



Digital Institutional Development of Government Institutions and the Prevention of Corruption

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Rapid technological and digital developments have recently taken place. Every institution should be updated with various digital technologies to develop and achieve its goals. Digital technologies, which include artificial intelligence, blockchain, big data etc., may play a supportive role in enhancing the performance of institutions if they are well utilized. In fact, the coronavirus pandemic has also helped in the digital development of institutions, through making it a necessary demand rather than a trend or a form of modernity. Digital development allows enterprises to have a new business model and improves the efficiency of the State's management of its resources with a view to providing premium services to citizens and preventing corruption.

Many Egyptian and global studies and practices show that the digital development of government institutions can be a fundamental factor in preventing and combating corruption. In addition, it supports a strong course of action in creating a new business environment and transforming the existing community ecosystem into an entirely digital and data-driven ecosystem. Thus, it will promote the concept of separation between the service provider and service receiver as well as facilitate government procedures due to effective communication and instant exchange of data between various competent authorities.

In this regard, digital institutional development is essential for fulfilling the needs of the citizens through a strategic business model and preventing corruption. This could also be achieved by creating a generation of government cadres capable of making the change and increasing the efficiency of government institutions. Moreover, digital institutional development helps in improving the quality of the services provided for the citizens as well as enhancing their digital participation.

This article reviews the role of digital institutional development in creating a strong participatory digital government institution capable of accommodating local and international changes and preventing corruption. In this way, it fulfills the satisfaction and trust of the citizen towards the state to achieve a new smart republic.

First: Digital Institutional Development (Concept and Pillars):
Researchers have variously defined digital institutional development. Some define it as "the digital transformation of institutions to improve the work environment and prevent corruption." Others define it as "the use of advanced technology such as artificial intelligence, virtual reality, etc., to achieve significant change, develop business models and prevent corruption." Digital institutional development is also defined as "the transitional process of institutions using digital technologies to create innovative and valuable products and services to

increase their revenues and prevent corruption."

Digital institutional development is also defined as "the use of digital technologies to renew the business performance, innovate and deliver new value and prevent corruption." Some researchers define it as "the utilization of the information and communication revolution to provide services and products in an innovative and governance-based manner that generates an overall distinctive experience." It is also defined as "The change based on digital technology that creates new opportunities for innovating customer experiences, streamlining processes and building new business models as well as saves pace, cost and time to prevent corruption."

Some anthology refers to digital institutional development as "taking advantage of technology development through investing in thought and changing in behavior to achieve radical transformation in working methods and services and prevent corruption. Digital transformation supports building effective, competitive, and sustainable societies. It also enhances the quality of the services provided to prevent corruption."

The most accurate definition of digital institutional development is "constant adaptation of organizations to a constantly changing environment." There are many advantages of digital institutional development, including; it grandly saving cost and effort, and facilitating the efficiency and quality of the services provided to citizens. It also provides new innovative and creative but not traditional services, and helps organizations to expand and spread in a wider range to reach more customers and prevent corruption.

