TRENDS AND CHALLENGES IN E-GOVERNANCE DEVELOPMENT IN POST-SOVIET COUNTRIES: COMPARATIVE ANALYSIS OF GEORGIA AND ESTONIA

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Abstract

E-Governance has become a key research focus on public administration. Since 2015, Georgia's civil service reform has aimed at creating effective, transparent, and citizen-oriented services. This article analyzes its trends and challenges, comparing them to Estonia's best practices. Using desk research, document analysis, and in-depth interviews with Georgian (5) and Estonian (3) public agency representatives, as well as local and international experts (9), the study identifies key preconditions for Estonia's success and Georgia's digital transformation challenges. The findings contribute to understanding the factors essential for effective e-governance development in post-Soviet contexts.

Key words: e-governance, digital transformation, digital literacy, electronic public service, digitalization.

INTRODUCTION

Amid ongoing global technological transformation, e-governance has emerged as a central concept in public administration and political science, emphasizing the integration of information and communication technologies (ICTs) into governance structures. While often used interchangeably with e-government, e-governance extends beyond the digitalization of services to include policy-making, regulatory

frameworks, and multi-stakeholder engagement [Palvia et al. 2007; Riley 2003]. Finger & Pécoud (2003) differentiate e-governance from e-government by highlighting its broader institutional and participatory dimensions, where digital tools facilitate not only service delivery but also decision-making, transparency, and civic engagement.

The contrasting political strategies of Georgia and Estonia after the collapse of the Soviet Union reveal critical insights into how political stability and institutional reform can shape a country's approach to digital transformation and e-governance. After declaring independence from the Soviet Union in 1991, Estonia's leadership announces a clear pro-Western orientation, focusing on integrating into the European Union (EU) and NATO. The country's political stability during this period allowed implementing ambitious reforms, particularly in areas such as governance and technology [Espinosa et al. 2024]. One of the pivotal elements of Estonia's success in digital transformation was the consistent commitment of its leadership to institutional modernization and efficiency.

In contrast, the political situation in Georgia after gaining independence from the Soviet Union was more turbulent and unstable. The political system was defined by civil war and territorial conflicts, which did not allowed the country to have a long-term transformational strategy [Center for Social Justice 2023]. This lead the country to weak institutional framework, state corruption and huge economic and social problems. Since the Rose Revolution in 2003, Georgia began to experiment with certain e-government initiatives, such as online tax filing and e-justice systems, but these efforts were often fragmented and challenged by problems in the directions of justice and human rights protection [Burtchuladze 2021].

So, public service reform was key for Georgia as an initiative, trying to unify and coordinate the fragmented institutional system of the country. Following international trends in public policy, Georgia's public sector reform since 2015 has focused on enhancing accountability, transparency, and citizen participation through digital transformation. This trajectory aligns with the broader concept of e-democracy, which refers to the use of digital platforms to foster democratic engagement. While early definitions, such as Macintosh (2004), emphasized online civic participation, more recent scholar perspectives recognize e-democracy as a multidimensional framework encompassing e-participation, e-voting, digital deliberation, and open government [Kneuer 2016; Huffman 2021; Musiał-Karg et al., 2022]. Lindner & Aichholzer (2023) further argue that the interplay between

digital governance and democratic processes is reshaping public policy, requiring adaptive regulatory models and citizen-centered digital services.

Thus, modern e-governance does not merely facilitate service efficiency but also serves as a critical enabler of digital democracy, ensuring that technological advancements contribute to more inclusive and participatory policymaking.

Public Administration Reform in Georgia encompassed all aspects of public administration. The core initiatives of the reform align with democratic principles and serve as a crucial foundation for Georgia's integration into the European Union. A cornerstone of the reform is the establishment of an open, transparent, and citizen-oriented public service that adheres to the principles of open governance. It emphasizes citizen participation in the political decision-making process and the strengthening of their engagement in public policy, which, in turn, enhances the quality of democracy [Villaplana et al. 2023]. As Hacker and van Dijk (2000) argue, digital democracy emphasizes not only the facilitation of citizen participation in political decision-making but also the deepening of public engagement in policymaking processes, ultimately contributing to the overall quality of democracy. This perspective aligns with the broader understanding of e-democracy as an extension of e-governance, where digital tools serve to enhance deliberation, transparency, and inclusive decision-making.

Such a governance model (open governance, leading to e-governance) is characterized by an increased emphasis on participatory elements, which not only ensure proactive information sharing by the government but also empower citizens to assume the role of co-designers of public policy. This transformation facilitates the shift away from a Weberian-style hierarchical bureaucracy[1], replacing it with a system of diverse policy actors and networks [Villaplana et al. 2023].

This article focuses on e-governance development in two post-soviet countries as a phenomenon crucial for democratic transition in the 21st century. E-Governance constitutes a crucial mechanism for improving the quality of democracy while simultaneously fostering democratic development in countries where democratic values remain in the process of consolidation [Gascó-Hernández 2014].

Georgia has strengthened e-governance in the public sector by introducing comprehensive public service reforms. According to the World Bank GovTech case study report, "Georgia achieved key results in the development of center-of-

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[1] Weberian-style hierarchical bureaucracy – Max Weber's (1864–1920) ideal type of rational bureaucracy consists of a set of organizational rules and administrative processes. Its key characteristics include a hierarchical structure, professionalism, meritocracy, impersonality, and the discipline of public officials [Sager et al. 2021].

government digital platforms and solutions as part of its Public Administration Reform Strategy" [World Bank 2021]. Georgia's digital transformation demonstrates both service delivery advancements and institutional e-governance development: some crucial digital platforms have been created that enable citizens and businesses to get electronic public services (e-PFMS – electronic financial management system; e-Budget management system; e-HRMS – human resource management system etc. [United Nations Development Program (UNDP) 2021];

– more than 3 million citizens of Georgia hold electronic Identity (ID) cards and they can use digital services, including, digital signature of the documents;

– Correspondingly, the appropriate legal framework for digital transformation have been created;

– united portal of electronic public services – www.my.gov.ge – now can provide more than 700 public services to the citizens, residents, businesses as well as enable e-correspondence with the public agencies [World Bank 2021].

Despite significant progress and successful cases, the development of e-governance in Georgia continues to encounter several challenges. Based on the Institute for Development of Freedom of Information (IDFI) comprehensive research on digitalization of Georgian public services, these challenges include limited digital public awareness; Equal accessibility of Electronic Services (Disparities in digital infrastructure and internet connectivity) and Trust in Electronic Services [IDFI 2020].

