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Facultatea de Administrație Publică

E-Government and Integrity in Romania – Challenges of Digital Transformation and Public Trust

- dissertation, Public Sector Management -

Coordinator

Conf. Univ. Dr. Cătălin VRABIE

Graduate

FLOREA Andreea-Cristina

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Abstract

This research explores the bond between e-government development, integrity in the public sector and citizens' trust, with a particular focus on the Government to Citizen (G2C) component. The aim of this research is to understand the causes behind Romania's underperformance and low-ranking in EU digital governance indexes (EGDI, EPART, DESI, EQI) and to assess citizens' perception regarding the transparency, accessibility, and integrity of digital public services. This paper is guided by Cătălin Vrabie's work, "Elemente de e-guvernare" (2014), which highlights the challenging nature of e-government and the necessity for implementing it in the public sector, as it is essential in promoting transparency, efficiency, trust and integrity. Additionally, the study follows the goals outlined in the Digital Agenda for Europe: 2020-2030, which expresses the need for all public services to be available online, and World Bank's statement that the success of e-government is determined by the level of trust and common understanding of all actors early in the process. The research uses a mixed-method approach by combining an online questionnaire addressed to Romanian citizens, performance data analysis and a comparative analysis in terms of best practices, from Bulgaria, Germany and Türkiye. This approach offered the opportunity to identify key challenges hindering e-government implementation in Romania and applicable strategies to overcome them. Findings show that despite the comprehensive legislative framework and the existent digital public services, Romania is facing strong barriers rooted in the heavy bureaucratic rigidity, weak citizen engagement, lack of accountability, lack of trust and fragile institutional integrity. The comparative research showed that transparent and citizen-focused strategies, where citizens are seen as collaborators, can reinforce Romania's digital governance roadmap. By connecting theoretical perspectives and real-life circumstances, this paper is valuable for policy makers and scholars, as it provides a comprehensive understanding of how digital transformation can succeed in low-trust environments.

Key words: Government to Citizen (G2C), feedback, e-participation, public sector, collaboration.

Introduction

In recent years, digitalisation has become a key priority for the European Union (EU) and a mandatory request to its member states. According to the second Digital Agenda for Europe: 2020-2030 "all key public services should be available online" [1], making e-government be one of the hardest and most important challenges of public sector [2].

E-government refers to the usage of information technology, particularly through Internet, in order to offer public services in a more efficient and citizen-oriented way [3]. Its main principles – transparency, accessibility, efficiency, personal data confidentiality, content and service provision warranty [2] – underline its potential to transform public sector and enhance its integrity, while following a citizen-centric model. Its strategies lead to the introduction of "targeted technologies that benefit people, promote a competitive economy and support an open, democratic society" [4]. On the other hand, public sector integrity refers to "the usage of powers and resources entrusted to the public sector effectively, honestly and for public purposes" [5]. In this regard, e-government is linked with public sector integrity as their common purpose is to fulfil citizens' needs in an efficient and effective way.

Even though Romania has successfully completed the Cooperation and Verification Mechanism (CVM) in 2023 [6] and it has implemented diverse legislative reforms in order to increase its overall performance as a European Union member states; it is still an underperforming country by constantly ranking last in EU statistics especially in e-government development and public sector integrity. Additionally, citizens' trust in the public institutions remains low, ranking below military, church, European institutions and NATO [7] showcasing a serious gap between the results and the intended impact of public actions, reflecting strong barriers in terms of governance process, integrity and public trust.

Research questions

In order to provide a rounded perspective upon the relationship between e-government practices, integrity in the public sector and citizens' trust, the research is guided by the following questions: Q₁: To what extent does the institutional integrity influences citizens' trust and willingness to engage with digital public services?

Q₂: To what extent does the introduction of e-government in Romania's public sector impact issues such as integrity and corruption?

Q₃: Do digital public services need to replace the traditional services? If yes, can they have full inclusivity in terms of citizens' needs?

Q4: How can citizen feedback channels and mechanisms contribute to a more effective and sustainable digital transition of Romanian public sector?

Objectives

According to World Bank, e-government implementation is a very complex process that is based on active communication from all parties and its success “often comes down to building trust and common understanding with the variety of players early in the process” [8]. In this regard, the primary objective of this paper is to explore Romania’s e-government implementation process by assessing Government to Citizen (G2C) relationship. The analysis will focus on key aspects such as public integrity, citizens’ trust in the public sector, and the main barriers to implementation, while proposing actionable recommendations for improvement.

Additionally, this paper targets to fulfil three specific objectives. Firstly, this paper will evaluate, through a questionnaire addressed to Romanian citizens, the impact of e-government adoption on public integrity by analysing whether digital transformation contributes to greater transparency and reduced corruption. In doing so, the research will also consider how improvements in public integrity can reinforce citizens’ trust in public institutions. Secondly, the research aims to evaluate Romania’s e-government performance by using key international indicators, in order to understand the causes of its constant underperformance despite its classification as a developed country. This secondary analysis will correlate the identified barriers from both the questionnaire and the indicators. Lastly, this paper aims to identify applicable strategies for overcoming Romania’s challenges by conducting a comparative analysis with countries that have overcome similar barriers.

