
**THE IMPORTANCE OF INNOVATIVE TECHNOLOGIES IN THE
PROCESS OF DIGITAL ECONOMY FORMATION**

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Abstract

The article presents the authors opinion on the importance of the role of innovative technologies in the formation of the digital economy. In the text, the authors focus on the main challenges the parties, the state, private companies, civil society, whose synergistic work will achieve the digital economy and the modernization of all processes and procedures required for digital interaction may face. They focus on the existence and availability of the necessary infrastructure, e-security, e-archives, e-business, e-health, standards needed to fully exploit and institutionalize the potential of innovative technologies, ensuring interoperability of services generated by different agencies and interoperability between agencies. The text emphasizes the importance of standards and regulations not being unilaterally developed solely by the government, but developed by the involvement of the business sector, which creates wealth and jobs in the country.

Keywords: Digital Economy, e-Government, Innovative Technologies, Processes

Introduction

In case of globalization and rapidly changing environment, the role of innovative technology opportunities is increasingly relevant in the formulation of the digital economy, which in turn is related to the deployment of information and communication technologies, business interest in business sector innovation, and demand promotion from civil society. In this regard, the role of the state is great to ensure innovation in stimulating economic growth in the public, private and civil sectors.

In today's reality we cannot name a single field that can be developed without digital technologies. If the first historical system of infrastructure was transport, the next stage would be the field of energy, today modern infrastructure is created by means of communication. The cornerstone of a developed society is the ability to access and exchange information. A person working in any field, e.g. education, healthcare or agriculture, being a professional for further development should be able to select and find interesting information in his field.

In addition to personal development and education, access to information also has social benefits: connects consumers, private business, and the state and in turn pushes economic activity, increases access to consumers and new business opportunities.

During the current COVID-19 pandemic, the importance of innovative technologies in the country in the formulation of the digital economy has become even more visible, including e-government, its content and form have expanded, the need to create an attractive environment for business and civil society interested in innovative technologies. The role of government has been increased to stimulate the introduction of a credible, continuous, interoperable, institutionally managed sustainable system in the public and private sectors.

Method

The management process, monitoring and evaluation of efficiency are important when implementing any project, which is naturally not news, however when we talk about a complex project across the country, which includes all agencies, the issue requires good preparation. International best practices should also be taken into account, as countries that have already followed a similar path and sharing their experiences will further accelerate events. At the same time we should not neglect the scientifically acceptable methods and means, the characteristics of the local market. Compatible indicators should be compared with indicators from other countries. From this complex approach, there are three main directions for each participating party/agency: 1. Indicator of the set goal (what we want to achieve) 2. Evaluation mechanism of each indicator 3. Timely plan, date of achievement of the goal.

Among the real development strategies in different countries, a particularly interesting case is the example of South Korea - which was crucial to the country's success. The South Korean government has developed a long-term strategy called "Information Society Vision" - according to which the Internet project was perceived not as the existence of a network or improved communication opportunities, but as a key basis for the success of the country.

Particularly noteworthy is the direction of education - the government has invested heavily in providing students with computers, replacing learning materials with digital and distributing them to schools free of charge. The government of South Korea has created an online education system called "EDUNET", which united up to 6 million users and is aimed at both students and teachers. Developed special educational programs for people with disabilities. The government has developed software that, in turn, has made it easily accessible to small and medium-sized businesses and has made it easier for them to set up and manage business processes.

The government has set up 6 different scientific research institutes to study agriculture, setting up an agricultural information service that brings together researchers and computer specialists. One of their main functions is to advise farmers via e-mail and short text messages, to organize virtual meetings and trainings. Online training is given to an average of 1000 farmers per year, training material is prepared not only textually, but also with audio-visual effects, which makes it easy to understand the solution of a specific problem.

It is a well-known fact that the development of information and communication technologies has a great impact on the growth of the country's GDP, we have cited the results of several studies to support this statement.

According to the GSM Association of Mobile Telephony Associations, lower dollar taxes in developing countries generate \$ 1.4 to \$ 12.6 billion in GDP. According to a World Bank study, every 10% increase in broadband penetration leads to 1.38% growth in the economy, and as a result of a similar change, according to Mackenzie, a 10% increase in broadband penetration leads to a 1.4% increase in the country's GDP.



Source:

<http://www.gsma.com/spectrum/wp-content/uploads/2012/03/tasreport.pdf>

<http://www.gsma.com/publicpolicy/wp-content/uploads/2012/03/gsmaglobaltaxreviewnovember2011.pdf>

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http://www.mckinsey.com/insights/high_tech_telecoms_internet/internet_matters

The increase in Internet penetration in recent years has had a significant impact on the quality of life, which in turn is in line with the development achieved as a result of the industrial revolution of the 19th century.

Results

What are the specific directions in the formation of the digital economy?

