instructions be reviewed and put into effect in partnership with the private sector as soon as possible given the role of this technology in improving digital services, promoting the adoption of the concept of smart cities, developing the digital economy, and promoting innovation and entrepreneurship.

Artificial Intelligence (AI): Influenced by the steady increase in computing capabilities, the availability of large amounts of data, and the use of digital technology, AI develops to create systems capable of performing tasks that mimic human mental abilities and work patterns, analyzing the surrounding environment, and learning from errors to make predictions, give recommendations, make decisions, or take actions that affect real or virtual environments with some degree of autonomy.

The Government has issued the Jordanian Artificial Intelligence Policy 2020 to enable artificial intelligence technologies in digital government services and create suitable opportunities for innovation and entrepreneurship. The Government is also committed to preparing sectoral plans and strategies for artificial intelligence that clarify the market analyses required for the growth of artificial intelligence in the Kingdom.

Cybersecurity: The Government recognizes the importance of having an effective cybersecurity ecosystem since a national cyberspace is a modern environment that requires systematic and comprehensive protection at the international, domestic, and sectoral levels. The protection of information assets in the Kingdom is, therefore, crucial to ensure the security of all those who work and reside therein, create new investment opportunities, and develop businesses while increasing their effectiveness and efficiency.

The Government has issued the National Cybersecurity Strategy 2018-2023 and a set of institutional policies related to national cybersecurity. Moreover, the Government requests all government entities to adhere to the provisions of these policies.

Blockchain: Blockchain is a database that maintains the data stored therein and prevents its modification. It is used in recording and verifying the sources of events, addresses, as well as activity and identity management and data processing records, and assigning a distinctive fingerprint to the data that cannot be hacked or altered. Such uses enable the adoption of this technology in different sectors and the completion of business transactions without an intermediary in a way that increases the digital security of data and reduces operational costs by reducing paperwork and expediting decision-making processes.

Through the Telecommunications Regulatory Commission, the Government has formed a technical committee to examine the use of blockchain technology and its applicability in various government sectors, explore the implications of its implementation and uses, and study the impact of this technology on entrepreneurship. The committee also aims at activating partnerships between the public and private sectors and exploiting opportunities available to leverage this technology in facilitating business in the Kingdom. The Government, therefore, requests the TRC to examine the need to regulate blockchain technology and introduce legislation to govern the implementation of this technology in 2021.

Open-source solutions: Open-source solutions enable the development of digital government services that facilitate the smooth adoption and development of solutions and reduce the cost of service development. Accordingly, the Government directs all government entities to adopt open-source solutions and include them in at least 50% of relevant tenders where possible.

Cloud

The Cloud Computing technology is based on the transfer of computer storage and processing power to servers and platforms accessed via the Internet without any specific device or location-related restrictions. The Cloud Computing technology plays a major and important role in our lives, especially in the ICT field. Given its many benefits and advantages, many applications and programs can be operated in a Cloud Computing environment so as to ensure all entities benefit therefrom.

The Government recognizes that the adoption of cloud platforms contributes fundamentally to supporting the growth of SMEs and facilitating their involvement in the labor market; encouraging integration and partnership with the private sector; enabling government entities to develop and deliver new, innovative digital solutions and services to citizens; improving public services; promoting digital transformation; enabling greater flexibility and innovation in designing and managing IT-supported jobs; and saving expenses by making optimal use of technology resources on a "pay-as-you-go" basis, which is one of the most cost-effective options for government entities.

The Government has issued the Jordan Cloud Policy 2020.The Government, through the Ministry will continue to develop the private government cloud, and the Ministry's E-Government Program will lead the transition to cloud services at the government level.

E-Payment

Over the past years, the Government of Jordan has implemented several comprehensive infrastructure projects that constitute a powerful enabler to take the country to the next level of digitizing government services and e-payment services at the national level. However, there is an urgent need for an increasing shift towards digital payments in the government sector; indeed, the proliferation of new electronic and mobile tools has opened the door to a potential payments revolution.

By activating electronic payment, the Government aims to reduce the parallel economy, improve user experience, create new jobs, eliminate fraud and corruption, and make more accurate government financial information available.