Among post-Soviet countries, Estonia has achieved the highest level of e-governance development. According to the 2024 United Nations E-Government Development Index (EGDI), Estonia ranks second in Europe, trailing only Denmark [United Nations 2024][2]. The Estonian government has made a political declaration that e-governance is a strategic choice for Estonia, aiming to "enhance the country's competitiveness and improve the quality of citizens' well-being" [E-Estonia 2021]. The digitalization of Estonia has gone through more comprehensive and longer road, as since only 2001, all Estonian public schools were already equipped with computers and internet within the "Tiger Leap" project [Education Estonia 2022]. It is interesting that the Estonian government's approach was to develop electronic awareness not only within a specific segment of society but holistically. Hence, 99 % of public services in Estonia are accessible online, "1407 years of working time is saved every year thanks to Estonia's digital services" [E-Estonia 2024].

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[2] Georgia's e-governance score for 2024 is 0.78, placing it 69th out of 193 countries [United Nations 2024].

Through the analysis of Estonia's model-one of the leading countries in digital development within the European Union-international best practices were identified. Based on comparative analysis, these findings provide valuable insights for evaluating digitalization of Georgia's public sector. Precisely, the aim of this article is to identify key prerequisites that lead Estonia to successful development of e-governance mechanisms; and on the other hand, the research focuses on understanding key factors that play crucial role in fostering or/and challenging digital transformation of Georgian public services.

The conducted desk research enabled the identification of key factors contributing to successful digital transformation in the target countries. Additionally, in-depth interviews with public servants and field experts allowed for the validation of these preconditions and an assessment of their relevance within the framework of political science. The study highlights the following critical determinants of digital transformation:

1. Digital literacy among all stakeholders in the policymaking process, including citizens, businesses, government institutions, and public sector employees.
2. Trust in electronic public services as a fundamental factor influencing adoption and engagement.
3. General trust in public services, which underpins the effectiveness of digital governance.
4. Equal accessibility to electronic services, including the availability of digital infrastructure and internet connectivity.
5. A legal framework aligned with the requirements of effective e-governance, ensuring regulatory support for digital transformation.

1. THEORETICAL AND METHODOLOGICAL APPROACHES FOR STUDYING DIGITAL TRANSFORMATION IN PUBLIC ADMINISTRATION

1.1. Theoretical Framework

The concept of e-governance and digital transformation of public services is primarily linked to the definition – "Transformational Government". Transformational government differs from the traditional bureaucratic model, and from the 1970s to the 1990s, such transformative governance models began reshaping public policy processes, particularly through the utilization of information and communication technologies (ICT) [Bekkers et al. 2007]. One of the earliest attempts to explain transformational public governance can be found in the work of Nolan and Gibson (1970). According to these authors, the electronic

transformation of public policy can be conceptualized as a "learning curve"[3], through which public organizations progress by adopting computer technologies. The final stage of technological learning in this curve is the maturity stage, where a public sector fully understands how to leverage information and communication technologies (ICT) for the effective delivery of public services [King et al. 1984].

Since the 2000s, the concept of e-Governance has expanded beyond its initial focus on the technical and operational aspects of digital government. Currently, emphasizes the transformation of governance styles, citizen participation, and the overall enhancement of public administration processes through electronic mechanisms. Consequently, rather than being limited to a narrow technical or operational perspective, the concept of e-Governance adopts a more holistic approach, examining the integration of technology within governance processes to improve efficiency, transparency, and public engagement [Sharma et al. 2021].

The paper focuses on the strategic, regulatory (legal) and participatory (citizen engagement) dimensions of digital state management. Although these terms: "e-governance" and "e-government" are often used as synonyms, there is a clear difference between them in terms of encompassing digital management framework. On the one hand, e-government emphasizes the digitalization of public services, while e-governance is a broader concept and stands for transformation of overall governance processes, including legal changes and citizen engagement through digital tools [Grigalashvili 2021]. Hence, the paper focuses on the concept of e-governance in a broader perspective as successful state digitalization is being seen as not only development of digital public services but as interconnecting processes of digital policymaking, appropriate legal framework, cybersecurity policies, institutional cooperation and tense citizen engagement [Abdulnabi 2024].

The case of Estonia, examined in this article, clearly illustrates that successful digital transformation was not limited to electronic public services but it evolved from a Soviet bureaucracy into fully digital state, including robust legal frameworks, institutional reforms, public-private partnership or citizen engagement, reflecting the essence of e-governance [Hardy 2023].

In this context, the use of information and communication technologies (ICTs) for information exchange and communication between the government and four key stakeholders becomes particularly relevant [Sharma et al. 2021]. Accordingly, this

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[3] Learning curve describes how system improves its performance over time as experience and knowledge increase, showing relationship between time (effort) and performance (efficiency) [Rogers 2003].

study focuses on four theoretical models of e-governance; key components/ stakeholders of these models are utilized in the discussion on indicators for assessing e-governance effectiveness in targeted countries:

- Citizens (Government to Citizen – G2C)
- Businesses (Government to Business – G2B)
- Government entities (Government to Government – G2G)
- Employees (Government to Employees – G2E)

These theoretical models lead to identifying preconditions for effective digital transformation. First of all, Government to Citizen (G2C) model emphasizes the digital public service delivery to citizens, which aims the improvement of the quality of service delivery, transparency and strengthens citizen engagement. Tehcnology trust theory discusses the notion that "the trust in information technology (IT) plays a role in shaping IT-related beliefs and behaviours [McKnight 2011]. For empowering citizens to engage in digital public service delivery process, trust can be divided into sub-categories: (1) perceived competence, whether the system can work and deliver the necessary service effectively; (2) benevolence, whether the public sector focuses on citizens' best interests while delivering digital public services; (3) integrity, whether the systems seems transparent, secure and safe from the citizens' perspective [McKnight 2011].

The scientific literature on trust in public e-services emphasizes that trust in e-government involves citizens' attitudes towards the government's ability to deliver services effectively, maintain the confidentiality of personal information and ensure the cybersecurity [Belanger et al 2008]. Trust can be a key driver for e-governance effectiveness. E.g., based on evidence from China, trust together with the perceived usefulness of the digital services effect the overall usage of electronic platforms: "perceived usefulness and expectation confirmation significantly and positively affect public satisfaction and trust in e-government, which in turn drive the public's intention to continue using these platforms" [Luo et al. 2024].

