

# GLOBAL TRENDS IN DRIVING INNOVATION IN PUBLIC GOVERNANCE THROUGH DIGITAL TECHNOLOGIES AND DIGITAL GOVERNMENT MECHANISMS

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## Abstract

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The author analyzes the impact of digital transformation on public institutions in the context of improving the quality of life and supporting the UN Sustainable Development Goals. It seems increasingly clear that there is a need to intensify efforts to bridge the digital divide, improve the quality of data management and mitigate the risks associated with new technologies such as artificial intelligence. While the COVID-19 pandemic has increased the use and highlighted the importance of information and communications technology, it has also revealed the need for an adequate balance between online and offline public service delivery.

The author emphasizes that governments should allocate annual funding to facilitate the development of domestic information technological solutions and encourage the procurement and purchase of critical domestic solutions that could enhance their digital capabilities. Integrated technologies should become available as soon as possible, as it is difficult to overestimate their impact on structural changes in the economy, the creation of new industries and enterprises, as well as the development of breakthrough products and services.

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## Keywords

Public governance, digital technologies, government digitalization, innovations, ICT, cryptocurrency.



## INTRODUCTION

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Since 2016 the United Nations Committee of Experts on Public Administration has been discussing the challenges and opportunities facing public institutions in the information society. Among other things, it addresses ways to improve interaction and communication between governments and stakeholders. Based on the Committee's recommendations ECOSOC urged governments to develop open government as a model of citizen-centered governance that establishes a new relationship between public governance and society.

At its 21st session the Committee emphasized that the digitalization of government and society continues to provide great opportunities to accelerate development, improve the quality of public services, fight corruption, reduce inequalities, provided that governance is effected in a fair, ethical and people-oriented manner.

In this regard, it is important to consider the links between digitalization, public service delivery and innovation, inter alia by clarifying emerging trends and describing the challenges and opportunities associated with them.

In November 2022 the world population reached 8 billion people and it is expected to continue rising to around 8.5 billion in 2030. The world will see continued urbanization, with 56% of the total population living in urban areas in 2021 up to 68% in 2050 respectively. This will increase the number of urban residents by 2.2 billion, mainly in Africa and Asia.

In 2022 73% of the world population over the age of 10 owned a mobile phone (up from 67% in 2019). The number of Internet users has reached 5.3 billion (66% of the world's population), 24% growth compared to 2019. The number of social media users has nearly doubled, from 2.3 billion in 2016 to 4.2 billion in 2021.

This pace of digital engagement, coupled with rapid technological change, including new and emerging technologies, has a tangible impact on the development of public governance systems around the world. However, it is essential to make sure that these changes improve the quality of life and do not lead to changes in the interest of multinational corporations only. It is vital, inter alia, to take efforts to bridge the digital divide, improve data management and mitigate the risks posed by new technologies such as artificial intelligence and social media through new policies, regulatory regimes and standards.

## DIGITAL ACCESS AND NEW STANDARDS

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The COVID-19 pandemic has accelerated the technological trends that have been gaining momentum over the recent decades, giving a powerful impetus to the further digitalization of many aspects of

everyday life, including the activities of government agencies, business, education and even international relations. Substantially accelerated digitalization of governments caused by the pandemic bears a profound impact on the exchange of data and information, the delivery of public services and opportunities for collaboration within government with citizens and other actors.

However, the experience of the pandemic has also highlighted the importance of an adequate balance between virtual and real public service delivery, since many important issues can only be resolved through direct contact, require political communication and building trust between citizens and state officials.

In this regard, national digital strategies should be result-oriented and ensure the widespread introduction of digital technologies, which is especially important for bridging the digital divide within and between states. Apparently, the main effectiveness criteria should be the improved quality of life and well-being of citizens. One of the main challenges in transition to large-scale introduction of innovative technologies such as artificial intelligence is the barriers to their widespread use, most notably the difficulty of ensuring developers' access to unbiased and complete datasets.

As part of their national digital strategies, governments should encourage the development and procurement of critical domestic information technologies to meet state and municipal needs, which in turn could enhance their digital capabilities, inter alia through the allocation of annual budget funds for their development. Investment and incentives to support domestic development and production can be used to facilitate the digitalization of public governance. A common practice, for instance, is the policy of tax incentives aimed at IT companies.

Public policy should also be aimed at encouraging the further development of end-to-end technological solutions, considering their impact on structural changes in the economy, the creation of new industries and enterprises, the development of technologically advanced and innovative products and services. There is, for instance, a need to move from isolated experiments and pilot initiatives to the launch of AI-driven end-to-end solutions, especially in areas that determine the quality of human life.

At the same time, it should be noted that innovative technological projects are impossible without improving the training of engineers and IT specialists. We hear more and more voices in support of integrating their education in the school curriculum. Moreover, the training of a new generation of engineers and IT professionals in developing countries should be supported by international organizations and donors. In this respect, it is vital to ensure adequate remuneration and funding to improve the living standards of public sector IT specialists, particularly to

prevent brain drain from developing countries.

## **PUBLIC GOVERNANCE AND CRYPTOCURRENCIES**

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A notable trend in digitalization has been the rise of cryptocurrency markets which requires an entirely new form of regulatory oversight by governments. Cryptocurrencies are secured by cryptographic methods and the transactions are effected digitally using an encrypted technology known as blockchain.

