LEGAL FRAMEWORKS AND BARRIERS HINDERING THE DEVELOPMENT OF DIGITAL GOVERNMENT IN THE MEMBER-STATES OF THE EURASIAN ECONOMIC UNION

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Abstract *– Examining and evaluating challenges, trends, and advancements of ICT4D and the features of E-Governance specifically in the member-states of the Eurasian Economic Union is defined as the main purpose of this article. The primary focus of the research issue is on the absence of a regulatory framework, the lack of coordination when changing legal acts, and implementation barriers based on cultural factors. The article contributes to the existing literature by advancing the understanding of the DOI theory, which focuses on four main factors of the model. Additionally, authors provide a detailed analysis of the practical implementation of E-Governance processes in the region, highlighting both successes and failures. Finally, the comprehensive analysis of E-Governance in the member-states of the EAEU may serve as a useful guide for scholarly community, practitioners and policy makers working in developing countries who are in wide sense represented as 'intermediary in the struggle for social change'.*

Keywords*: E-Governance, legal framework, Public Administration, Eurasian Economic Union, Information and Communication Technologies;*

INTRODUCTION

The advantages of Information and Communication Technologies (ICT) for a country's development are well-known and well-documented by international experience. E-Governance, E-Participation, and Digital Transformation are terms used to describe how ICT can improve the efficiency, inclusivity, transparency, and accountability of government institutions.[1] Additionally, ICT creates opportunities for sustainable growth and poverty reduction by providing new sources of income and employment, improving health and education services, and increasing economic competitiveness.[2]

Well-developed or overseen e-government will give intuitively and value-based open administrations for citizens and businesses where those administrations are nearly conveyed completely remotely.

It is widely acknowledged that a country's economic development is closely tied to its ICT and digitalization leadership, with those that establish strong foundations and mechanisms experiencing accelerated growth.

Thus, taking into account all the advantages and opportunities that the ICT in general and the Digital Transformation in particular can provide, the Board of the Eurasian Economic Commission issued the Decree "On Establishment of a Working Group to Develop Proposals regarding the Creation of EAEU Digital Space" in March 2016.[3] More than 250 experts, representatives of Executive authorities, authorized

[1]G20 Digital Economy Development and Cooperation Initiative (2016). http://www.g20chn.com/xwzxEnglish/sum_ann/201609/P020160912341422794014.pdf.

[2] G20 Leaders' Communique. Antalya Summit (2015) Para 26. https://www.gpfi.org/sites/gpfi/files/documents/G20-Antalya-Leaders-Summit-Communiqu--.pdf.

[3] Eurasian Economic Commission, Declaration on Forming Digital Space in the Eurasian Economic Union. https://docs.eaeunion.org/docs/ru-ru/01412001/clco_22112016_186 (2016).

organizations, the business community of the member-states of the Union, officials and employees of the Commission – have created the Working Group and held fourteen sessions.[4]

The creation of the Eurasian Economic Union (EAEU) in 2014 has been viewed by Westerners as a new version of the USSR[5] and a political maneuver to extend Russian control over the CIS region.[6] However, this perception is inaccurate as the EAEU draws inspiration from modern European and other regional integration models.[7]

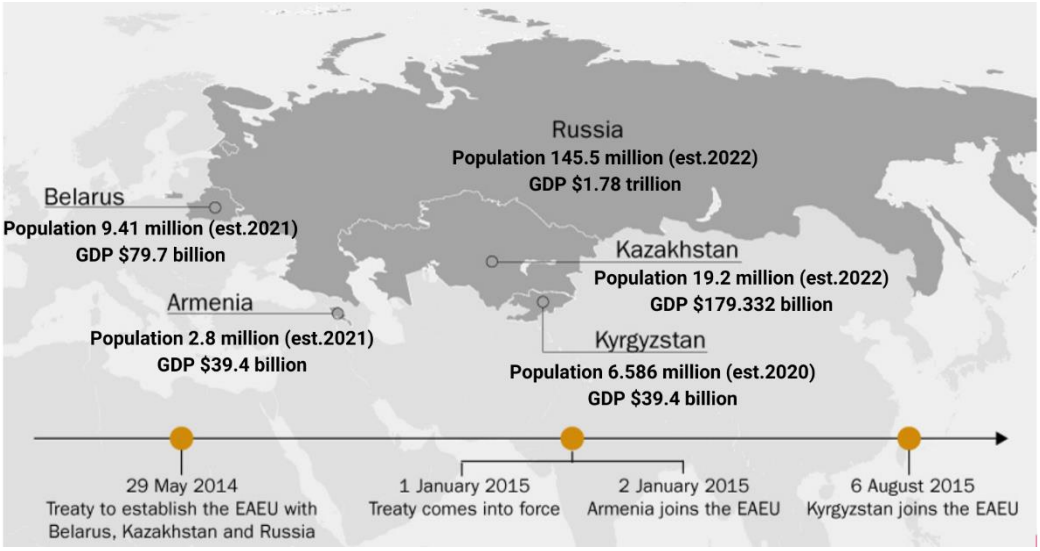

Figure 1. Location of the member states of the EAEU on the world map by its population and GDP.

1.1. The rationale of the research

With a comprehensive approach to the topic, it is worth to note that great number of papers in the field of ICT4D are mainly about Global South[8] and very little research regarding CIS region in terms of ICT, ICT4D or E-Governance.[9] That would enable a reader to explore and understand developing trends

[4] Eurasian Economic Union. Collection of Digital Agenda of the EAEU 2025 (2019).

[5] Hillary Clinton, 'Eurasian Integration is an Effort to "Re-Sovietize", 2012 https://www.rferl.org/a/clinton-calls-eurasian-integration-effort-to-resovietize/24791921.html.