The Jordanian Government is committed to promoting the diffusion of digital payments for all applicable government services. This commitment is supported by Cabinet Resolution No. (6425), dated 15/9/2019, which obliges all ministries to digitize their payments. The Government is also committed to increasing the percentage of the population's adoption of digital payments. Additionally, the Government is seeking to transform into a cashless government and to cease receiving cash receipts for government transactions by the beginning of 2021.

Jordan as a platform (JAAP)

Jordan as a Platform aims at enhancing transparency and confidence in government performance by providing beneficiaries with access to public information, enabling information exchange among relevant stakeholders, and providing new and secure access channels for government electronic services and common services in a timely manner and at cheaper costs. This also includes promoting public-private partnerships by supporting the private sector's full participation in the design and development of government services, as well as providing interoperability between all government applications, data, systems, and services. The Platform also allows for competition between entrepreneurs and start-ups and offers them the relevant infrastructure and business incubators to establish government e-services.

The importance of adopting the Open APIs approach lies in promoting and accelerating innovation by providing systems with required data, increasing interoperability, as well as paving the way for competition among providers of systems and services to government entities.

The Platform also aims at ensuring that APIs are produced in accordance with the Open Data principles that facilitate easy and transparent integration with other systems and provide guidance to ensure value for money through fair and transparent commercial terms informing the procurement process upon development and deployment using Open APIs.

Through the Ministry, The Government has formulated the Open Application Programming Interface Policy 2020, and therefore requests the Ministry to build, develop, and operate a platform that would enable beneficiaries to easily access the APIs of government data and services before the end of 2020.

Digital Identity

This System aims at authenticating the Digital Signature of individuals and companies to enable beneficiaries to use authentication services and to provide individuals and entities with a Single Sign-On (SSO) authentication solution. As a result, the Ministry of Digital Economy and Entrepreneurship must seek to ensure the completion of technical infrastructure requirements by obtaining global accreditation and providing a recovery center, among others, in addition to providing an integrated legislative system to effectively activate digital signature solutions at the national level, with the aim of completing electronic transactions remotely by reviewing and developing the Electronic Transactions Act and other relevant legislation.

Recently, the Government has sought to develop a national system to verify and authenticate the identity of users and create a digital identity for individuals and companies. These efforts have been made to enable beneficiaries to use authentication services, provide verification and authentication services, and activate the Single Sign-On digital identity and digital document signature services for individuals and entities, alike. The Ministry has been making efforts to create a digital ID system to serve as the main technical enabler that will allow users to access electronic service portals remotely using their smart civil status cards and smart phones based on the digital identities created for users. With this System, the Government and private sectors will be enabled to accelerate digital transformation, transform all transactions into smart digital services, and adopt a digital signature service for e-documents in a manner that would maintain the security and confidentiality of users' information.

Through the digital ID system, the Ministry has made it possible, as a first stage, to use a single sign-on username and password to facilitate the submission of electronic transactions for Jordanian users, enabling them to benefit from their digital identity by using digital signatures. The Ministry will continue to develop and improve this system to include other user categories and various sectors, such as the business sector, companies, the financial sector, and non-Jordanian users, in order to achieve the ultimate goal of reaching a comprehensive national identity verification system.

In order to complete electronic transactions remotely, the Government requests the Ministry to review the relevant integrated legislative system to effectively enforce and activate digital identity and electronic signatures, which includes the Electronic Transactions Act and other legislation regulating electronic transactions at the national level.

Broadband Internet and Mobile Digital Technologies

Successful digital transformation requires the availability of a digital communications infrastructure, such as fixed and mobile broadband networks and relevant modern systems, to reach the speeds required to support jobs and services playing pivotal role in advancing the digital economy. The development of this digital infrastructure should be supported by the introduction of legislation and regulatory instructions

that keep pace with the rapid development of emerging technologies, ensuring the diffusion of mobile broadband services, and improving service coverage and quality to ensure that services reach all segments of society regardless of their place of residence or the time at which the service is requested to be provided.