Research methodology

This research uses a mixed-methods approach to thoroughly explore the relationship between e-government practices, public sector integrity, and citizens’ trust in Romania’s public sector. In this regard, the research involves qualitative and quantitative methods – an online questionnaire and a comparative analysis.

The online questionnaire explores citizens’ insights regarding e-government platforms with a focus on transparency, accessibility, demographic differences, trust and perceived public integrity perception. It plays a significant role in measuring the Government to Citizen (G2C) interaction by understanding both user’s experience with digital public services and the barriers that hinder e-government adoption. Data will be collected using Google Forms, as an efficient way for both delivering the questionnaire to the respondents and centralising their answers. The collected responses will be exported to Google Sheets for analysis, where the frequency of similar answers, the average, and the deviations from the standards will be examined in order to identify trends and possible barriers.

The comparative analysis has two parts. Firstly, it evaluates Romania’s performance regarding e-government development, public integrity, trust and quality of governance by examining international indicators such as E-government Development Index (EGDI), E-participation Index (EPART), Digital Economy and Society Index (DESI), and European Quality of Government Index (EQI), in comparison with EU average. Secondly, it compares Romania’s performance, legislative framework and implementation strategies with those of Bulgaria, Germany and Türkiye, by referring to the latest EU reports, previous indicators and national best practices. This analysis highlights the existing gaps, trends and weaknesses of Romania’s public sector, while proposing actionable strategies for improvement.

1. E-government and Public Sector Integrity

1.1. The concept of e-government

E-government can be seen as an umbrella term that encompasses a multitude of factors from digitalization and transparency, to cybersecurity and sustainability. It is sometimes seen as an important component of a smart city, making it a significant step towards change and innovation of any urban environment. According to World Bank e-government refers to the use of “technology to accomplish reform by fostering transparency, eliminating distance and other divides, and empowering people to participate in the political processes that affect their lives” [8]. In simple terms, we can think of it as a tool for maintaining the public sector and the state actively present in the life of citizens. In their work, Bannister and Connolly consider that the implementation of e-government will increase the efficiency and effectiveness of government as it will lead to agility, participation, responsiveness, trust, openness and transparency within all its pillars [9]. On the same matter, World Bank expresses that e-government will ensure a better delivery of government services to citizens, improved interactions with diverse industries, citizen empowerment through access to information, and more efficient government management [10].

From a sociological perspective, e-government is seen as a powerful engine for ensuring the proper development of citizens and the public sector through strengthening the trust and integrity in this bond. Starting from birth, citizens and public administration have been fully interconnected. Public administration is present through all the stages of a citizen’s life in a circular symbiosis no matter the challenges that both of them faced [2]. In this regard, e-government practices and platforms are a mandatory change for maintaining this bond up and sustainable [2].

E-government is a strong tool because it includes all the important actors of the public and private sectors – the government, the businesses, the employees and the citizens. Understanding the importance of each actor offers a comprehensive perspective of how digital transformation can influence the integrity of public sector, the trust that citizen show towards public institutions and the adoption rate of e-services. In this regard, according to specialized literature e-government showcases four types of interactions [2]:

- Government to Government (G2G);
- Government to Business (G2B);
- Government to Employees (G2E);
- Government to Citizen (G2C).

Government to Government component has a significant objective – eradicating information insufficiency [2]. In order to be efficient, public institutions must be interconnected to provide a fast and qualitative service to the citizens. Through IoT, the governmental institutions and their connectives in the public sector are united.

The objective of Government to Business is to reduce burdens on business, provide one-stop access to information and enable digital communication. Additionally, through G2B, the government can take advantage of commercial electronic transaction protocols. In this regard, its most important objective is the public procurement area [2].

Government to Employees is more focused on increasing the performance of internal management in order to reduce costs. G2E creates an intranet system to ease the work of public servants in terms of access to unified and complete information about their posts and their institution [2], improving the decisional process.

Last, but not least, Government to Citizens (G2C) interaction highlights the importance of bringing public administration closer to the citizens by ensuring accessible and transparent communication between the two parties, the provision of digital public services such as portals that allow citizens to pay taxes, fill out form and access information, e-consultation and e-petition platforms, online services in health and education and e-voting practices [2, 11].

1.1.2. Citizens and e-Government

While all the interactions are significantly contributing to the efficiency and effectiveness of the public sector, they are all relating on a very important factor – the citizens, which is the central actor of all the components. No matter how powerful the impact and influence of each component, it will always vary due to citizens' perception and interaction with the government, making the last component, G2C, a critical one for the digital transformation, as it can be both a boost and a barrier.