The theoretical models of e-governance discuss various preconditions for efective digital transformation. Besides trust, high accessibility to digital infrastructure become key characteristic for effective e-governance; in addition, high accessibility includes electronic public services that are equally accessible for citizens (G2C), businesses (G2B) and government employees (G2Y), regardless users' education level, geography or social affiliation [United Nations 2011]. In this regard, successful e-governance plays significant role in bridging digital divide in terms of various social, economic and ethnic groups in a society.

Presented theoretical models, especially, Government to Citizens (G2C) approach emphasizes on the public sector responsibility to ensure proper level of digital literacy in a society. In the process of digital transformation, citizens with high level of digital literacy are more likely to use and benefit from using digital public services [Lubis 2024]. Digital literacy appears to play pivotal role in effective e-governance development. Particularly, theories of e-participation and democratic engagement focus on the quantity and quality, how digitally literate citizens engage in e-governance and on the other hand, the theory highlights the possibility of excluding citizens from policy-making process, if they lack digital competence [Coleman et al. 2009].

While the article focuses on theoretical models of e-governance and the factors, that effect their success in practice, the literature of digital transformation emphasizes on one more key precondition of effective e-governance: accesibility, which works together with already mentioned fundamental conditions (trust and digital literacy). Digital Divide theory best describes how negatively can affect on digital transformatuon the gap between citizens with and without access to ICT resources [Van Dijk 2020]. While identifying key success drivers for e-governance, accesibility can't be excluded as it ensures equal distribution of public resources. Precisely, in case of inequal acess to digital services, the political system lacks sufficient infrastructure (access divide), overal digital competence in various stakeholders (usage divide) as well as citizens, business or the government get inequal benefits from electronic public services [Norris 2001].

Finally, the theoretical perspective on succesful e-governance prerequisites concludes on the discussion on legal framework for smooth digital transformation. Based on the principles of rule of law and digital governance, appropriate legal framework can ensure legal accountability of public institutions, data security, transparency and citizen trust in digital policy-making process [Gil-Garcia 2012]. Additionally, institutional theory add more credibility to the vital role of the legal framework for e-governance as it focuses on the formal legal structures, clear digital governance laws that shape overall e-government effectiveness [Scott 2001].

So, theoretical bases ensures the article to examine e-governance through four theoretical models to assess digital transformation. Together with key prerequisites (trust in e-services, digital literacy, accessibility and strong legal framework), the theoretical framework collectively determines the effectiveness of e-governance in enhancing public service delivery, citizen engagement, and successful digital policy implementation.

1.2. Methodology

The four theoretical models of e-governance and the theoretical prerequisites for successful e-governance form the foundation for practical public policy analysis. Specifically, the article examines how these prerequisites function within each theoretical model and contribute to the success of e-governance in Estonia and Georgia. The stated research goal can be achieved through following research objectives:

- To analyze the institutional and legal frameworks of e-governance in Estonia and Georgia, identifying the role of formal and informal institutions in shaping digital governance. This includes assessing key strategic documents and legislative acts that support or hinder e-governance implementation, using an institutional analysis framework [North 1990; Peters 1999] and legal governance theory [Metcalf 2014].

- To examine the coordination mechanisms among public institutions (G2G, G2Y), private sector stakeholders (G2B), and citizens (G2C) in the execution of national e-governance policies. This analysis is grounded in the UN E-Government Development Index; The index highlights the scope and quality of online services, development of infrastructure and inherent human capital [UNDESA 2022].

- To assess the significance of theoretical e-governance prerequisites by collecting empirical data through in-depth interviews and Likert-scale evaluations with civil servants and field experts. The assessment is based on four key e-governance models [Finger et al. 2003] and the five-stage digital governance model [Baum et al. 2000], which outline how public administration transforms through digitalization.

First of all, through the analysis of secondary sources (state strategies, action plans, reports on e-governance), local (Georgian) and international best trends in e-governance were examined, including types, levels, approaches, and key development factors. Precisely, the secondary data was collected using institutional and legal analysis. By incorporating institutional analysis, the study examined the role of institutions (formal and informal) in shaping e-governance. In this regard, according to state strategic documents and following reports, the article focuses on the evaluation of the design and execution of national e-governance policies which includes the coordination between or inside the public institutions (G2G, G2Y), private sector stakeholders (G2B) and citizens (G2C) [Pandey 2024]. On the other hand, the paper uses legal analysis to emphasize the significance of legal

frameworks which define the boundaries and operational mechanisms of e-governance as "legal system must be able to include e-governance but does not need to change totally because technologies change" [Metcalf 2014: 33]. Legal analysis includes comparing key legislative acts that support e-governance in Estonia and Georgia. That enables to identify success factors as well as gaps in the legal frameworks that may hinder e-governance process.

Additionally, the development levels and future perspectives of e-governance theoretical models in Estonia and Georgia were assessed based on public policy documents analysis. In this regard, by requesting public information from public organizations in Georgia, the study investigated the coordination mechanisms among public institutions (G2G, G2Y), private sector stakeholders (G2B), and citizens (G2C) in the execution of national e-governance policies and the extent to which they focus on the theoretical digital governance prerequisites identified in the research.

For a comprehensive and complex analysis, in addition to the information obtained from secondary sources, empirical data was collected using a qualitative research method. Specifically, through in-depth interviews, the study analyzed the extent to which state policy in each target country prioritizes each theoretical prerequisite of e-governance. Specifically, given the complexity and context-specific nature of e-governance, qualitative research method, particularly in-depth interviews, are essential to gain deep insights that can't be captured though quantitative approaches alone. Especially, in-depth interviews allow the research to offer mode adaptive and comprehensive exploration of e-governance by going deeper into pre-defined as well as unexpected findings.

The in-depth interviews followed the theoretical background of the research. The questions listed in the interview guide covered following themes with appropriate respondents, so the interview guide was specific to each respondent:

Table 1

Key themes and types of respondents during the in-depth interviews

Covered themes	Type of respondent
1	2
Understanding institutional and legal dynamics	Field experts, Georgian and Estonian civil servants
Cross-national comparison, highlighting the best practices, gaps and institutional challenges in Georgia and Estonia	Field experts

1	2
Assessing practical implementation of theoretical models from institutional and legal perspective (country specific exploration)	Georgian and Estonian civil servants
Comparison of practical implementation of theoretical models in each country	Field experts
Exploration of emerging trends and unforeseen issues (unexpected findings)	Field Experts, Georgian and Estonian civil servants

Non-probability, targeted sampling technique was used during planning in-depth interviews. The respondents were selected based on their role, professionalism/ expertise and involvement in e-governance processes in Georgia, Estonia and the broader European Context.