[6] Tigran Sargsyan, 'The past, present and future of the Eurasian Economic Union'. Analytical media 'Eurasian studies', 2017 http://greatereurope.org/archives/3668.

[7] A Morozova, 'EU as an example of development for Eurasian Union'. Bulletin of Tomsk State University, 1 (17) (2012): 110-116.

[8] C Avgerou 'Computer based information systems and modernization of public administration in developing countries'. S.C. Bhatnagar, & N. Bjørn-Andersen (Eds.), Information technology in developing countries (1990): 243–250 Amsterdam: North Holland. For further reading: MK Sein & G Harindranath, 'Conceptualizing the ICT artifact: Toward understanding the role of ICT in national development' The Information Society, 20(1), (2004): 15–24; C Ciborra & DD Navarra, 'Good governance, development theory, and aid policy: Risks and challenges of e-government in Jordan' Information Technology for Development, 11(2), (2005): 141–159; See also Andrade A. Díaz & C Urquhart, 'The value of extended networks: Social capital in an ICT intervention in rural Peru' Information Technology for Development, 15(2), (2009): 108–132; S Madon, 'E-Governance for development: A focus on rural India' London: Palgrave Macmillan (2009); D Thapa, 'The role of ICT actors and networks in development: The case study of a wireless project in Nepal'. The Electronic Journal of Information Systems in Developing Countries, 49(1), (2011): 1–16 and A Jiménez & Y Zheng, 'A spatial perspective of innovation and development: Innovation hubs in Zambia and the UK'. Information and communication technologies for development (2017): 171–181. Cham: Springer.

[9] L Bershadskaya, A Chugunov, & D Trutnev. (2012). 'Monitoring Methods of E-Government Development Assessment: Comparative Analysis of International and Russian Experience', *6th International Conference on Theory and Practice of Electronic Governance*. Here a comprehensive study includes L Vidyasova, A Chugunov, & E Vidiasov. (2017). 'Developing E-Governance in the Eurasian Economic Union: Progress, Challenges and Prospects'. International Organizations Research Journal. See also S Petukhova & M Strepetova. (2013). 'Russian Information and Communication Technologies, and Infrastructure Formation of Innovation Economy', 24th European Regional

in that region with a particular focus on E-Governance. Along with that, there are articles that try to perpetuate Western Values when it comes to the ICT4D.[10] The transformative intervention of ICT4D is not only about adopting advanced technology and about blindly following instructions and guidelines of the developed Western countries, it is in addition implementing the ICT in a way that would be the result of coordinated human activity, including human design and shaping, as well as use in social activities.

The defining role in the concept of "Electronic participation" as a new mechanism for ensuring interactive communication between government and society, as it was mentioned, played not by advanced technology, but mainly by the specifics of the political and socio-economic system, which is fixed in the normative legal framework.

While scholars' policy recommendations are crucial for the practical implementation of ICT&ICT4Ds[11] merely expressing an interest in influencing policy and practice is not enough. Researchers must engage with their audience and communicate their findings to a wider public, which has been overlooked to some extent by the academic community.[12]

Despite the fact that theoretical approach by scholars and practical approach by practitioners of ICT&ICT4D field are generally different, there are joint efforts of the Union's Working Group that took the form of an Agenda. Agenda itself, in order to be implemented accordingly is divided into four main areas.

Important factors to consider include the digital transformation of the Union's goods and services, capital and labor markets, management processes, integration processes, as well as the cross-sectoral digital transformation within the Union. It is also vital to focus on the development of digital infrastructure and maintain the security of digital procedures.[13]

The implementation and development of ICT in each member-state must be considered, as the expectations of EAEU member-states regarding the digital future of the Union until 2025 are closely linked to internal economic development and the resolution of urgent issues that vary from country to country. This is because member-states have different priorities with respect to integration.

The varying priorities of the member states in the EAEU are often highlighted in official and expert discussions as a hindrance to full integration and a cause for the slow pace of progress. It is pointed out that the different economies of these countries lead to differences in their goals and objectives. To

Conference of the International Telecommunication Society and S Kalyugina, I Novikova & A Doryna. (2019). 'Leadership and E-Government: A Comparative Analysis of the Republic of Belarus and Russian Federation' 318 Advances in Social Science, Education and Humanities Research.

[10] Everett Rogers (1962). 'Diffusion of Innovations'. Simon and Shuster. ISBN 978-0-7432-5823-4. See also *"New media, development & globalization"* by D Slater (2013) Cambridge: Polity Press. He explores the relationship between new media technologies, development, and globalization. The book argues that new media technologies have the potential to transform traditional power structures and promote greater participation and empowerment among marginalized communities in the Global South. However, the book also acknowledges that there are significant challenges to realizing these transformative potentials, including issues of access, affordability, and the digital divide. The book draws on a range of case studies from around the world to illustrate the complex and dynamic relationship between new media, development, and globalization. Overall, the book provides a critical perspective on the role of new media in shaping contemporary global development processes. For further reading *"Are we making a Better World with Information and Communication Technology for Development (ICT4D) Research?"*. Findings from the Field and Theory Building by Sajda Qureshi. (2015) Qureshi critically examines the impact of ICT4D research on development outcomes. The book draws on extensive fieldwork and case studies to assess the effectiveness of ICT4D interventions in various contexts. Qureshi argues that while ICT4D research has made significant contributions to the development field, it has also been limited by a number of factors, including a lack of empirical evidence, a narrow focus on technological solutions, and a tendency to overlook the social, political, and cultural contexts in which ICT4D interventions are implemented. The book advocates for a more holistic and interdisciplinary approach to ICT4D research that takes into account the broader social and political factors that shape development outcomes. Overall, the book provides a critical assessment of the role of ICT4D research in promoting sustainable and equitable development.