It is, therefore, increasingly important for companies operating in the telecommunications and IT sector to enhance the digital infrastructure by contributing to the diffusion of the latest technologies and making relevant investments in order to keep the community informed and connected. It is, also, important for telecommunication companies to form digital partnerships with all sectors and become active contributors to the digital transformation process to create an enabled knowledge society and offer digital services and products that meet and match market needs and demands.

Accordingly, the Government requests the Ministry to strengthen public-private partnerships to provide a supportive environment with an infrastructure and legislative systems that will accelerate digital transformation and ensure alignment with rapid developments in this domain.

The Government also requests the Ministry and the Telecommunications Regulatory Commission to develop plans to improve efficiency and diffuse and reduce the cost of internet services. Such steps will have a positive impact on the cost of provision of digital government services to beneficiaries, thus increasing their turnout.

National Broadband Network

The National Broadband Network Program provides a high-speed network using fiber-optic cables across the Kingdom to connect all educational entities, government headquarters and health authorities with the aim of facilitating intersection between multiple government sectors, bridging the digital divide in rural areas, and supporting national initiatives focused on attracting foreign and domestic investment to support the digital economy sector in the Kingdom.
With a view to increasing broadband coverage in the Kingdom, stimulating investment, increasing revenues, promoting competition, and making Jordan a regional hub

for Cloud Computing, cybersecurity, and international communication services, the Government, through the Ministry and the Public-Private Partnership Unit at the Prime Ministry, is putting forward a business case to examine public-private partnerships to manage, expand, and operate the National Broadband Network Program.

The business case includes the commercialization of the capacities of fiber-optic cables, terrestrial lines, and broadband.
Through the Ministry, the Government has connected 1,361 governmental, health, and educational entities to the broadband network across the Kingdom.
The Government requests the Ministry and the Partnership Unit of the Prime Ministry to complete the business case of the broadband network expansion project as soon as possible and submit recommendations to the Council of Ministers to make relevant decisions by mid-2021. The Government also requests the Ministry to complete the National Broadband Network Program in 2021.

Secured Government Network

The Government has connected 128 government entities to the Secured Government Network. Through the Ministry, the Government will continue to connect more government entities to the network based on need and readiness. The Government will also work on developing and updating the components of the Secured Government Network to maintain business continuity, increase capacity, and ensure information security.

Data

Data is the cornerstone of the digital transformation process of any society that seeks to achieve progress and development. This goal is to be achieved by enhancing transparency; establishing accountability and evaluation of government performance; contributing to the design of digital channels based on data inventories available to the Government to serve the needs of beneficiaries; promoting innovation and entrepreneurship; providing access to and use of government data; and providing opportunities to participate in decision-making.

Transparency in relations between the Government and all segments of society highlights its important role in promoting development, providing government services, and conducting business more easily. It also stresses its vital role in providing relevant public data and information to foster innovation, achieve development, and overcome challenges.

Data and their regulatory, storage, and sharing criteria are undergoing significant developments that accompanied by a marked increase in coordination and cooperation levels among government entities. However, the Government-launched initiatives still need further support and improvement. Jordan ranked 104th out of 193 countries in the Open Government Data Index (OGDI) in the UN E-Government Survey 2020 issued by the UN Department of Economic and Social Affairs.

National Information System

In October 2019, the Government decided to establish the National Information System at the Ministry of Digital Economy and Entrepreneurship by networking sectoral information systems and government databases to provide decision-makers with accurate studies, statistics, and recommendations, thus enabling them to make right and timely decisions.

The Government recognizes that the establishment of this System requires the introduction of relevant legislative frameworks to share the data of government entities and establish the infrastructure needed to receive, compile, store, process, classify, and analyze data and information, while maintaining their integrity, privacy, and security.

The Government is also aware that the Ministry faces challenges related to data ownership and sharing, especially in terms of integrated data. This is due to the presence of a large number of entities and institutions involved in providing integrated information and services, thus leading to bureaucratic procedures and, in some cases, to the limited willingness of stakeholders to take responsibility resulting from ownership.