Precisely, in Georgia there was conducted two types of in-depth interviews: (1) representatives of public organizations in Georgia were interviewed. The public agencies and the respondents were selected based on their role in coordinating, leading, or being responsible for specific aspects of the e-governance implementation process in Georgia. Hence, public information was requested and totally 4 interviews were conducted in following institutions: Civil Service Bureau, Data Exchange Agency, Digital Governance Agency and LEPL Public Service Hall (The Ministry of Justice). Moreover, for assessing the significance of predefined prerequisites of e-governance, 3 in-depth interviews were conducted with field experts working on digital and public policy issues.

In partnership with Tallin Technology University, several in-depth interviews were planned and conducted with civil servants in Estonia (totally 4 interviews – Ministry of Internal affairs, Ministry of Justice and Digital Affairs, Ministry of Economic Affairs and Communication, The Information System Authority), as well as field experts (3 interviews) from Tallin Technology University, Tartu University and e-Governance academy.

Additionally, in partnership with Lille Catholic University, in-depth interviews were conducted for analyzing globally European perspective on e-governance. This part of the research was crucial as Georgian digital transformation is part of civil service reform, which, in turn, is based on the association agreement with European Union

(EU). For connecting EU perspective to Georgian reality and Estonian best practice, 4 in-depth interviews were conducted with e-governance researchers at Lille Catholic University and 1 in-depth interview was conducted at European Commission.

During the data collection process, in-depth interviews were audio-recorded. Prior to data collection, all respondents were provided with information regarding informed consent, and their consent was documented in the corresponding audio recordings. The interviews were conducted in accordance with ethical standards outlined in the Law of Georgia on Personal Data Protection and the Code of Ethics of the American Sociological Association. Each interview lasted approximately 1 to 1.5 hours. Following the completion of the interviews, data analysis was carried out in several stages: first, interview transcripts were prepared. The transcripts were then analyzed using the thematic analysis method, with a coding framework developed based on the research goal and objectives. The main categories and corresponding codes (e.g., "Challenges to e-governance in Georgia", "Key success factors of e-governance in Estonia" etc.) were identified using MAXQDA [Woolf et al., 2017].

Additionally, for the assessment of the pre-defined e-governance prerequisites, respondents were presented with a Likert scale. The Likert scale was embedded in interviews and each respondent was asked to share their attitude on a scale. Using a 5-point scale, respondents evaluated each theoretical prerequisite, ranging from the most influential for successful e-governance (5 points) to the least influential (1 point).

The prerequisites for successful e-governance were defined through analyzing theoretical models of e-governance, institutional and legal analysis of best international practice of e-governance (Estonia) and they were tested through empirical research. This enabled to build strong research tool for analyzing e-governance success factors and key challenges in each target countries. The pre-defined successful e-governance prerequisites include:

- Digital literacy – the ability for all e-governance stakeholders to use effectively digital tools in any governance process. Van Dijk's Digital Divide Theory (2005, 2020) emphasizes the importance of digital skills and competences for developing e-governance policies; Additionally, United Nations E-Government Survey uses digital literacy as one of the key data to assess e-participation and public sector efficiency. Practically, countries with high digital literacy (Estonia, Denmark etc.) have high rating in overall e-governance development [United Nations 2023].

- Trust in e-public services – the extent to which citizens and business perceive electronic public services as reliable and secure to use. Dunleavy et al.'s Digital Era Governance Model (2006) defined trust to digital services as a core factor influencing successful digital transformation. Also, countries with high level of trust in digital services (e.g., Estonia) seem to be more successful in digitalization [Bannister et al. 2015]. This is confirmed in World Bank GovTech Report where trust in digital public services and sustainable digital development are mentioned as interconnected factors [World Bank 2021].

- Equal accessibility to electronic services – the digital reality when all stakeholders (citizens, business etc.) have equal access to digital infrastructure and internet so they can equally use digital public services. Once again, Van Dijk's Digital Divide Theory (2005, 2020) defines barriers to digital access and argues, that digital divide (unequal access to digital resources) can challenge digital transformation. United Nations Digital Accessibility Report (2021) is based on the principle of equal access to digital services as a prerequisite for sustainable digital governance. In this regard, Estonia's success in e-governance can be seen in digital inclusivity as well – "digital inclusion as a fundamental block in building a digital society" [e-Estonia 2023].

- Legal framework for e-governance – legislative basis that supports various directions of e-governance, including: data protection, cybersecurity, interoperability etc. World Bank Digital Governance Study (2022) identifies legal gaps as challenges for digital transformation while EU E-Government Action Plan (2021-2027) sets objective of harmonizing legislation with digital necessities for cross-border digital service delivery. Estonia's e-governance development was going in parallel with legislative changes to provide adequate foundation for digital transformation [Metcalf 2014].

2. E-GOVERNANCE DEVELOPMENT AND CHALLENGES IN GEORGIA

In Georgia, Public Administration Reform (PAR) was initiated in 2015. The Georgia-EU Association Agreement outlined the necessity of implementing civil service reform as part of Georgia's integration into the European Union and its democratic development [Delegation of the European Union to Georgia 2016]. Among its six key directions, the EU's civil service reform prioritizes improving the delivery of public services.

As part of the Public Administration Reform, preparations for integrating e-governance began even before the reform was officially launched. A significant

focus was placed on training public servants (G2Y model), especially, on raising their awareness about various directions of e-governance. It can be evidenced by state-led initiatives to promote electronic services. Since 2013, public officials have undergone training courses covering topics such as personal data protection, ethics in e-governance, strategic planning and project management in digital governance, freedom of information, and proactive publication of public data [Civil Service Bureau of Georgia 2013].

The high significance of electronic mechanisms within the Public Administration Reform is evident from its 2020 policy outcomes. As part of the reform, the number of state services available on the electronic platform www.my.gov.ge increased to 700; Additionally, the "Open Governance Partnership – Georgia" website (www.opengovpartnership.org) was developed, and the number of proactively published, automatically readable, and accessible databases on Georgia's Open Data Portal (www.data.gov.ge) significantly expanded [The Administration of the Government of Georgia 2021].

To comprehensively assess the citizen (G2C), business (G2B) and public servant-oriented (G2Y, G2G) approach in Georgia's e-governance development, it is crucial to analyze the digitalized services implemented under the PAR. Since 2015, key public administration processes have been digitalized, including public documentation system (eDocument – an automated document management system), high-performance data systems (eCloud – cloud computing systems), financial management (PFMS – public financial management electronic system), and visitor management in public institutions (Evms – electronic visitor management system) [Financial Analytical Department 2022].