[11] R Gomez, LF Baron, & B Fiore-Silfvast (2012). 'The changing field of ICTD: Content analysis of research published in selected journals and conferences, 2000-2010'. Proceedings of the fifth international conference on information and communication technologies and development, ACM.

[12] RW Harris, 'How ICT4D research fails the poor'. Information Technology for Development, 22(1), (2016): 177–192.

[13] Above n.4

better evaluate the EAEU's preparedness for the digital transition, it would be more effective to examine the development of ICT in each member state individually.

1.2. Materials and methods of the research

Primary data collection methods (interviews of government officials) and a thorough, systematic review of documents (reports; government publications; annual UN documents, State Programs on Digitalization) provided background information that helped me understand the political, economic and legal context in which E-government projects were conceived and implemented.

It allowed me to develop a deeper and fuller understanding of arranging the content of the paper where one of the main theories on technology adoption, the DOI Model, was studied with respect to the countries where those theories were implemented practically.

The constant comparative method guided the data analysis, which was based on the publications from the Official Website of the Unified Portal of Public Services of the Eurasian Economic Union, which in turn served as the main source to compile the content of the tables given in the research.

Along with that, it is worth mentioning assessment tools of the United Nations country-based evaluation forms (OGD and METEP) which were discussed comprehensively in the following section.

2. IMPLEMENTATION OF THE DIFFUSION OF INNOVATION MODEL IN THE CONTEXT OF DIGITAL GOVERNMENT

Theories itself play an essential role for practical implementation of any policy, adopted in the country. In this regard, “theories about technology adoption” can give us quite comprehensive overview of the ICT4D policy implemented in the member-states of the EAEU. As an example, Everett M. Rogers first proposed the Diffusion of Innovation Model (DOI) in 1962, which considers diffusion as a process that occurs over time and is influenced by various factors. These factors, which can be grouped into four main categories, are examined to understand the uptake of an innovation.

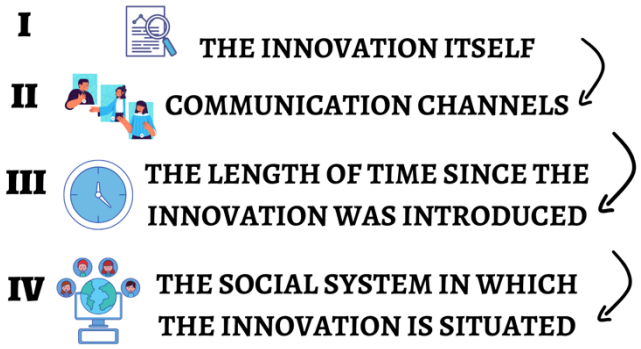

Figure 2. Four main categories of DOI.[14]

Due to constructs, which are specific and measurable in a bounded form, the relative simplicity of DOI theory has led to its wide adoption and makes it as one of the popular model in information systems research and in the ICT4D field.

By submitting DOI applications, we have gained insight into the steps involved in adapting to new technologies. These applications have provided suggestions for creating user-friendly technology and methods to enhance initial user approval.

However, some experts contend that this theory fails to account for contextual factors and actual technology usage patterns. This is due to the fact that it disregards the values embedded in the development of new technologies and innovations, as well as issues related to power dynamics, politics, and culture that influence how users perceive and employ technology.

Although some contexts, including those encountered by ICT4D researchers, have varying degrees of independence in deciding whether to accept technology, it is also assumed that the adoption and

[14] Above n.10. See Everett Rogers (1962). ‘Diffusion of Innovations’. Simon and Shuster. ISBN 978-0-7432-5823-4.

distribution of technology are based on voluntary choices. This is also true regarding the geographical experience of time and space, as well as the adoption barriers produced by the social structures that produce such experiences.[15]

All above-mentioned features of DOI model, helps us to examine perfectly the peculiarities of ICT4D policy implemented in the member-states of the EAEU.

As per the first factor, the Innovation itself - it is quite interesting how each member-state considers the word 'innovation' and prioritizes its policy needs according to it. In this regard, E-governance enters the policy-making and governing processes as one of the innovative approaches for the public sector.

2.1. E-Government platforms of Armenia

Armenia, despite being a member of the EAEU, receives significant support for its E-Government initiatives from the EU. Over the course of 2008-2018, Armenia received almost €25m from the EU to fund E-government reforms. As a result of this support, Armenia has introduced more than ten e-governance platforms, including MULBERRY, the Unified website for publications of draft legal acts, the Traffic Police's one-stop shop for registration of cars and issuing vehicle number plates, the electronic document management system, the electronic system of the State Register for Legal Entities, One-window system for electronic requests, and among others the Electronic notary system.[16]

2.2. Single Portal of Electronic Services of Belarus

The Republic of Belarus has developed an innovation known as the Single Portal of Electronic Services which currently offers 152 electronic services for both individuals and businesses, as well as providing 97 electronic services and 36 administrative procedures. Additionally, they have introduced an Interdepartmental Electronic Document Management System which over 12,200 government agencies and organizations are connected to. This system processes more than 150 thousand electronic documents every week.[17]

2.3. Innovative E-Government Services of Kazakhstan

The Kazakh Government has implemented innovative E-government services, including 12 migration centers and 16 digital Citizen Service Centers.[18] Over 87% of public services are available online, and there are two Open Government Portals, named Open Dialogue and Open Budget. The main innovation is the shift towards online service provision, resulting in a 2-time reduction in the average number of required documents, a 60% decrease in the average service period, and a reduction in paper circulation by 110 million. These improvements have led to a significant increase in citizen satisfaction, with an 85.7% approval rating for the quality of services provided.[19]