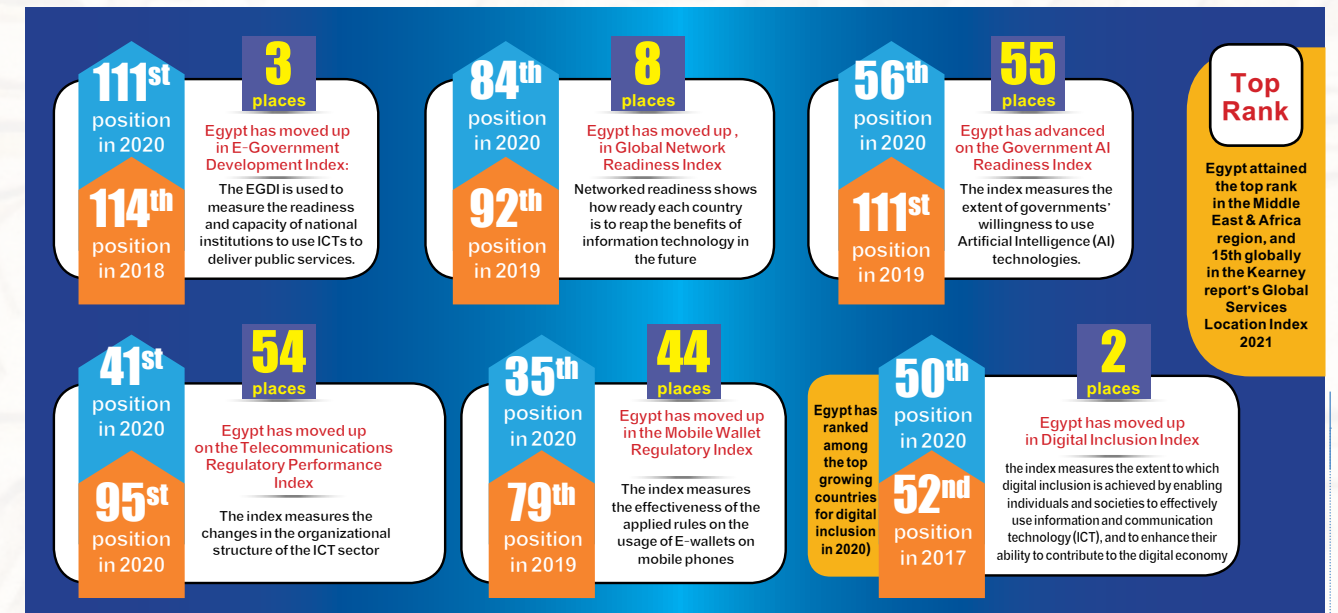
There are many strategic pillars to achieve digital institutional development for government institutions, including: a well-prepared digital environment, supportive technological techniques, a qualified government employee as well as sustainable operational excellence.

Modern technologies for digital institutional development are diverse such as cloud computing, artificial intelligence, the internet of things, blockchains, big data, augmented reality, virtual reality, machine learning, 5G technology, and cybersecurity.

Second: Egyptian Digital Institutional Development Frame:
Digital institutional development may be implemented according to different legal and political frames and documents such as:

The Egyptian Constitution:

The Egyptian Constitution includes several articles that support



the implementation of the digital institutional development of government institutions where Article 1 stipulates that the state system is based on the rule of law. Article 14 affirms that public posts are a right for citizens based on merit, with no favoritism or mediation. Article 25 obliges that the state commits to developing a comprehensive plan to eradicate digital illiteracy for all citizens from all age groups. Article 27 also obliges that the economic system of the state is committed to the criteria of transparency and governance. Article (31) stressed the security of information space is an integral part of the system of national economy and security. The state commits to taking the necessary measures to preserve it in the manner organized by law.

Article 68 handles access to information and official documents. The article states that: "Information, data, statistics, and official documents are owned by the people. Disclosure thereof from various sources is a right guaranteed by the state to all citizens. The state shall provide and make them available to citizens with transparency. The law shall organize rules for obtaining such, rules of availability and confidentiality, rules for depositing and preserving such, and lodging complaints against refusals to grant access thereto. The law shall specify penalties for withholding information or deliberately providing false information. State institutions shall deposit official documents with the National Library and Archives once they are no longer in use. They shall also protect them, secure them from loss or damage, and restore and digitize them using all modern means and instruments, as per the law.

Article 176 affirms that the State shall support the administrative, financial, and economic decentralization of local administration units and provide them with the needed scientific, technical, administrative, and financial assistance.

Egypt vision 2030:

By 2030, Egypt's vision is to establish governance of the state institutions through an efficient and effective public administration sector managing state resources. The fourth pillar of the vision emphasizes the governance and adherence to laws, rules, and procedures under the rule of law and achievement of transparency, accountability, and fight of corruption.

Sustainable Development Goals (SDGs):

The 17 UN Sustainable Development Goals support digital institutional development where goal 16 stressed developing effective, accountable, and transparent institutions entirely. It also promotes the rule of law at the national and international levels and ensures equal access to justice for all, and reduces corruption and bribery in all their forms. Moreover, it ensures responsive, inclusive, participatory, and representative decision-making at all levels as well as public access to information, and promotes and enforces non-discriminatory laws and policies for sustainable development.

There is no doubt that location is a key; however, the new administrative capital aims to achieve digital transformation, develop services, and create new business models. It also aims to enhance communication with citizens through a smart, integrated, and consistent environment. This shall facilitate the services and procedures provided for citizens using new smart digital systems.