The models of G2G and G2Y has been developed in a very effective and systematic way. This means that e-governance development in Georgia was characterized with creating coordinating bodies for digital transformation or adding structural units in already existing public agencies, which focused on digital development. In 2010, the Ministry of Finance of Georgia established and later strengthened the Financial-Analytical department. This unit supports the ministry's central apparatus and its subordinate agencies, fully managing their information and communication infrastructure [Financial Analytical Department 2022].

Additionally, the existence of the Digital Governance Agency (LEPL) and its founding principles–"promoting and developing digital governance principles in public administration"–highlight the importance of institutional strengthening within the public administration reform process [Digital Governance Agency 2020]. Such an

institutional focus on raising organizational digital capacity emphasizes the significance of strengthening the public sector and its workforce in the field of e-governance.

A significant milestone from the institutional point of view of e-governance in Georgia was in 2012 when the country joined the Open Government Partnership initiative. Georgia developed the "2012-2013 Open Government Partnership Action Plan" and launched a unified electronic portal for public services – www.my.gov.ge. In the context of G2G model, 2013 year was crucial as the Ministry of Justice established the national coordination mechanism–the Open Government Forum–which brought together all state institutions. To enhance efficiency and effectiveness, it was replaced in 2019 by the Open Government Georgia Interagency Coordination Council, responsible for developing, implementing, and monitoring the Open Government Action Plan [Open Governance Georgia 2022].

If we observe the international perspective on Georgia's e-governance development approach, it's evident that besides institutional success stories on organizational level, accessibility of public services remain a challenge. According to the UN 2024 E-Government Index, Georgia performs in a satisfactory manner in infrastructure and human capital indicators; However, the report recommends greater focus on ensuring the universal delivery of public services [United Nations 2024]. The study revealed that Georgia ranks higher in the E-Government Index (69th place out of 193) than in the E-Participation Index (77th place out of 193) [United Nations 2024]. This suggests that while the country has developed strong e-government infrastructure (G2G, G2Y), there is still room for improvement in citizen engagement and participation in digital governance (G2C, G2B). In this regard, it's crucial how open and transparent are public agencies in communication with citizens. According to the Institute for Development of Freedom of Information (2022), Georgia had its best performance in terms of public information transparency in 2013. Despite slight improvements in 2020, this indicator remains one of the lowest globally today.

Based on the chronological comparison of the given indices, it can be concluded that in Georgia, the e-governance index has been on the rise until 2024, while electronic participation – which refers to citizens' direct interaction and serves as the cornerstone of the G2C model – has been in a regressive process, especially over the last four years.

During collecting the empirical data, the respondents were asked to evaluate on a Likert scale the role of each predefined prerequisite for successful e-governance.

The requested public information and in-depth interviews confirmed the challenge of digital accessibility which was revealed during the desk research. "In terms of accessibility, it is noteworthy that www.my.gov.ge is available not only in Georgian but also in English, Abkhaz, Armenian, and Azerbaijani. This highlights the accessibility of state and private sector services for both Georgian citizens within the country and abroad, as well as for ethnic minorities living in Georgia" [Respondent 2 2023]. Meanwhile, respondents highlight that many public services are being delivered online, but their usage is very law. On the one hand, this is connected to the accessibility problem due to digital divide in accessibility level (e.g., based on the National Statistics Bureau of Georgia (2023), 94 % of Tbilisi is covered with internet while this data goes to 74 % in Racha-Lechkhumi Kvemo Svaneti region. Also, the accessibility is challenged by age: more than 90 % from 6–14, 15–29 and 30–59 age groups have access to internet while only 52 % of 60 years and older population use internet [Geostat 2024].

The accessibility criterion in Georgia is primarily connected to the digital infrastructure. The in-depth interview with civil service bureau representative highlighted Government's initiatives to raise digital capacity in citizens by trainings, information meetings. But, on the other hand, if the population can't access the digital infrastructure, so the awareness raising activities can be ineffective. Based on the latest data, only 66 % of households are equipped with computers in cities, while only 46 % of households have access to computers in rural areas [Geostat 2024].

Among the predefined preconditions of successful e-governance, the collected empirical data in Georgia gives the highest importance to the legal framework for digital transformation. Once again, this confirms the results of the desk research regarding strong concentration on institutional readiness for e-governance. Precisely, in-depth interviews and requested public information highlight the importance of laws that enable digital public processes, including, digital signature, transactions and overall policy making process. Moreover, in Georgia, the legislative framework for e-governance is discussed not only as the refinement of existing laws but also as the creation of new laws for implementing e-governance mechanisms. The Law of Georgia on "Electronic documents and electronic trust services" creates legal grounds for using e-documents, e-signatures and electronic trust services since 2017 and has been elaborated as a separate law signed by the president of Georgia. Furthermore, separate order creates legal framework for electronic procurement ("Procedure of Electronic Tender") instead of being described in general law on state procurement in Georgia.

This, once again, emphasizes the strong concentration on institutional readiness while implementing electronic services. In-depth interviews revealed the moderate importance of trust towards digital services and digital literacy, compared to the importance of legal framework. The study suggests that because of the challenges in various public services, citizens didn't have trust to the political system before the introduction on e-governance mechanisms. E.g., the procurement system was one of the corrupted and problematic direction in Georgian public service; once the electronic procurement system was launched in 2010, the trust towards the electronic procurement system started to raise, which can be seen in increased number of the users of the procurement portal (approx. 2 million a year) [Economic Policy Research Center 2015]. The usage of the procurement portal from citizens and business is also increasing: only in 2023, 3 508 new business provider was registered on www.procurement.gov.ge and total number of registered business service providers increased to 56 232 [State Procurement Service 2024].

Interestingly, the Georgian case study reveals that electronic public services played positive role in increasing the trust towards public services, so trust in digital processes itself, isn't perceived as a strong precondition for successful e-governance. Based on Economic Policy Research Center, there were launched some electronic portals, that increased overall trust in public services: "The electronic service was introduced to enhance public trust in the notary system by increasing transparency. The study showed that the service has indeed improved access to notary services for Georgian citizens living abroad and has significantly reduced their costs" [Economic Policy Research Center 2015: 35].

The digital literacy was not identified as a key prerequisite for digital transformation. Moreover, the existing digital services lack usage because of law awareness regarding the electronic services. Electronic notary system works well in citizens living in various countries, but locally, this service needs popularization. The challenge in digital literacy reveals divide in society: the public agencies perceive digital literacy as a challenge especially in rural areas.