2.4. Interdepartmental Electronic Services System of Kyrgyzstan

The Kyrgyz Republic has been recognized by the Estonian Academy of e-government (eGA) for its successful implementation of the e-government system, specifically the interdepartmental electronic interaction system called "Tunduk".[20] All 60 state bodies are now connected to this system, which offers 233 services (a significant increase from the 7 services available in 2018). In addition, 71 databases have

[15] D Harvey (1989), 'The condition of postmodernity: an inquiry into the origins of cultural change', Oxford: Basil Blackwell

[16]European External Action Service (EEAS) (2019) 'More than Ten E-governance Platforms Introduced in Armenia with the Support of the European Union https://eeas.europa.eu/headquarters/headquarters-homepage/63855/more-ten-e-governance- platforms-introduced-armenia-support-european- union-eu-provided-close-_en.

[17]Nces.by. (2020). 'Interdepartmental Document Management System'. https://nces.by/en/category/smdo-en/

[18]Adilet.zan.kz. (2019). 'On State Services'. http://adilet.zan.kz/eng/docs/Z1300000088

[19]Egov.kz (2020). 'E-Government of the Republic of Kazakhstan'. https://egov.kz/cms/ru/digital-kazakhstan

[20]Economist.kg. (2019). 'The Estonian E-Governance Academy Has Awarded "Centre of Electronic Interaction" for the introduction of a "Tunduk" '. https://economist.kg/2019/05/22/estonskaya-akademiya-elektronnogo-upravleniya-nagradila-centr-elektronnogo-vzaimodejstviya-za-vnedrenie-tunduk/

been developed across 22 state bodies.[21] Two state-owned enterprises, "Ukuk" (translated from Kyrgyz as “Law”) and “SocialService”, are responsible for maintaining and improving information systems for various law enforcement agencies, border control, and other government entities. The State Portal of Electronic Services also provides access to health, education, science, sports, social insurance, and pension-related services. Moreover, the State System of Electronic Payments and Open Data Portal of the Kyrgyz Republic are the basic components of the state e-government infrastructure, which have been developed and launched as exclusive innovation features of the State Digital Policy.[22]

2.5. Collective Infrastructure of Information Technology and Telecommunications of Russia

The digital innovation efforts of Russia for e-government involve a collective infrastructure of information technology and telecommunications. This comprises the Unified identification and authentication system, the Information system of the head certification center, the Unified portal of public services, the System of interdepartmental electronic interaction, the Unified system of normative-reference information, Pre-trial appeal, and Situation center. The omission of any of these components would hinder the achievement of a cohesive digital innovation program for e-government in Russia.[23]

3. THE COMMUNICATION CHANNELS UTILIZED BY THE MEMBER-STATES OF THE EAEU

3.1. EAEU countries and its ICT regulators

Nevertheless, simply listing the innovation features of the member-states in the field of E-governance does not add any value to the research if it is not examined properly, in this regard the second factor of DOI Model “communication channels” can give a full picture of the ICT4D situation in the EAEU space (see table 1). ICT Regulator with its Ministries of Communication, in each country with the relevant authority (see table 1) in each respected State performs the role of ‘communication channel’, which links policy-makers of E-Government infrastructure with the public, which in turn can give its feedback and affect the further work and development of E-Government services.

Table 1. EAEU countries and its ICT regulators.

Member-state	ICT regulator
Armenia https://www.e-gov.am/en	Ministry of Communications and Transports; Public Services Regulatory Commission
Belarus http://portal.gov.by/P	The president Ministry of Communications and Information; Ministry of Information of the RB Digital Economy Development Council (2018)
Kazakhstan https://egov.kz/services	Communications, informatization and information committee of the Ministry of Investment and Development
Kyrgyzstan http://gos.uslugi mineconom.kg	Ministry of Transport and Communications State Communication Agency State Radio Frequency Commission State Committee of Information Technologies and Communications
Russia https://www.gosuslugi.ru/	Ministry of Communications and Mass Media; (Rozkomnadzor)

[21] Tunduk.gov.kg. (2019). ‘Interdepartmental Electronic Interaction System’ https://www.tunduk.gov.kg/kg
[22] Digital Kyrgyzstan (2019) https://web.facebook.com/sanarip.kgz/posts/603735063881933?_rdc=1&_rdr
[23]Official Website of the Unified Portal of Public Services. (2020). https://www.gosuslugi.ru/395593/1

4. DURATION OF THE INNOVATION'S ADOPTION IN THE MEMBER-STATES OF THE EAEU

Once the communication channels have done their job, they move on to the next aspect of the DOI Model, which is the time since the innovation was first introduced. As an independent and sovereign countries each member state of the Union has its own National Programs, laws, and decrees related to ICT innovation in E-Governance, and each country has taken a different path to implement it. This means that the outcomes of the innovation can vary depending on the country and many other factors. When it comes to digital innovation, it's not something that can be implemented overnight. Therefore, practitioners should focus on improving their work in this field to add more value. For a comprehensive understanding, it will be better to arrange the main stages of time's length since the innovation was introduced in the following order:

I stage - the beginning of the formation of e-government – which allow us to see when and under what circumstances such formation did start.

II stage - unified portal of state and municipal services (or any other website in the member-state) – that shows when the state did start to work on its portal/website;

III stage - stages of transition to the provision of services (functions) in electronic form – according to this stage we can see how comprehensively, timely and most importantly coherently, the state did follow its policy;

4.1. Development of E-Government System in Armenia

The Armenian Government initiated the development of its E-Governance system in the 2000s, and a government organization called Ekeng.am[24] was established in 2011 to oversee and streamline these efforts (see figure 2).[25] However, despite some progress made over a period of more than two decades, a complete E-Gov infrastructure was not fully realized due to the absence of both political determination and expertise in the field.