The Government requests the Ministry to continue to take the necessary executive steps to establish this

System as soon as possible. Such steps include introducing the legislative framework that is binding on all government entities, using the latest available technologies, such as artificial intelligence and machine learning, and utilizing modern methodologies to analyze data. The Government requests all government entities to comply with the Ministry's decisions in this regard.

Government Data Classification

Data is a valuable government asset that requires effective management to realize the added value resulting from its optimal utilization. Data management is to be accomplished by identifying a standardized data classification and management framework based on specific requirements to ensure transparency and accountability in government entities. The Government issued the Government Data Classification and Management Policy 2020, and - therefore - sought to direct government entities to adhere to the Policy and complete the classification of their data as per set requirements before mid-2021.

Personal Data

Given the rapid technological developments resulting from the increasing use of digital devices, computers, and Internet-related activities, the Government understands that personal data is no longer limited to a person's name, image, and telephone number, but has expanded to include vital data, such as iris recognition, faceprints, fingerprints, health data, geographical locations, movement routes, and many other personal information as well. These developments require the Government to protect such data by creating a safe legislative and legal environment; providing data transfer protection, especially in digital, Internet, banking, and health sectors; promoting confidence and safety in conducting e-transactions; and preventing infringement of the right to privacy of citizens and residents under the provisions of the Constitution and related laws.

The Government has also been working to introduce a legal and regulatory institutional framework for the protection of personal data (Personal Data Protection Act). The Act aims at creating a balance between exercising the rights and freedoms of individuals with regard to their personal data and keeping abreast of international practices to allow companies and investors to benefit as much as possible given the circulation of data and information in cyberspace and the spread of concepts of big data, industrial intelligence, and the Internet of Things. This is to be achieved in a way that establishes data preservation, processing, and operations within clear constraints and obligations. This approach, would, therefore encourage engaging in the digital economy and contribute to the promotion of e-commerce and e-services.

The Government is committed to completing all constitutional procedures to pass and put the bill into force as soon as possible, no later than the beginning of 2021.

Open Data

The Government has enacted, through the Ministry, the relevant legislation to support the dissemination of open government data with a view to making open government data available for free, thus allowing their use, reuse, analysis, and integration by the community, researchers, academics, and civil society institutions for several purposes, and this would - in turn - contribute to realizing transparency and accountability, promoting confidence in government performance, encouraging creativity and innovation, and creating new job opportunities.

The Ministry has established the Open Government Data Platform, which is a tool for presenting open government data supplied by government entities based on a number of relevant sectors, including health, education and culture, economy and business, environment and weather, tourism and antiquities, governorates and municipalities, justice and social peace, political development and elections, energy, transport, social development and social safety, government and public sector, maps and geographical locations, population and society, agricultural wealth, and natural resources.

Although the number of open government data sets published so far is modest, the Ministry spares no effort in making more data sets available to all segments of society, while focusing on the quality and accuracy of published data and the need to update and make them available to users through the latest technologies. Accordingly, the Government requests the Ministry to strengthen cooperation with government entities to make more open data available in real time and develop digital solutions to facilitate user access. The Government also requests government entities to continue disseminating high-quality and timely Open Data through the Platform. The Government also requests the Ministry to develop an independent Open Data portal in line with relevant international standards by mid-2021.

Youth, Technology, and Jobs

Digital transformation requires the development of digital skills across all segments of society, as well as the employment of digitally talented individuals, and attraction of skilled people to the labor market to bridge the gap resulting from technological developments. Therefore, the Government should introduce national plans to develop the digital skills of young people and build an environment that fosters innovation, entrepreneurship, and job creation in the digital economy.

Through the Ministry, the Government is, therefore, seeking to implement the five-year Youth, Technology, and Jobs Project (2020-2025).

The Project aims to create 30,000 new jobs for the youth over the next five years, including employment opportunities for women (30%) and Syrian refugees who are self-employed in the digital market (15%).

Moreover, the project will contribute to digitizing government payment transactions, attracting about $20 million U.S dollars as new investments in digital services from the private sector, improving income opportunities arising from the Jordanian digital sector, and expanding the scope of government digital services.