Agenda 2063 — African Union:

Africa's 2063 Agenda aims to deliver sustainable development in principles, values, and practices supporting the rule of law and the transformation of leadership in all areas.

Third: implementation of digital institutional development in Egypt:

Egypt's digital transformation strategy is based on a strong vision and plans to transform Egypt into a digital society. Digital Egypt is built on three main frames: digital transformation, digital restructure of the Egyptian citizen, and digital innovation. These pillars are rested on important bases such as digital infrastructure, legislative and governance framework, and international leadership.

The digital transformation in Egypt includes all institutions and citizens whether in the capital or provinces. Egypt witnessed a huge change towards inclusive development which is presented in many projects including: the new administrative capital, the construction of digital provinces, the national project for the development of the Egyptian countryside (a decent life), etc.

Egypt's digital strategy aims to achieve the 17 UN Sustainable Development Goals (SDGs) as well as Egypt's Vision 2030 goals. Thus, it develops the ICT infrastructure, promotes digital inclusion, achieves the transition to a knowledge-based economy, and capacity-building. Furthermore, it helps

Egypt vision 2030:
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in encouraging innovation, fighting corruption, ensuring information security, and strengthening Egypt's regional and international standing. According to the state's efforts to achieve a new digital society, the digital transformation in Egypt is being represented in several projects such as:

Digital institutional development of ministries and government authorities moving to the administrative capital:

The new administrative capital is the most important smart city in Egypt and was titled the first digital capital in the Arab world in 2021, by the Arab Council of Ministers for Communications and Information in the 24th session on December 24, 2020.

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Egypt aims to creating a digital information infrastructure ecosystem for the new administrative capital. Moving to the new capital, the employees will be well-trained to use the new smart digital applications. Therefore, Digital development and transformation of the information systems ensure the sustainability of the working system. This shall facilitate the exchange of information through digital mechanisms and achieve a paperless smart government.

The project of the new administrative capital is based on a grand national project of six main frames:

Developing the information infrastructure of Egypt, which aims to enhance the comprehensive vision of planning based on modern technologies.

Building specialized applications set up by each ministry or entity to digitize the activities and services provided to citizens.

Create participatory applications to achieve a smart and paperless government (messaging system, electronic signature system).

Digitization of government documents (all paper files in all ministries and government authorities, which amounted to about 150 million documents have been digitized).

Technical support for the transmitted ministries and authorities to ensure the sustainability of digital transformation work (digital transformation is configured in 45 major entities, and already in progress for the rest of the entities. Moreover, 7,211 staff and executive candidates were trained by the Academy of Information Systems established in May 2021 on the technical support in the information systems and digital transformation).

Digitally developing the skills of the employees to keep pace with the new work environment (about 52,677 candidates have been trained).

Digital Institutional Development of Government Services:

A new network of fiber optic cables at a cost of up to 6 billion pounds is being established to connect 32,500 government buildings across the country within the fiber optic network. It is to link the buildings with fiber-optic cables, to boost communication speed and provide a more resilient service. In Port Said governorate, 800 government buildings have been connected to the fiber-optic network. Egypt agreed to include the connection of fiber-optic cables to new homes and buildings at the level of the Republic within the requirements for construction and to update the Egyptian building code to include the communication networks code, which includes standard specifications for the infrastructure for providing communication services.



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Egypt invested about 60 billion pounds to develop an optical-fiber telecommunications infrastructure network. This helps to improve the quality of the internet services. As a result, the internet speed doubled about 7 times and Egypt ranked the first in Africa according to the report of Ookla speed test compared to 4th place in October 2021 and 40th place in January 2019. Moreover, Egypt doubled the number of constructed towers from 600 to 1200 in the first half of 2021 as well as working in parallel on the governance of the telecommunications services. In addition, more than 75 government databases have been linked to each other within the framework of the implementation of the national project for the development of the information infrastructure of Egypt. The project aims to enhance the comprehensive vision of planning and address duplication in databases. This project is also the main pillar on which Egypt's digital applications are based.

In parallel, the infrastructure of the root authority for e-signature has been developed. The executive regulations of the Egyptian E-Signature Law have been amended, adding e-seal and time stamp services, to benefit from the e-signature technology in government, commercial and administrative e-transactions.