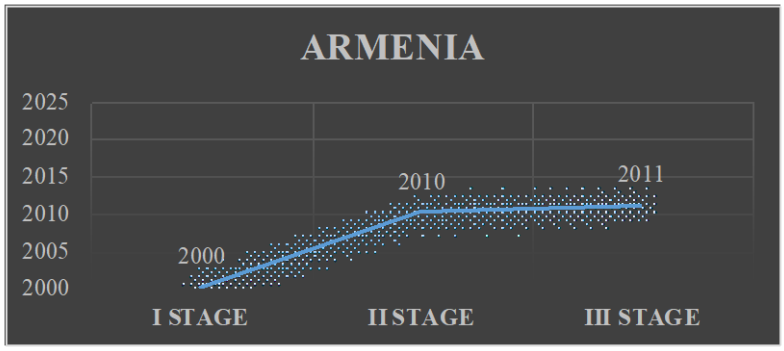

Figure 2. The time since the innovation was first introduced in Armenia

4.2. Systematic Nationwide formation of E-Government in Belarus

The adoption of the "Electronic Belarus National Informatization Program" in 2003 marked the beginning of the systematic nationwide formation of e-government in Belarus (see table 2). From 2003 to 2012, a series of state information systems development and infrastructure-related solutions were implemented. [26]

[24]Ekeng.am. (2017). 'E-Governance Infrastructure Implementation Agency' https://www.ekeng.am/en/sec_sub/eeu.
[25]Elliot Raffi (2019). 'Armenia needs a comprehensive approach to E-Governance'. https://armenianweekly.com/2019/03/14/armenia-needs-a-comprehensive-approach-to-e-governance/
[26] N Kochina (2017). 'E-Government in Belarus'. Republican Unitary Enterprise, Minsk, Belarus.

Table 2. The main stages of time length since the innovation was introduced in Belarus.

BELARUS	
I STAGE	Started from 2003
II STAGE	Since 2014, Portal.gov.by has been providing citizens and legal entities with access to a total of 152 electronic services, including 97 electronic services and 36 administrative procedures.
III STAGE	In February 10, 2012, the Council of Ministers of the Republic of Belarus approved a plan for a phased transition to electronic services through the Single Portal of Electronic Services. The transition occurred in three stages: - During the first stage, which took place from 2012 to 2013, documentation was made available in electronic form, and users were able to save it. Information about electronic services that were planned to be provided was also made available. - In the second stage, which took place in 2013, users were able to fill out online forms required to receive electronic services through the Unified Electronic Services Portal. Additionally, users were able to make online payments for the provision of paid electronic services. - The third stage, implemented in 2014, saw the provision of electronic services in the form of an electronic document. This was made possible through the functioning of the system of identification of individuals and legal entities, as well as the interaction with other components of the e-government infrastructure.

4.3. Stages of E-Government Development in Kazakhstan

Between 2005 and 2007, Kazakhstan developed the Agency of Information and Communication as part of the National Program for developing e-Government in the Republic (see table 3).[27] This comprehensive approach has resulted in a significant increase in the number of e-Government system users, from 10,960 users in 2009 to 8,6 million in 2018.[28] In addition to these impressive achievements, Kazakhstan has also demonstrated a continual rise in its EGDI level (see table 4).[29]

[27]Egov.kz. (2020). 'Electronic Government of the Republic of Kazakhstan' https://egov.kz/cms/en/information/about/help-elektronnoe-pravitelstvo.
[28]Electronic Government News (2019). 'Number of eGov.kz portal users exceeded 8.6 million'. https://egov.kz/cms/en/news/polzovateli_egov.
[29]Digital Kazakhstan. (2020). 'Digital Kazakhstan – State Program Aimed at Digitalization of Kazakhstan' http://digitalkz.kz/o-programme/.

Table 3. The main stages of time's length since the innovation was introduced in Kazakhstan.

KAZAKHSTAN	
I STAGE	On November 10, 2004, the Program for the Formation of the Electronic Government for 2005-2007 was approved.
II STAGE	The e-government portal E-Gov.kz has been operating since 2006.
III STAGE	The implementation of e-Governance in Kazakhstan followed a three-stage process: 1- informative stage [which ended in 2006, information about the services provided by all state bodies was placed on the portal]; 2- interactive stage [involved the implementation of user identification and authorization mechanisms, a mobile version of the portal and a citizen reception services]; 3- transactional stage [citizens were able to access and pay for public services through the portal];

4.4. Implementation of E-Government and other ICT Regulators in Kyrgyzstan

In 2004, the Kyrgyz Republic made an official request to the Japanese government for assistance in establishing an information technology centre that could serve as the hub for the activities required to implement e-Government and other ICT initiatives. Consequently, the National Information Technology Centre was established with the aid of the Japanese International Cooperation Agency (JICA) during the implementation of the Kyrgyz-Japanese project "IT Human Resources Development in the Kyrgyz Republic" (National IT Centre).[30] As for the second stage, that shows when the state did start to work on its portal/website, it can be highlighted as 2016. By order of the Government of the Kyrgyz Republic, the Tunduk.kg Electronic Interaction System was adopted in pilot mode, which is an information complex with the possibility of providing services and data exchange.[31]

4.5. The Concept of E-Government in Russia

As for Russia in this sense, since 2009 its Government adopted two Orders,[32] [33] which started to prepare its state and municipal information systems, that maintain registers of public services to systematize information. Generally, the Government approved the concept of e-government in the Russian Federation on May 6, 2008, which was the beginning of the formation of e-government. On November 25, 2009, the Internet portal of public services, Gosuslugi.ru, was launched in test mode, marking the beginning of the second phase of the state's portal/website development. The portal officially went live on December 15, 2009. The portal posted information about 110 federal level services and more than 200 regional and municipal services. From 2010 to 2014, the third phase of the transition to the provision of services (functions) in electronic format consisted of five internal phases. As of the 30th of December, 2020, 126 million Russians were registered on the website.