In light of the ongoing adverse effects of the Coronavirus (COVID-19) pandemic and its consequences that resulted in adopting the concepts of physical distancing and distance learning, and in order to support digital transformation and equip school students with digital skills given that 16% of Jordanian public school students do not have devices connected to the internet as was indicated by several studies, the Government realizes that there is an urgent need to provide an ideal model for transforming traditional textbooks and interaction-based education systems into technology-based modern systems. Such a transformation is needed to enhance the learner's experience by shifting towards digital education, which provides learners with access to an integrated cycle of information and knowledge on the one hand, and ensures that learners are well-equipped to keep abreast of the latest technologies and possess major skills that help them play an active role in society and the economy on the other hand.

The Government, through the Ministry of Education and in collaboration with the private sector, is dedicated to providing flexible education opportunities for all across educational disciplines and skills while relying on e-learning and online courses. In this regard, the Government will provide the infrastructure needed for distance learning, including computers, Internet capacity, technical support and periodic device maintenance, as well as digital educational platforms supporting distance learning, all of which will be available to all students throughout the Kingdom by the end of the first quarter of 2021.

The Government, represented by the Ministry, is implementing this Project to stimulate the supply and demand of the digital sector in the Kingdom through the following two main components:

First Component: Supporting the Provision of Digital Skills in Jordan
- Support private sector-led digital skills development by facilitating the establishment of the National Skills Council for Information and Communications Technology (NSC-ICT) as an independent legal entity (financially and administratively) with a majority of private sector board members and key public sector stakeholders. NSC-ICT will, therefore, conduct supply and demand assessments in relation to digital skills in Jordan; develop national professional standards; qualify training service providers; select and contract training service providers; create, accredit, and disseminate online training materials;

conduct national awareness activities; engage in monitoring and evaluation; and establish a comprehensive Customer Relationship Management (CRM) system for beneficiaries.

- Strengthen digital skill competencies for public school students from Grade 7-12 and identify gaps in current school computer curriculum, as well as develop a digital skills curriculum, train teachers on new courses and disseminate them systematically across public classrooms.
- Provide local community workspaces by preparing three to five privately-managed technology centers to serve as digital skills application spaces, as well as provide shared workspaces for trainers and employers, entrepreneurs, CSOs, and subcontract corporate business operations.

Second component: supporting the expansion of the digital sector and digital government services in Jordan

- Support expansion and access to markets for digital businesses and digital platforms by providing the relevant skilled labor and offering financial incentives to support the growth plans of digital businesses in building and expanding their activities and creating local job opportunities. Access to income-generating opportunities in various technical and non-technical economic activities will also be facilitated through digital platforms and the freelance marketplace. Moreover, accesses to these platforms will also be facilitated for women and the youth.
- Support the digital transformation of service delivery to citizens and businesses through support activities designed to improve the access to and quality of selected e-government services, as well as improve the quality and cost-effectiveness of such services. The Government will also be assisted in adopting policies that give the private sector an opportunity to innovate by adopting business models that make use of open government databases.
- Support the digitization of payments by providing the relevant infrastructure, including digital ID authentication, digital signatures, and main payment system platforms. Integration, business processes, procedures, and policies necessary to facilitate citizens' payments will also be strengthened.

Digital Government Services

Through the E-Government Program, the Ministry of Digital Economy and Entrepreneurship has worked on developing the infrastructure that would support the digital transformation, as well as providing government entities with the necessary technical support to prepare, implement, and supervise the digital transformation plans. Some of the major infrastructure development-related achievements of the E-Government Program include the provision of government Cloud Computing solutions, a Digital Identity, a Service Procedures Management platform, a Rapid Application Development (RAD) platform and a government interconnection system. These accomplishments are meant to unify infrastructure and save time, effort, and money throughout the digital transformation process. The Ministry has also re-engineered 510 services procedures, and automated and launched a range of government services of interest to citizens and businesses in order to empower citizens by promoting the principles of transparency and equal opportunities. By August 2020, 358 electronic services had been launched.