As a result, the digital transformation system in Port Said governorate has been implemented as a primary phase by launching more than 150 digital services in the governorate. The project included automating the government and service sectors in the governorate and linking them to the State's unified databases in cooperation with the service-providing sectors.

125 digitized government services have been launched on the 'Digital Egypt' platform, as part of a project implemented with investments of 3 billion pounds. The project aims to digitize government services and make them available through multiple outlets that suit all members of society, including the "Digital Egypt" platform, post offices, government service centers, and the call center (15999).

The project of automating the comprehensive health insurance system has been implemented in cooperation with the Ministry of Health and the Ministry of Military Production by launching the system in 50 sites in Port Said. This is in addition to a partial launch in 33 sites in Luxor Governorate, targeting 66 sites, and a partial launch in 14 sites in Ismailia. Preparations are in progress to launch this system in South Sinai, Aswan, and Suez during the current year.

The Egyptian state, in cooperation with its various sectors and institutions, has also implemented many digital services projects. The most significant projects are: Egypt's digital justice projects, the development of the agricultural tenure system, the issuance of the smart card for farmers, the digital transformation in the higher education system, the digital transformation in the state property management system, and the national real estate ID.

Fourth: Digital institutional development and enhancing citizen communication to combat corruption:

Following the great achievements of the digital institutional development, Egypt was keen to create channels of direct communication with the citizen to enhance their participation in the implementation of Egypt's Vision 2030 and reinforce his role in combating corruption. In this regard, several interactive platforms were set:

Launching the mobile application "Sharek 2030" to enable the public to follow-up on Egypt's development projects

and performance indicators. This is an interactive platform between the citizen and the Egyptian government. It is one of the country's sustainable development goals to enable the public to assess projects and achieve the principle of community participation and follow-up.

Government Complaints portal "www.shakwa.eg" is an online portal that applies an integrated administration system and replicates world best practices in dealing with people's complaints. The portal is based on the promotion of the concept of "active citizenship". Several mechanisms are featured through the System including receiving, examining, and processing complaints as well as making use of such complaints in improving performance. Moreover, it builds up confidence between people and the government by implementing viable policies to fulfill people's complaints. The impact of the establishment of that system is reflected in the receipt of 1.26 million complaints since August 2019 where 89% of them have been processed, so the system has succeeded in receiving and examining 3.82 million complaints electronically since its establishment in July 2017. The system also led to the growth of the network of government entities associated with the system, which is based on resolving citizens' complaints, to reach about 189 main entities, followed by subsidiary entities of about 2925 entities.

Launching the mobile application "at your service", which allows citizens to register and follow-up on complaints smoothly and quickly. This application allows searching in the directory of government services, which contains information about the services provided by the Egyptian government and the papers required for these services, and their expected cost.

Fifth: Digital Institutional Development and Egypt's Ranking among International Indicators:

The state's sectors cooperation to achieve digital transformation is shown in the improvement of Egypt's ranking in regional and international indicators, the most prominent of which are:

E-Government Development Index: Egypt came among the countries with a high level of e-government services in the Electronic Services Development Index issued by the United Nations Department of Economic and Social Affairs. Egypt's ranking in the index advanced to 111 out of 193 countries for 2020, compared to 114 in 2018.

Corruption Perceptions Index: Egypt has advanced two marks in the Corruption Perceptions Index for 2020, issued by Transparency International, with a rating of 33 out of 100, compared to 35 in 2019, making Egypt 117 out of 180 countries.

AI Government Readiness Index: Egypt's ranking in the "Government Artificial Intelligence" Readiness Index for the year 2020 advanced about 55 positions to become the 56th place globally out of 172 countries, compared to 111th out of 194 countries in 2019.

Global Network Readiness Index for Governments: Egypt's global position has moved up 8 positions in the Global Network Readiness Index to rank 84th in 2020, compared to 92nd in 2019.

Cybersecurity Index: Egypt was ranked 23rd out of 193 countries in the International Telecommunication Union's (ITU's) Cybersecurity Index (GCI) in 2021.

Digital Inclusion Index: Egypt has moved up two positions in improving its performance in digital transformation, ranking 50th place in 2020, compared to 52nd place in 2017. It became one of the 10 fastest growing countries in digital transformation in 2020.