[30]A Aidraliev (2009). 'E-Government development in the Kyrgyz Republic for Sub-regional Workshop on Strengthening ICT Policies and Applications to Achieve MDGs and WSIS Goals in South Asia and Central Asia'. E-Government Department at the Prime-Minister Office (Government Office) of the Kyrgyz Republic.

[31]Decree of the Government of the Kyrgyz Republic (2016) No. 436-r.http://cbd.minjust.gov.kg/act/view/ru-ru/215418/10?cl=ru-ru&mode=tekst.

[32]Government's Order of the Russian Federation (2009). N1993-r "On the transition plan for provision of public services and the execution of public functions in electronic form by the federal executive authorities".

[33] Government's Order of the Russian Federation (2009). N1993-r "On approval of the Consolidated List of priority state and municipal services provided by the executive bodies of subjects of the Russian Federation and local authorities in electronic form".

5. ADOPTION OF THE INNOVATION IN THE CONTEXT OF SOCIAL SYSTEM

The last but not the least equally important factor of DOI Model is the social system in which the innovation is represented (factor no.4). One common thing for all member-states of the Union is that they are from the former Soviet bloc with an inherent authoritarian regime. This precise social system characterizes the countries based on this single feature.

Table 4. Place of the EAEU member-states in the countries grouped by E-Government Development Index levels.[34]

Member-states	*Very High EGDI 2022 (greater than 0.75)*	*High EGDI 2022 (between 0.50 and 0.75)*	*2018 rank*	*2020 rank*	*2022 rank*	*Comparison*
Armenia		+	**87**	**68**	**64**	**Up**
Belarus	+		**38**	**40**	**58**	**Down**
Kazakhstan	+		**39**	**29**	**28**	**Up**
Kyrgyzstan		+	**91**	**83**	**81**	**Up**
Russian Federation	+		**32**	**36**	**42**	**Down**

5.1. Digital Armenia Foundation (DAF)

As an illustration, in Armenia, the Digital Armenia Foundation (DAF), which also served as the strategic coordinator for the Electronic Governance Strategy, was founded as the entity in charge of reforming the delivery of digital services.[35] The DAF has a significant impact on Armenia's digital growth. However, the DAF was shut down after only one year of operation, and it is still unclear who is in charge of overseeing the general service delivery policy in this member-state.[36] Less than 6% of the state's services have been digitalized as of yet. Different government agencies and services continue to play a very little role in advanced digital interaction. Even if a few government agencies have created joint databases, Soviet-style bureaucratic practices inevitably persist. Digitization has often been pushed to the limit by bureaucrats who insist on manually duplicating computer-generated work. Records continue to disappear, residents continue to express dissatisfaction, and trust in the State is destroyed by a civil servants' benefit that is underqualified but overstaffed.

Currently, Armenia is ranked 64th in the UN's E-Governance Index (see table 4). Despite this impressive position, the place in the ranking itself characterizes not so much the degree to which the problem has been solved, but rather the comparison with other states: a slowdown in the development of ICT infrastructure in other states can in itself increase the rating indicators of another country without any effort from the other side. The indicator of the achievement of the task of forming e-government should not be a place in the ranking, but such quantitative indicators as the number of electronic services, the number of citizens and organizations applying to them, attendance at the Unified Portal of Electronic Government Services, as well as consumer satisfaction.

[34]Public Administration. (2022). "United Nations E-Government Survey" https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2018-Survey/E Government%20Survey%202022_FINAL%20for%20web.pdf.
[35]E-Gov.am (2017). 'E-Government of the RA. Government Decree' https://www.egov.am/govdecrees/item/29030.
[36]A Minister (2020). 'Armenia May Appear in List of Very High Digitized Governed Countries – Minister'. https://armenpress.am/eng/news/1025910.html.

5.2. Challenges and bottlenecks in E-Government development of Belarus

In the meantime, the ICT and E-Governance performance in Belarus have grasped attention of related studies, which are condemning and not in favor of its implementation and development.[37] It defines, as an example, the section of a single portal of electronic services that contains links to external services. This section is difficult to use because the information is presented in an unstructured manner, services are categorized inconsistently, and links to official websites, information databases, and electronic services are muddled. As of now, it took 58th position in the current ranking (went down in comparison with previous years, see table 4) and here are several bottlenecks in the field of e-government of the Republic of Belarus that hinder its further development:

First, it is related to legislative sector. Where a regulatory definition of the term "electronic government" is not fixed at the legislative level: there are no clearly defined boundaries within which this government should operate, what issues are within its competence, whether it undertakes the implementation of the concept of "open government" and whether it acts in concepts of e-democracy, as well as how the quality of e-services is determined.

Secondly, there is no authorized body that would arrange and control the activities of government departments and divisions in the digital space and specialize in prompt resolution of emerging issues. At the moment, there are only expert groups engaged in research on this topic, but do not have leverage.

Third issue outlines the mode of interaction in terms of G2C, G2B or in other words - insufficient way of interaction between those groups. As of 2019, the indicator "The proportion of the population using the Internet to interact with government bodies, including obtaining information, in the total population" was only 13.1%[38] describes G2C's current situation. As for G2B, at the moment, there is the least interest from business, although domestic companies have already been involved in projects of this kind. The reason for this can be called the fact that the initiative should come from the state, and not vice versa, since the programs implemented by the state are hermetic and are not put up for public discussion, and are not popularized among other participants in the e-government development process.