The first decentralized cryptocurrency was created in 2009 and as of 2022 there were more than 19 thousand outstanding cryptocurrencies compared to 1.5 thousand in 2018. Numerous service providers, mostly private, such as decentralized financial platforms, crypto exchanges and digital wallet applications help keep the system running [4].

The Asia-Pacific region has become one of the leaders in this area. From July 2020 to June 2021 Central and Southeast Asia and Oceania accounted for 14% of the global cryptocurrency value (\$572 billion) and East Asia for 14% of the global cryptocurrency transaction value (\$591 billion). The aggregate activity in these regions was equal to about 35% of the global cryptocurrency value (more than \$1.43 trillion) [5].

In 2021 El Salvador became the first state to adopt bitcoin as the country's official currency. In 2022 the Central African Republic followed the suit. Some perceive this as an opportunity to reduce dependence on the US dollar [6].

The use of cryptocurrencies creates opportunities, but also comes with challenges that may damage governance systems and undermine stability, especially in developing countries. This inter alia may cause risks to financial stability (monetary regulators would have to step in to restore financial stability in case cryptocurrency prices fall). Cryptocurrencies also constitute a new channel for illicit financial flows and undermine the efficiency of capital controls. Moreover, cryptocurrencies may turn into a common legal tender and even unofficially replace national currencies, which may threaten the monetary sovereignty of states [7]. There is also an issue of levying and transferring taxes when making transactions in cryptocurrency.

In view of the above problems, adequate regulation of the cryptocurrency market is essential and many states, including developing ones, have begun to take adequate measures. As of November 2021 [4], states banned banks and other financial institutions from dealing with cryptocurrencies or crypto exchanges from offering services to individuals and businesses. Nine developing countries have introduced a complete ban on cryptocurrencies. Several other countries have introduced an income tax on capital gains from cryptocurrency trading. Crypto exchanges have become subject to national anti-money laundering and counter-terrorist financing laws in several jurisdictions.



Several countries have also banned the activity of cryptocurrency miners. This has forced some of them to relocate their business to Central Asia with access to inexpensive power, but which lacks sufficient power to meet consumer demand. Miners' activity in the region is mostly illegal. However, the authorities are aware of this problem and declare their intention to ban cryptocurrency mining.

## **KEY TRENDS IN INNOVATIVE PUBLIC GOVERNANCE**

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Innovative approaches to ICT in the public sector are one of the main means of improving the quality of life. Dubai, for instance, is committed to completely paper-free government, eliminating more than 1 billion paper documents used in public transactions each year, saving time, resources and keeping the environment safe. Since the government will have to go completely paperless, 100% of customer-oriented internal processes and services will have to be digitized.

One of the leading countries in the digitalization of government is Russia. In some industries it even tops the rating, actively promoting the digital agenda in a variety of forms and mechanisms. It was the Russian government that first issued a regulatory legal act in a digital form, administrative regulations of Rosobrnadzor, Federal Science and Education Supervision Agency. It implied paper-free cycle of development and approval of a document containing information on the assessment results regarding the activities of scientific organizations subordinate to federal executive authorities that perform research, development and technological work for civilian purposes.

Some countries in the African region are characterized by a high level of population engagement in the digitalization of trade and money. In 2021 8.5% of Kenya's population (about 4.25 million people) owned digital assets. During the pandemic, in terms of fees and speed, cryptocurrencies were an attractive way to transfer money. Moreover, cryptocurrencies, which are mostly held by middle-income people in developing countries and especially in countries facing currency depreciation and rising inflation (caused or exacerbated by the COVID-19 pandemic), were viewed by households as a store of value.

While some states lack a systematic approach and strategic vision, others apply concrete and effective solutions in public governance digitalization. Guyana, for instance, has implemented comprehensive reforms engaging ministries and government agencies in government ICT mapping and multidimensional capacity assessments. Their experience shows that when assessing the degree of ICT in government ministries it is also essential to assess the skills of employees and business processes of public services [8].



## CONCLUSION

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An analysis of the main trends in public governance digitalization in view of its objective to improve the quality of life suggests that national digital strategies should aim at tangible results, to provide wide access to digital technologies, to bridge the national and international digital divide and to improve living standards and well-being of citizens. The development of end-to-end technologies should be facilitated and their adoption accelerated given their impact on structural changes in the economy, the creation of new industries and enterprises, the development of technologically advanced and innovative ICT products and services. National digital strategies should also encourage the development and procurement of national technologies and software products that could enhance the digital capabilities of states.

At the same time, we should not equal driving the digital environment development to the lack of control. Adequate regulation of cryptocurrencies is essential and the national efforts in this area should be intensified. Improving the security of information systems and communication networks in government institutions is still vital since reducing the risk of leaks and misuse of personal information of citizens should remain a priority.

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**Conflict of interest:** the author declares no conflict of interest.

**Funding:** the study was not sponsored.

**For citation:** Sardaryan H.T. (2023). Global trends in driving innovation in public governance through digital technologies and digital government mechanisms, 3(3), pp. 62-68

Submitted for publication: 27 April 2023

Accepted for publication: 29 May 2023