Through the Ministry's E-Government Program the Government seeks to improve the delivery of government services through continuous re-engineering thereof with the aim of reducing the time of service delivery, abandoning non-value-added activities, and providing services electronically through smart digital channels to ensure instant, remote, easy, and simple access to such services, thus achieving the aspirations of beneficiaries and implementation of the E-Government Program Strategy.

The Government requests the Ministry and government entities to continue to transform government services into effective digital government services supported by an infrastructure that conforms to international requirements and specifications in order to support development, improve living standards, and achieve well-being. The Ministry of the Digital Economy and Entrepreneurship works with other ministries and government entities based on a set of general digital transformation-related international principles that are compatible with the Jordanian context, namely:

Digital by default

Interactive service platform
The Ministry is working to provide an interactive service platform through the E-Government Portal and Sanad app.
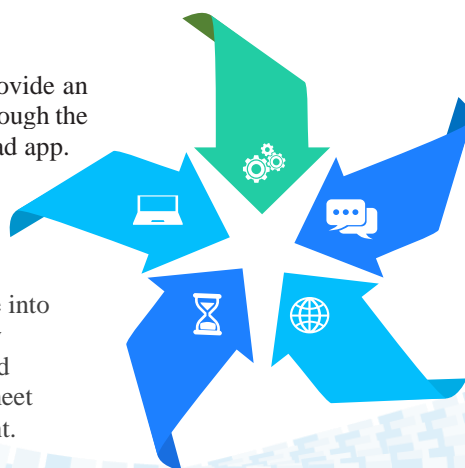
Leaving no one behind
The Ministry endeavors to take into account all segments of society when developing e-services and government e-content and to meet the needs of the largest segment.

Once only principle
The only once principle entails providing relevant data only once when requesting a government service, which will then be shared with other government entities. The Ministry worked to build the interconnection system to share data with government entities in accordance with the adopted standards and controls.

Simple, fast, and satisfactory services
The Ministry is working to re-engineer procedures before proceeding with the automation of electronic services to provide simplified services in accordance with approved user journey standards to meet the needs of investors.

E-participation

E-participation offers an opportunity to contribute to the decision-making process by providing suggestions and feedback on the use of digital technology and community engagement tools that have a significant impact on achieving government goals and promoting transparency and accountability. For this reason, the government has provided various e-communication channels, such as Bekhedmitkom (At Your Service) Platform, Ridakum Yuhimmuna (Your Satisfaction is Our Concern) Platform, Qayyim Tajrubtak (Evaluate Your Experience) Platform, SMS Platform, and the National Contact Center, to enable all segments of society to express their opinions and suggestions so that they may contribute to improving the quality of government service delivery, thus increasing customer satisfaction and improving the technological aspect of living.

Through the Ministry, the Government is committed to introducing a legislative framework for e-engagement within a period of 3 months from the date of approving the Strategy and submitting it for public consultation to receive feedback and responses from stakeholders and relevant parties. The legislative framework would then be submitted to the Council of Ministers for approval.

In this regard, the Government requests the Ministry and the Institutional Performance Development and Policy Department \Prime Ministry to examine the status of government e-portals, publish statistical reports on e-portal engagement on a regular basis, improve portal performance and introduce development mechanisms, develop a specialized and unified e-portal for E-participation in accordance with international best practices, develop a digital engagement training and awareness plan for citizens and public sector employees, introduce relevant guides for government entities to fulfill the provisions of the legislative framework for E-participation, and develop a guide to assist government entities in handling social media platforms, which is to be submitted to the Council of Ministers.

Change management

The Government recognizes the magnitude of change accompanying the digital transformation process, which includes changes in working methods and procedures, changes in the way individuals think, and changes in the concepts, skills and competencies required. Moreover, the Government realizes that change occurs at the institutional level only if it occurs at the individual level. Change management in the process of digital transformation faces a series of challenges, such as the uneasiness of government employees with the direction of the changes and their fear of losing their jobs as well as the confusion citizens have when it comes to understanding the role of the Ministry of Digital Economy and Entrepreneurship.