In addition, it seems that the conceptual unity of the e-government system itself presupposes the unity of its customer. In the current State Program, 20 ministries and departments act as customers of subprogram 2, of which e-government is an integral part. The responsible customer of the State Program as a whole, as well as the customer of subprogram 2, is the Ministry of Communications and Informatization. Perhaps, the formation of e-government would be more efficient if the customer was the most interested party - the Government of the Republic of Belarus itself, which would ensure, in addition to accelerating the process, the integrity, and continuity of the entire system and qualitative changes in communication with all subjects and objects of public administration.

Thus, at this stage of e-government development, we can talk about high results and achievements in the field of quantitative indicators and ratings, but insufficient implementation of significant e-government projects and programs. The prompt solution of the above problems will accelerate the process of developing a unified e-government system in the Republic of Belarus.[39]

[37] Above n.9. See S Kalyugina, I Novikova & A Doryna. (2019). 'Leadership and E-Government: A Comparative Analysis of the Republic of Belarus and Russian Federation' 318 Advances in Social Science, Education and Humanities Research

[38] Statistical data book, *Information Society in the Republic of Belarus* (National Statistical Committee of the Republic of Belarus, 2019).

[39] Mpt.gov.by. (2020). 'According to the E-Government Readiness Index Belarus Has Maintained Its Position as a Country with a high level of its value'. https://mpt.gov.by/ru/news/12-07-2020-6560.

5.3. Practical implementation of the principles of Open Government in Kazakhstan

As for Kazakhstan that took 29th place among 193 UN member countries and increased its EGDI by 10,2%[40] the practical implementation of the principles of open government, which include two Open Government Portals - Open Dialogue[41] and Open Budget, [42] the aims of which are defined as information availability and inclusive decision-making process, still remains enclosed. The second was created to stimulate citizen involvement, monitoring, and feedback on how public entities spend budgetary money, whereas the first was created to promote interaction between residents and the state. However even for these government portals, selective approach on decision-making remains a high priority. For example, depending on its content citizens' comments, questions or queries may or may not appear in the Open Dialogue portal. The terminology used for comments is still quite bureaucratic and difficult for the common public to understand, even though the information is subject to review by the official moderator. As a result, the usefulness of this invention is diminished by the gate-keeping function of those chosen state moderators.

Regarding the Open Budget, it is said that government organizations either don't provide budget data or do so in an unwelcoming manner that makes it impossible for citizens to access and comprehend it. Because of the gate-keeping function of state moderators at the governmental portals, the tough legalese language, which is difficult for the average citizen to grasp,[43] and the lack of compliance with open budgeting, greater state openness makes it more questionable. The openness of this dubious state is just one of several problems preventing Kazakhstan's e-government from progressing further. Firstly, the sphere of public services does not have a high accountability to citizens, and citizens, largely, have no intention to check the quality of public services.[44] Second, there are systemic limits to the ability of civil society to hold the government accountable. Thirdly, the citizens of Kazakhstan, in comparison with the citizens of developed countries, less express their demands for the provision of better public services. For this reason, weak institutional structures allow "progress" in the provision of public services through e-government, thereby protecting those areas that are most prone to grand corruption. These areas outside of e-government (including education, healthcare, social security, housing construction, etc.) consume most of the state budget and affect the quality of citizens' life.

The rush to digitize public services has directed attention and improvements only to those services that require the exchange of documents and certificates (for example, obtaining a driver's license, marriage certificate, real estate registration), while "human services" (which must be provided through personal interaction) in the areas of education and health have been neglected.

Fighting corruption through e-government can lead to a degree of complacency where success is often achieved in areas of petty corruption rather than grand corruption. The government gains access to a large amount of personal information of citizens in order to provide electronic services. There are questions about the protection of personal information, who has access, and whether this information can potentially be used for malicious purposes. In addition, of course, e-government depends on citizens' access to the Internet and their skills in working with technology, which remains problematic for residents of rural regions of Kazakhstan.

5.4. Complications of E-Government development in Kyrgyzstan

Another Central Asian state Kyrgyz Republic is still unable to fight properly with its temptation to corruption and rampant red tape, which has taken place in the implementation and development of E-Government activities. As the results of the digital transformation within the country, many cases did

[40] Profit.kz. (2020). 'Kazakhstan Took the 29Th Place in the UN E-Government Rating' https://profit.kz/news/58491/29-mesto-v-rejtinge-OON-po-elektronnomu-pravitelstvu-zanyal-Kazahstan/.
[41] Open Dialogue (2016). https://dialog.egov.kz/.
[42] Open Budget (2016). 'Customer Value' https://budget.egov.kz/.

[43] D Moldabekov (2016), 'State Bodies Do Not Implement the Law "On Access to Information'. Kapital.https://kapital.kz/gosudarstvo/47880/gosorgany-ne-soblyudayut-zakon-odostupe-k-informacii.html

[44] D Omirgazy (2017). 'Citizens' Registration Law Draws Controversy and Confusion'. Astana Times

not follow the planned results and unfortunately could not catch up with the established period. It is possible to single out the problems of e-government of the Kyrgyz Republic in the following list:

- Lack of consistency, which should be expressed in a single conceptual document (strategy, concept, program);
- Lack of uniform requirements for information security;
- Differences in information systems of state bodies;
- The absence of the concept of e-democracy (where the mechanisms of interaction between society aimed at improving e-government and public administration of the Kyrgyz Republic should be identified).