Electronic Security-The proper operation of telecommunications networks and servers is critical to e-government. Almost all industries are becoming increasingly dependent on this resource and

its malfunction may pose a serious threat not only to the industry but also to the country. The issue of cybersecurity is critically important, the role and responsibility of the state is growing even more in this direction. Through their efforts, the issue of trust should not raise questions in civil society. Extensive use of innovative technologies requires public confidence, relevant skills and accessibility. The trust factor is created by a secure environment, protection against cybercrime and certain mechanisms to prevent fraud, which in turn implies not only the technical side, but also the existence of legal frameworks, especially in the case of electronic signatures. Access to electronic signatures even includes the sustainable operation of the proper infrastructure. Among them, the state must identify what is considered critical infrastructure - that is, infrastructure whose malfunctions pose a threat to much of the population and the country - for example, telecommunications networks and servers that are critical to e-government. In the modern world, countries are becoming increasingly dependent on similar critical infrastructures. Accordingly, the protection of critical infrastructure is as important to national security as the protection of borders. E-government and e-services delivery is impossible without proper infrastructure. Which includes Internet access and basic services such as authentication, multilevel access to databases.

Utilizing synergies between the public and private sectors is critical to the existence of shared use infrastructure across the country. The public sector has a limited budget but has a material and technical base, the private sector has more investment opportunities and flexible governance, therefore participating in bilateral joint operations is an alternative way to create a universal infrastructure with open access opportunities.

In order to secure the digital service, it is necessary to verify the identity of the person, i.e. authentication. The implementation requires an electronic means that will identify and authenticate an individual and a business through an electronic ID, electronic signature or electronic seal. The identification of an official signature by means of an electronic seal of a legal entity might be similar.

Interoperability is fundamentally important for the institutionalization of processes in order to facilitate interaction between government agencies, including in the regional context, as well as interaction between business and citizens, and relationship between business sectors. The interoperability framework should be considered as a basic guide for priority areas such as critical infrastructure, security, digital services, digital society and more. It should include the development of standards according to which the cooperation of the parties will become compatible. The standards must be compatible with international standards. As a result, digital interaction between systems will become a more efficient, fast, low-cost generator, improve the quality of service, which will increase business and community satisfaction and increase trust in the state. One of the prerequisites for the institutionalization of the process is that the provision of the service electronically is as legally enforced as the traditional procedure.

Due to the scale and complexity of the project, it is difficult to prioritize and prioritize certain activities to include the interests of all parties involved in the ecosystem, ensuring

discrimination and equal conditions. At the same time to take into account the so-called benefits for all parties- Win to Win position - that all parties can benefit without additional pressure and be motivated to transform at other stages of the project. To provide additional benefits to the end user, electronic services and access to databases will improve the quality of service, increase the reliability of information, eliminate the likelihood of errors, save material costs of service, provide a significant reduction in service time and 24/7 service delivery. Efficiency and effectiveness of all parties involved in the ecosystem are actually achieved, maximizing benefits at minimum costs, freeing up resources for other activities.

In order to implement effective e-governance, any service provider for legal entities, both in the public and private sectors, needs to have access to databases with certain reservations and compliance with the conditions. Data delivery should be based on a well-thought-out process, integration between systems, ensuring records of relevant logs, strict adherence to safety standards, development of control mechanisms, and strict control on a random basis.

Reasonable use of technology goes beyond just transferring processes to digital format, it requires in-depth analysis of processes, development of data exchange format, general characteristics of interfaces, integration of systems. With such a unified database, access to open database would greatly facilitate monitoring and management of infected patients in the COVID-19 pandemic, and compliance with existing regulations.

The role of the state is important in enacting relevant laws and regulations that include, and are not limited to, the rights of citizens and businesses, how to regulate the dissemination of their data, who should have access to it, and how they can use the data. These laws, regulations should be available to citizens in electronic format, should train citizens and inform how and in what cases they should use the data, what type of sanctions will apply in case of violations.

Electronic Archive-Digital Data Storage and Management-Electronic management naturally includes the need for electronic records, which should be easily accessible, usable, archived, authentic, protected, with the ability to store legally. Traditional methods are outdated and can no longer withstand modern challenges. At the same time, modern approaches pose some new risks, for example, the change of digital data is possible without leaving any traces and is difficult to identify, although the development of technology in this direction is also active and is not a problem in the long run. It is important to have access to digital data by the relevant permissions person who will only make authorized changes. The operating process and control mechanisms must be designed to be minimized, or rather unauthorized changes, accidental or deliberate manipulation, ie the authenticity of the digital document must be completely eliminated.

Developed countries have long-term digital data storage solutions and best archiving practices, including the ISO15489 standard, which adheres to:

- Authenticity-which includes and is not limited to the following: Any type of record was created and/or sent by the relevant person / legal entity, indicating the time of creation/submission.
- Credibility-The content must be accurate
- Data status-that the document is undamaged, unchanged (no intentional or accidental changes)
- Validity-that the record is usable, and/or indicates the expiration date.

A prerequisite for the development of e-governance is the existence of an electronic archive-the creation of a digital information system for long-term storage of data for management.

It is important that each stakeholder and other stakeholders involved in the e-government ecosystem are well aware of the key challenges associated with project implementation, one of which is the need for long-term storage of digital records and its impact on other additional initiatives. In this regard, it is necessary to study the main standards at the international level and share best practices.