During the in-depth interviews, it was clear that digital literacy is reckoned as a process of strategic communication on already existing digital services. On the other hand, information campaigns on various public portals can't be enough as digital literacy in Georgia is closely connected to infrastructural capacity of each household – how each citizen can be involved in electronic policy making process from his/her geographical location. Only 60 % of the Georgian population have some digital device (computer, laptop) and most of these citizens don't live in rural areas [Vanishvili 2023].

While collecting empirical data, the digital literacy was discussed as a process which can occur prior to the implementation of various digital initiatives. The respondents from public agencies evaluate awareness raising process as a part of digital transformation, implementation of e-governance mechanisms; on the other hand, based on collected expert opinion, digital literacy can be a ground bases for e-governance as it defines how successful the digital initiatives can be in any society.

The factual analysis of the existing reality in Georgia, combined with the examination of attitudes expressed during interviews, indicates that the country is primarily focused on institutional strengthening. This entails ensuring the maximum readiness of public organizations, including civil servants (G2G, G2Y), for the implementation of electronic mechanisms. Additionally, it underscores the critical importance of establishing appropriate legislation for digital initiatives. On the other hand, in the Georgian context, factors such as public trust, accessibility to electronic resources, and digital awareness are considered secondary priorities, gaining significance only after institutional robustness is achieved.

3. DIGITAL TRANSFORMATION IN ESTONIA – KEY TRENDS AND LESSONS LEARNED FOR POST-SOVIET COUNTRIES

3.1. E-governance framework for Estonia – digital transformation policy in European Union (EU) and Estonian legal basis

Following the independence from the Soviet Union in 1991, Estonia had to rebuild its political, economic system and the whole society. Emphasizing the potential of ICT in state governance processes defined the ambitious digitalization path for the whole country. It is clear that Estonia is a leader country in digitalization within the EU. Tiger leap project, starting from the 1996, allowed the country to integrate ICT tools into Estonian education system and created groundwork for digital inclusion [Aru-Chabilan 2020]. The strategic projects like "Tiger Leap" were followed with digital legal basis: personal data protection act (1996), digital signatures act (2000), public information act (2001), preceding Estonia's accession to the European Union in 2004.

Estonia developed several digital reforms that enabled the country to join EU with step forward in e-governance. Starting from 2001, Estonia developed X-Road system – data exchange mechanism that enables information systems to transfer data in a secure and standardized way [Trendall 2023]. This system made not only inter-agency cooperation easier and faster but also it developed public-private

partnership on a higher level. Additionally, Estonia became the first country not only in the EU but also in world widely to launch e-Residency program (2014) that attracted business, investors, and entrepreneurs to invest in Estonia.

The historical background shows that Estonia joined EU as a digital pioneer and continued to develop e-governance initiatives according to EU digital frameworks. Interest in digital communications within the European Union has been growing since the 1970s, as it became evident that digital transformation would become the cornerstone of the EU's economic development [Germany's Presidency of the Council of the European Union 2020]. Consequently, by the 1980s, the EU, with the support of allocated financial resources, modernized the necessary infrastructure for electronic communication (including networks and cellular equipment), while communication policies became more liberal. As a result, consumers were no longer restricted to purchasing digital devices (such as fax machines and telephones) exclusively from communication service providers but could acquire them from any manufacturer [Germany's Presidency of the Council of the European Union 2020].

The European Union's digital communication policy of the 1980s and 1990s transformed in the 2000s into a more comprehensive digital transformation strategy. This shift is clear in the legislative reform package adopted in 2002, which harmonized Europe's digital market and competition regulations, paving the way for digital development in both the private and public sectors. Analyzing the EU's latest priorities reveals a growing emphasis on digital transformation. The European Commission explicitly highlights this trend, stating: "How to make Europe greener and more digital–these are the two challenges of our generation, and our success in overcoming them will determine our future" [European Commission, 2020].

Before 2010-2015 years, digital transformation initiatives in EU member states, including Estonia's ongoing efforts since the 1990s, remained primarily a national prerogative. On a national level, Estonia's strategic decisions on e-governance were based on strong national legal foundation. Apart from the laws that were mentioned in the beginning of this subchapter, Estonia passed the laws that strengthened cybersecurity measures and empowered infrastructural development. Precisely, Databases Act (1997, revision in 2007) created legal framework for managing public sector databases, highlighting the cybersecurity in data exchange system [Metcalf 2014]. The digital infrastructural development was empowered by passing Electronic Communications Ac (2004), enabling e-communication service regulation and development of digital infrastructure [Metcalf 2014].

It's important to highlight that legal changes were followed by strategic e-governance projects and vice versa. In the first years of 2000s, Estonia launched not only X-road project, but introduced online tax filing system (by 2009, about 94 % of tax declarations were field online), launched mandatory e-ID cards for citizens (enabling digital authentication, digital signatures etc.) and e-Voting system (2005, first country in the world to have nationwide e-voting) using e-ID cards [Kattel et al. 2019].

However, from 2010 onward, such activities became part of a coordinated public policy framework. At the EU level, the European Commission assumed responsibility for ensuring the coordinated implementation of digital transformation among member states and within Euro-institutions.

The years between 2016–2018 were crucial for establishing the foundation for a comprehensive digital transformation in the EU, particularly with the regulation of data protection through the General Data Protection Regulation (GDPR) [Official Journal of the European Union 2016]. The GDPR standardized rules for data sharing, processing, and storage of EU citizens' information, replacing the 1995 Data Protection Directive and unifying all EU member states under a single data protection framework [GDPR 2018]. The European Union's digital transformation gained a solid foundation in 2018 with the launch of the Digital EU Program, designed for the 2021–2027 period, with a total investment of €9.2 billion [European Commission 2018].

Among the key public policy decisions facilitating Estonia's digital synchronization with the European Union are EU directives that established a strong foundation for digital innovation. In 2020, the European Commission initiated two major legislative acts: the Digital Services Act (DSA) and the Digital Markets Act (DMA) [European Commission 2023]. These acts form a unified legal framework aimed at creating a secure digital space that safeguards fundamental user rights while setting common "rules of the game" for digital innovation, development, and competition. These legislative advancements are particularly significant for Estonia, as its digital transformation relies on a public-private partnership model, emphasizing the integration of the private sector into the public domain.

In 2021, the European Union launched a human-centered digital services development program–Europe's Digital Decade 2030–focusing on fostering a digitally empowered society by facilitating the digital transformation of citizens and businesses [European Commission, 2021]. Estonia, in this regard, serves as the best experience for including the whole society in its digital transformation process. The same processes are planned to occur in other EU member countries so, to

support both existing initiatives and future innovative programs, the EU has committed to investing €43 billion by 2030 under this initiative.