The Government therefore believes that the Ministry and other ministries share the responsibility of change management in relation to digital transformation, which will be monitored and supervised by the Institutional Performance Development and Policy Department \Prime Ministry. The Government requests the adoption of a 21st century change management model at government entities and among citizens based on the following lines: raising awareness of the need for change; creating willingness to participate in and support change; developing knowledge of how to change; developing the capacity to implement change on a daily basis; and strengthening to keep change in place.

This is with the aim of improving the rate of adopting changes by citizens and personnel of government entities, ministries and other participating entities. Another aim is to limit the anticipated resistance to change of the aforementioned entities by developing a practical plan to address potential causes and promoting change to help individuals abandon old methods and procedures and increase project success rates. The Ministry is committed to a systematic methodology of applying change management and providing the necessary support to government entities to help them build and apply the methodology internally, provided that the change management methodology includes a stakeholder engagement plan, a communication and promotion plan, an adoption promotion plan, a training and talent development plan, as well as anticipation impact assessment studies.

The Government is committed to develop a comprehensive strategy for institutional change management in digital transformation within 6 months of approving Jordan Digital Transformation Strategy, ensuring its effective implementation, and monitoring compliance with it, provided that the Ministry leads the activities supporting its implementation.

Change Management

Government resources management

The digital transformation process, when successfully implemented in the public sector, would have a wide-ranging impact on the economy and society. Public sector entities have an exceptional opportunity to improve their services to offer sustainable solutions at the lowest operational costs and to increase savings. This is to be accomplished through digital technologies that offer the public sector an unprecedented opportunity to digitize internal processes and facilitate development, especially when relying on major technologies, analyzing big data, leveraging cloud computing infrastructures, and developing relevant capabilities such as skills, culture, and management.

Human Resources Management

Personnel

Payroll

Document Management & Archiving

Vehicles

Workflow

Finance and Budgets

Procurement and Inventory Management

Since the actual concept of digital transformation would not be achieved in the Kingdom unless transformation is achieved within the public sector, the Government requests the Ministry to provide a central ecosystem for government institutional resource management and planning. The ecosystem will be aimed at increasing public sector productivity and efficiency and automating basic government process to carry out transactions electronically between various internal departments and units and external government entities, thus enabling the transition towards a paperless government.

The Government believes that such an ecosystem should rely on modern technologies, such as cloud platforms, to facilitate use by public sector personnel and provide sufficient flexibility to connect government entities easily and quickly to such platforms. The ecosystem should also standardize the controls and mechanism of government procedures and provide a central database of state personnel.

The Government is of the view that creating this ecosystem would provide an important tool for achieving the following: reducing costs; achieving digital transformation in the public sector; promoting transparency and accountability; and improving government performance and increasing productivity. The ecosystem would also enrich decision-making by providing decision makers with accurate and up-to-date data as an integral part of the National Information System. Moreover, the ecosystem would promote E-participation and make data and information available to citizens, researchers, and entrepreneurs.

The Government is committed to putting this ecosystem into effect at all government entities and institutions before the beginning of 2021 and requests the Ministry to take the relevant measures to achieve this objective.

- Providing data and statistical analytics to the Prime Ministry in real time.
- Automating the regulations and mechanisms of government procedures through a unified national system.
- Providing single-source, accurate information to all government agencies.
- Introducing a centralized database to state personnel and identifying a unified structure based on civil service laws.
- Reducing capital and operational costs for institutional resource systems.
- Monitoring and supervising government expenditure and encouraging remote work for administrative tasks.

Prime Ministry

Beneficiaries

Government agencies

- Improving the quality of services and promoting transparency.
- Delivering simplified, paperless services to ensure timely service delivery.
- Delivering smart government services which can be approved quickly and electronically by government agencies taking part in the service.
- Reinforcing the principles of social justice for beneficiaries of government services.
- Facilitating the process of identifying and announcing government employment opportunities for applicants.

- Accelerating internal government procedures and increasing public sector productivity.
- Achieving integration in administrative work through a single system which serves as a link between all departments and units of various government agencies.
- Completing all time-consuming administrative and financial tasks and transactions in a timely and effective manner.
- Identifying agencies' HR requirements.
- Monitoring current plans, budgets, and projects.