The long-term preservation of digital/digitized records reliably and qualitatively is not only the goal of the state, but also of all parties involved in ecosystems. Where, naturally, the public interest and the accountability of the parties to them are evident. Electronic data archiving and management is efficient for all parties in terms of processing storage and access. There is some basis for establishing a one-stop-shop portal for the electronic delivery of services.

E-Health - One of the important directions for the formation of a digital society is the support of healthcare through electronic processes and communication. E-health should also include prescribing electronically, which should be accessible to pharmacy chains. As the health care system includes both the private and public sectors, it is important to work effectively, in a coordinated manner, between the public sector and private business - an institutionalization based on international standards. A special group should be set up - with the involvement of the government and the private sector-to develop a management strategy and implementation tactics in order of priority, identify key issues, work on legal frameworks, set standards to improve the delivery of modern digital health services and improve quality of life. It is essential to have at least an electronic medical record of each citizen's health status and a public health oversight system. Basic health data collection will be made available, accessible, and the delivery of health care services to individual patients will be improved. Not only individual pieces of patient information but also a complete history will be made available to clinics. Different types of statistics will be prepared and studies Different types of activities will be planned for disease prevention.

E-business-As already mentioned, the existence of e-services has become particularly relevant in the current pandemic. In today's reality, it is an important pillar of economic growth, both in the private sector and for government agencies, including the operation without the use of information and communication technologies is practically impossible. Access to the Internet

across the country, the existence of stable and secure online networks to support online services has become even more urgent. In order to create a digital market, the introduction of mandatory communication standards, which should include electronic security and infrastructure, increase in the use of electronic ID cards, introduction of electronic signatures, online payments, cybercrime protection services, has become relevant.

Discussion

First of all, it is necessary to clarify the needs of all parties, to identify innovative models of operation of public and private agencies based on research. The focus should be on the following areas:

- Necessary standards, regulations, legal framework for e-services
- Basic infrastructure required for e-services/management for general use.
- In addition to the existing need, the prospect of introducing additional benefits in the future, services that are not in demand today but will be in the future
- Promoting the digital community, teaching relevant knowledge and skills.
- Legislative framework and standards for e-business

The provision of digital services requires a legal framework that regulates the identification of a person, the existence of digital contracts, the validity of digital invoices, digital signatures. That is, all the processes and procedures required for digital interaction. Digital services also require regulations that protect intellectual property rights, clarify proprietary rights, and make copies and distributions of digital products and services. Regulations should not exist only written on a piece of paper, the main thing is to be applicable and enforceable in practice.

To fully exploit and institutionalize the potential of innovative technologies, standards are needed that ensure the interoperability of services generated by different agencies and seamless interaction between agencies. That is, regulations/standards are needed for the exchange of data over digital networks, including the sending of secure documents. Standards and regulations should not be unilaterally developed solely by the government, it is critically important to involve the business sector, which creates wealth and jobs in the country. Only through mutual cooperation can the manifestation of innovations be achieved.

In order to implement e-government, it is necessary to raise the level of education to acquire the competencies and skills needed to work in the field of information and communication technologies, especially in areas such as data analysis, e-tourism, e-logistics, smart city management and others. This requires reforms in education, investments in schools and higher education institutions, the establishment of vocational training centers, which will develop special programs and will be tailored to pre-defined fields and areas. Education and training should meet the demand of professionals in the private and public sectors of the market, unfortunately this is not the case today.

Conclusion

The institutional model of digital economy should be based on appropriate principles, which include and are not limited to:

- Legislative changes-ensuring digital interaction and the provision of digital services so that digital transactions have the same legal force as traditional transactions.
- Entities participating in e-government should be interoperable and interoperable using the full potential of information and communication technologies. Achieving the goal requires agreement and regulation on a universal institutional architectural framework.
- Establish an e-government coordination structure to monitor the implementation of the strategy. Consistently develops in all sectors, state structures, in which private business is established. Will take care of the involvement of civil society.

In order to get the right return on investment, it is important to have the right level of consumption, the more users start using e-services, the more benefits the project will have, raising public awareness. Potential benefits include saving time and money for all parties.

A separate process is the feedback received through various communication channels and the processing of this data, the identification of key findings, the separation of priorities, the processing and sharing. As these are potentially complex issues, the data should be processed by highly qualified staff and forwarded to the appropriate agencies. In fact, vertical and horizontal coordination is required.

Mobile governance is expanding - that is, intensive use of mobile technologies and devices in e-government, which also includes and is not limited to managing business processes and transactions via wireless devices, will actually increase access to services regardless of location. Accordingly, the service will be performed more flexibly and quickly with modern means of communication.

The final stage of the project should be the establishment of e-democracy in digital countries, which includes democratic communication, open governance using information and communication technologies, which will end with a model of reliable and secure electronic voting, when every citizen of the country will have the opportunity to vote electronically.

Electronic voting is used in electronic elections in developed countries, as well as in online elections, which involves various means of voting and voting using information and communication technologies (for example, on the Internet, mobile device) regardless of a person's location.

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