It is essential to highlight that this initiative ensures the sustainable development of digital transformation across EU member countries through three key pillars:

1. Synergy with research centers and support for small startups and businesses;

2. Supply chain security, guaranteed by domestic microchip production;

3. Enhanced monitoring and crisis response capabilities through the implementation of strong coordination mechanisms [Ribeiro, 2023].

While analyzing the key strategic priorities of EU for digital transformation, it becomes clear that raising digital awareness and accessibility of electronic services plays a crucial role. The European Union aims to enhance digital skills among its population by 2030, targeting 20 million employed ICT specialists and ensuring that 80 % of adults use digital technologies in their daily lives [European Commission, 2021]. To achieve this, the EU's vision includes: Developing digital infrastructure (high-coverage internet and fast access to data); Digitizing businesses, with 75 % of enterprises adopting advanced digital technologies (AI, cloud computing, big data) by 2030; Fully digitizing public services, ensuring 100 % accessibility, including universal digital medical records and digital ID cards. This strategic vision is reflected in Estonia's local strategic policies, which ensures all stakeholders (citizens, businesses, government organizations) to be fully aware and included in digital policy-making process; 99 % of Estonian public services are provided online and almost 100 % of businesses are adapted to digital technologies, ready for developing on advanced level [E-Estonia 2023].

Accessibility to electronic mechanisms is a cornerstone of EU policy. The European Union envisions that any policy program planned and implemented within the framework of digital transformation must emphasize inclusivity, ensuring that everyone can participate in and benefit from digital services. A key focus is placed on social inclusion, as a fundamental aspect of digital inclusion. Digital projects should actively support persons with disabilities (PWDs) by enhancing their engagement in social, economic, and public activities.

Estonian example shows the state development in digital transformation and establishment of the digital state. On the other hand, the EU's digital transformation roadmap until 2030 includes multinational projects where multiple member states are designated as joint implementers. This approach is particularly relevant for projects in which collaborative resource allocation enhances digital transformation efficiency compared to individual national efforts. By pooling

resources and expertise, these states can achieve more sustainable and impactful digital advancements [Ribeiro, 2023].

3.2. Legal Foundations and Expert Perspectives on Digital Transformation in Post-Soviet Countries: The Case of Estonia

As for any country emerging from Soviet occupation, the effective development of the public sector has been as crucial for Estonia since 1991. The Estonian government states that electronic governance is a strategic choice for the country, aiming to increase national competitiveness and improve the quality of citizens' well-being [E-Estonia, 2021].

In the context of the study, respondents indicate that the development of the country and the development of electronic governance are completely interdependent. During the interviews, it was highlighted that Estonia had no other choice; in order to catch up with the development level of European countries, it had to choose an efficient and rapid (intensive) development path, which would have been impossible without the integration of electronic mechanisms. In this regard, the "Tiger Leap" project, which began in 1996, is significant as it illustrates how Estonia placed great importance on two prerequisites in the early stages of electronic governance: digital awareness within society and accessibility to electronic mechanisms. The project was based on three main principles: equipping the population with computers and internet access (infrastructure development), basic training for teachers in skills needed to use electronic mechanisms, and offering electronic courses in the national language to general educational institutions [Education Estonia 2022].

While discussing the important indicators for the digital transformation process during the in-depth interviews, a new indicator emerged–the significance of the cultural factor. In response to the question, "What indicators do you think influenced Estonia's successful digital transformation?", The respondents from public sector and field experts directly linked the digital development to the cultural characteristics of the Estonian people: "The Estonian nation, in general, is very open to change, and they want to be the best at everything. Even when they enter a store, they may buy unnecessary things if it makes them stand out. Electronic governance was also an opportunity for them to be different and exceptional" [Respondent 3 2023]. Accordingly, during the collection of empirical data, the openness of the population to change and innovation emerges as a key new indicator determining the effectiveness of e-government. "Estonians are not

"thinkers," but rather a very practical ("doers") nation, always ready to test and implement new things [Respondent 1 2023].

Respondents discussed the indicators defined in the study and assessed how much they agree with the impact of these factors on the effectiveness of e-government. It was revealed that bringing legislation into alignment with e-government is important but not a decisive factor for its effectiveness as it seems from Georgian perspective. While the refinement of legislation and alignment with e-government requirements is crucial, the technological field is so dynamic that legislation is not considered a strong indicator; In some cases, legislation is perceived as a hindering factor because regulation can impede technical progress and create constraints [Respondent 4 2023].

Compared to institutional readiness, digital literacy seems to play more crucial role for Estonian public sectors and field experts. The importance of digital awareness is clearly evident in the public policies implemented by Estonia, which have been aimed at raising awareness of the use of electronic mechanisms across all segments of society since 1991. Under the Ministry of Economic Affairs and Communications, there is a substructure–the Digital State Academy–which focuses on raising digital awareness both among citizens (G2C) and employees (G2Y) in public organizations.

If we consider the example of the Digital State Academy through the lens of the G2Y (Government to Employees) theoretical framework, it becomes clear that the public sector is focused on raising the digital awareness of public servants. This is reflected in the creation of specialized training courses and online programs specifically for public employees, which provide free access to information [Education Estonia 2022]. On the other hand, the prioritization of raising digital awareness is further indicated by the fact that awareness-raising courses are always accessible and free to any citizen. Precisely, when planning these awareness-raising activities, no specific target groups are typically selected. The approach is unified, and the program aims to reach the entire Estonian population. This includes not creating separate educational programs for older segments of the population, as the e-government reform, which began in the 1990s, has been experienced by the majority of the population. In fact, it is difficult to find a segment of society that does not have basic digital awareness or the necessary skills to use digital mechanisms.

In depth interviews identified the "digital literacy" as a key prerequisite for successful e-governance. Even in case of Estonia, where the majority of the population has the highest digital awareness, building digital capacity is a continuous process. For raising digital awareness, both formal and informal

education methods are employed. Digital awareness is directly promoted within public organizations as well. If an Estonian citizen does not know how to access public services electronically (with 99 % of public services being available electronically), when they visit a public organization, the public servant is obligated to provide information on how to access the same service in electronic form [Respondent 4, 2022]. From the perspective of the G2C (Government to Citizens) approach, this form of communication between the public sector and citizens is a clear indicator of the effectiveness of e-government.