Following proposals listed below would definitely improve e-government and public administration of the Kyrgyz Republic:

⇒ The concept of e-democracy, indicating the spheres of influence (including in the form of e-government, e-justice, e-parliament, e-society and the state) should be developed;

⇒ A code of rules for e-government, which display the rights of citizens and organizations to use the information environment of e-government, the connection of regions with the central government, registers of services by category (education, medicine, tax and registration services, etc.) should be developed as well;

⇒ Enhancing the interaction between the public and private sectors in the development of information relations and e-governance;

The declared public services related to e-government must meet the needs of citizens and be stable, uninterrupted, which will open up the efficiency and reliability of domestic information resources.

5.5. Obstacles in implementation and development of E-Government in Russia

One of the 'main' member-states of the Union the Russian Federation, due to its vast territory and different level of administration as well as management - faces different types of obstacles in implementation and development of E-Government tools. In order to evaluate socio-economic and political effects of E-participation in Russia, researchers usually find themselves in controversial and complicated studies. Undoubtedly, there are numerous researches[45] cover theoretical issues of E-participation in Russia.[46] However, the problem is that those difficulties arise when it comes to its measurement and assessment of the conducted study. Additionally, it is quite difficult to claim that the implementation and development of e-governance in Russia goes smoothly while in most cases it is contradictory, rarely coordinated with the main strategies, programs and mainly non-universal.

According to studies, there are ranges of problems that inhibit the development of E-governance in Russia: the problem of lack of motivation among civil servants is the most significant. Experts noted the problem of parallel existence of electronic and paper document flow, which reduces the effectiveness of e-government projects. Problems of low computer literacy and inability to manage projects took the second place among experts. The third place was taken by the problems of lack of qualification of civil servants and low motivation of citizens to use electronic services.[47]

Moreover, Russian e-governance embraces dozens of institutions responsible for its development and it is sad to state but a great number of these responsible offices cause the main difficulties, as duplication

[45] Above n. 9. See L Bershadskaya, A Chugunov, & D Trutnev. (2012). 'Monitoring Methods of E-Government Development Assessment: Comparative Analysis of International and Russian Experience', *6th International Conference on Theory and Practice of Electronic Governance*.

[46] Above n. 9. See S Petukhova & M Strepetova. (2013). 'Russian Information and Communication Technologies, and Infrastructure Formation of Innovation Economy', 24th European Regional Conference of the International Telecommunication Society.

[47] Above n. 9. See L Vidyasova, A Chugunov, & E Vidiasov. (2017). 'Developing E-Governance in the Eurasian Economic Union: Progress, Challenges and Prospects'. International Organizations Research Journal.

of functions, endless red tape and dissipation of the responsibility in implementation of projects related to Information Society, e-governance and e-participation.[48]

By grouping the most significant issues and defining it comprehensively, we can see the following features:

- Programs occasionally freeze, making it difficult or impossible to receive documents from certain departments.
- Lack of information and difficult access to the knowledge base make it challenging to find necessary information or track changes in legislation.
- Applicants may have poor digital literacy, disrespectful attitudes toward specialists, or may become aggressive. Personnel may feel insecure in stressful situations.
- The material and technical equipment, such as office furniture and telephones, is outdated and insufficient.
- The large flow of applicants leaves little time for rest and psychological recovery for the staff.
- Poorly established electronic interaction between departments and limited feedback on errors and services. Departments within the same unit may operate on different principles, and there may be no option to refuse the applicant's documents.
- Strict requirements, limited freedom of action, and total control over specialists at the reception can cause psychological discomfort and low wages.

Considering these issues, it can be noted that the abovementioned center faces typical challenges encountered by state institutions. These include insufficient funding and incentives for employees, inconsistent actions with other institutions, unfinished software, and inadequate information support and exchange.[49]

CONCLUSION

The assumption underlying research on technology adoption is that the acceptance and dissemination of technology is a good objective to pursue and is considered as social progress in and of itself rather than a component of more major and complex social changes. This assumption is made implicitly or occasionally explicitly. Despite this note, DOI model in current study - served well for better understanding of ICT development in one of the politically controversial yet economically complicated blocs in the Eurasian space.

The development of the information society is determined by such parameters as the quality of legislation, the size of the country's territory, available resources and the presence of political will. Considering the results of the monitoring studies of the international organizations involved in the development of e-participation and the information society, there is no doubt that member-states of the EAEU have chosen the right direction in implementation and development of the ICT. Nonetheless, there are wide ranges of obstacles that hinder proper development of the ICT in those states.

Political stability plays an essential role in the development of the ICT. As a result of two revolutions in Kyrgyz Republic, Armenian-Azerbaijan border clashes that appear from time to time, along with its own “colored revolution” and the most recent is political instability in Belarus and worldwide cancellation of Russians due to their invasion of Ukraine became another challenge for countries to further development of its digital transformation.

In addition to it, as the countries of the former Soviet bloc, these states have inherited the habit of authoritarian rule, where the State positions itself as the only rightful decision-maker and opportunities that digital transformation offers they use in order to broaden the State control over its citizens. In addition, incompatibility of developed systems, large number of government institutions in the relevant

[48] V Karachay & R Bolgov (2015). ‘An Overview of the E-Governance Development in the Eurasian Economic Union (EAEU) Countries: The Case of Russia. Electronic Governance and Open Society: Challenges in Eurasia’, Proceedings of the International Conference, EGOSE.

[49] OG Sedykh & AA Stepanova. ‘Assessment of the quality and efficiency of state and municipal services: features and problems’ (2020):109 – 122.

field, inefficient use of financial resources and finally mass duplication of the same efforts frequently result in a lack of coordination and in some cases absence of collaboration between government bodies. However, for countries in transition that aim to develop a coordinated policy within the space of the EAEU, above mentioned issues are quite general and only strong political will and well-developed legislation in the related field of digital transformation can guarantee that these states will not fail.

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