Compared to revealed Georgian reality, where institutional readiness was mentioned as a key factor for successful digital transformation, Estonia's approach focuses more on citizens and their readiness to use electronic public services independently. Precisely, Estonia's approach does not focus on public servants directly providing public services and legislative bases to strengthen institutional bases for digital development; instead, it involves public servants creating services that allow citizens to provide for themselves through public goods. Estonia's "small government" concept suggests a minimal number of public servants and instead, empowering citizens equipped with digital skills. E.g., this idea is reflected in the number of employees at the Estonian Ministry of the Interior, which does not exceed a few hundred public servants (excluding police officers), even though this department is responsible for providing Estonia with the electronic ID cards [Respondent 1 2023].

Trust to digital services was modified as a precondition based on the attitudes and expert opinions in Estonia. First of all, it is important to highlight the level of trust towards public institutions, which directly correlates with the level of trust in electronic public services. During the discussion, respondents mentioned that talking about the trust in electronic public services, in reality, is a discussion about trust in public agencies generally. "If people did not trust the Ministry of the Interior as an institution, it would be unimaginable for them to trust the electronic ID cards offered by the ministry" [Respondent 2 2023].

During the analysis of empirical data, it was found out that the successful development of electronic governance in Estonia was also influenced by the public's trust in the political leadership. It seems that the Estonian people believed that after regaining independence, the government was capable of implementing something innovative that would lead the country to success and be completely different from the Soviet Union. E.g., the electronic voting system in Estonia, which was implemented in 2005, is a case of trust in public process with or without electronic support. Today, up to 60 % of the population casts their votes via the

internet [E-Estonia 2023]. The respondents conclude that it does not matter whether the election is held on paper or electronically – if the population does not trust public institutions enough to believe the elections will not be tampered with, they will be skeptical of both electronic and non-electronic elections [Respondent 2 2023]. Trust in public institutions, therefore, emerges as a significant determinant in increasing trust in electronic services and then, impacting positively on digital transformation process in the country.

Government to citizen approach is so strong in Estonia that electronic services become not only accessible or close to the citizens, but beneficial as well. The ability to expedite tax refund processes through the use of an electronic ID card and the electronic payment system significantly enhances the efficiency and convenience for the public. Citizens can receive their refunds within a 3–5 month period, as opposed to a much longer wait when processed in a traditional manner [Work in Estonia 2022]. This demonstrates the effectiveness of e-governance in improving the delivery of public services and provides a clear incentive for citizens to adopt digital tools, further promoting the success of Estonia's digital transformation.

Hence, when comparing the pre-defined indicators for successful e-governance, it is clear from the respondents' attitudes that trust, as an indicator, plays a stronger role in the effectiveness of e-governance than legislation/institutional readiness, but it is slightly weaker than digital literacy and accesibility to electronic mechanisms. Moreover, this suggests that while legal frameworks and trust are essential, the foundation of trust in public institutions remains a significant factor in ensuring the success and acceptance of electronic services within a society.

CONCLUSION

The digital transformation paths of Georgia and Estonia provide valuable lessons on the prerequisites for successful e-governance. While both countries share the goal of leveraging technology to enhance public service delivery and improve governance, the emphasis on specific success indicators diverges, shaped by their unique contexts, historical trajectories, and institutional frameworks.

In Georgia, institutional readiness, including the creation of supportive legal frameworks and the development of public administration structures such as the Digital Governance Agency, has been paramount. Georgia's focus on G2G and G2Y models underscores the importance of preparing public servants for digital transformation through training and capacity building. The legal foundation for digital services, such as the "Electronic Documents and Electronic Trust Services"

law, has enabled the formal adoption of e-documents and e-signatures, facilitating the digitalization of public services. However, the challenge of ensuring broad citizen participation (G2C and G2B) persists, as digital literacy and accessibility issues remain challenging, particularly in rural areas. A significant portion of the population, especially older adults, lacks access to digital tools and internet services. This divide hinders the universal adoption of e-governance, demonstrating that technological infrastructure alone is not sufficient to guarantee full citizen engagement. Furthermore, trust in digital services, though improved by initiatives like electronic procurement, is still a direction that needs some attention to increase the adoption of digital services across all sectors of society.

In contrast, Estonia's success in digital governance is largely attributed to its focus on digital literacy and public trust, with a stronger emphasis on the G2C model. Estonia's "Tiger Leap" initiative in the late 1990s laid the groundwork for its digital transformation by equipping the population with necessary digital competences and skills, thus fostering a society capable of utilizing e-services effectively. The establishment of the Digital State Academy to train both citizens and public servants underscores Estonia's commitment to continuous digital awareness. Digital literacy, in Estonia's case, is not just about the availability of digital tools but the readiness of the entire population to use them independently. This cultural readiness, driven by a national characteristic of openness to change and innovation, has been a key enabler of successful digital governance. The Estonian experience suggests that building trust in public institutions is foundational for the trust in digital services. So, trust in digital services is not discussed separately in Estonian case. On the other hand, trust in public institutions generally, including the electoral system, has facilitated the acceptance of digital services like e-voting and electronic tax refunds, demonstrating that effective e-governance needs trust in public policy processes.

While both Georgia and Estonia acknowledge the importance of legal frameworks and institutional readiness, Estonia's focus on digital literacy and public trust highlights a different prioritization of indicators. For Georgia, institutional preparedness remains the strongest pillar of its e-governance strategy, though it is clear that for broader public participation, greater efforts are required to bridge digital divides. In Estonia, the success of e-governance is underpinned by its citizens' readiness to embrace technology, coupled with strong public trust in public institutions, not only in digital public services.

From the perspective of Baum et al. five-stage model of e-governance, Estonia has achieved full integration of e-democracy. The country's digital systems enable

citizens to vote online in national elections, participate in public consultations, and engage with government officials digitally. The "e-Residency" program allows non-citizens to establish and manage businesses in Estonia, creating an inclusive form of digital democracy. On the other hand, Georgia is still progressing in this final stage. The country's e-democracy efforts are still in early stages, with a focus on fostering greater transparency and public engagement through digital platforms.

Hence, the lessons from Georgia and Estonia suggest that successful e-governance requires a multifaceted approach: a strong legal and institutional framework is essential, but so too are efforts to foster digital literacy, ensure equitable access to digital tools, and build trust between the citizens and the public institutions that serve them. The challenge for Georgia will be to further engage its citizens in the digital governance process, overcoming barriers of accessibility and trust. For Estonia, the focus will remain on maintaining its high levels of digital literacy and public trust while continuing to innovate in the delivery of public services.

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