In 1981, Parks et al. introduced the idea of “coproduction” applicable to the public sector. In their work, they talk about two types of producers – regular producers and consumer producers. Regular producers are the ones that produce goods and services for an exchange and consumer producers are represented by the individual or collective consumers. In the public sector they are represented by the government and the citizens [12]. The authors are highlighting the importance of the citizens in the producing process by explaining that “consumer production is an essential complement to the efforts of regular producers; without the productive activities of consumers nothing of value will result” meaning that if citizens are not involved the quality of service, it is compromised [12]. In this regard, in his work, Heek talks about the failure of e-government as the gap between design and reality, or what in quality management is called regressive evolution, when the strategy for implementing e-government services exists; however they fail to deliver the expected outcomes to the reality, where, for example, the level of digital literacy is low and the institutions lack integrity making it hard for citizens to trust and engage in the digital transition [13].

According to Parks et. al. between citizens and government there are both a substitute service production relationship and an interdependent one, reinforcing the idea that citizen participation is a pillar that must be taken care of in order for e-government implementation to be a success [12]. Thus, in substitution, citizens can help the government to save resources by using the online platforms created and taking over the administrative tasks that employees would do; and in interdependence they help improve the services and contribute to innovation through feedback and whistleblowing mechanisms.

E-government and all its attributes are a critical turning point in today's world. According to literature, digitalization of public sector leads to higher levels of transparency, efficiency and effectiveness. However, the dynamic relationship between citizens and government, in order to function properly, must be based on ethical conduct, accountability, trust and institutional integrity [12]. Considering this, citizens can become both a boost and a barrier in the e-government development process. Without integrity and trust the cooperative and coproduction relationship between the actors can be hindered, as citizens will be less interested and willing to be a part of the digital transition. In this regard, understanding the role of integrity and trust in the public sector and all their attributes becomes essential for understanding the barriers that may appear and how to eradicate them.

1.2. Integrity in the public sector

Public sector is an important part of society and economy as it is represented by the government ownerships and governmental control aiming to deliver goods and services to the public [14]. In his article, Kai Wegrich pictures public sector as two concentric circles: inner circle, that represents the core of public sector highlighting the importance of public services, civil servants and service delivery, as part of subnational government agencies; and outer circle, represented by “quasi-governmental agencies” and state-owned enterprises such as local public transport [15].

Within the inner circle, at the core of public sector there is public administration, which plays a significant role the good functioning of the society. Its *raison d'être* is “to serve” the citizens [16] and to fulfil their needs by efficiently using all the resources and actions available and delivering essential public services. In a smart city, the core controller is represented by the public

administration institutions” [17] highlighting the importance of a good resource management, a good digitalization and a high level of transparency.

In the specialized literature, the perception of openness and honesty has also been referred to as a perception of integrity [9]. Integrity is a complex concept that plays a crucial role in the public sector, as it represents a constant devotion to shared ethical values, principles and norms that are targeting to fulfil the public interest over the private interests [18]. From a managerial point of view, integrity can represent the “use of powers and resources entrusted to the public sector effectively, honestly and for public purposes” [19].

In his work, Huberts talks about the importance and complexity of integrity. He presents integrity in the public sector as consistency and accountability and it goes beyond moral values, reflections and norms [20]. According to the Ethics Theory, “integrity is about the ethics of behaviours of everyone involved in governance” [20] meaning that in the public sector the perception of integrity is created based on the collective behaviour of leaders, workers and citizens. In this regard, in Romania, according to Law no.7/2004, regarding the conduct of public servants, article 5, it is mentioned that “while performing their public duties, public servants are obliged to behave professional conduct and to ensure, in accordance with the law, administrative transparency in order to gain and maintain public confidence in the integrity, impartiality and effectiveness public authorities and institutions” [21]. Additionally, at the core of public services values and action principles such as accountability, impartiality, justice and fairness, avoiding doing harm, and do good [5] are part of maintaining a good governance and integrity, creating an ethical foundation of a collective behaviour.

Integrity is “one of the pillars of political, economic and social structures, and is a cornerstone of good governance” [18]. From this perspective, we can consider that integrity is the “glue of society” by creating a cycle – a strong institutional integrity leads to a low level of corruption and high level of transparency, which leads to trust and hope in the public sector from the citizens’ behalf which eventually leads to an active and consistent citizen participation. Even though they are not direct elements, transparency, trust and lack of corruption are all influenced and related by the level of integrity.

Consequently, to the theoretical illustration, integrity represents a critical element for e-government implementation. While ensuring an ethical governance and an effective service delivery, it increases the trust that citizen have towards public sector and it encourages them to enter in the dynamic relationship presented by Parks et.al of substitution and interdependence and to engage in the e-services and e-practices. Moreover, integrity can be seen as a driver of public value, which according to Moore, who coined the concept, “refers to personal judgements about the social standards, principles and ideals (...) created by government through services, laws, regulation and other actions” [22, 23].

Therefore, by promoting fairness, democracy, accountability and citizen centred values in decision making process, institutions will create a culture of trust and integrity that will encourage citizens to adopt e-government services, as they will become an extension of the quality offered by the traditional services. On the other hand, if the institutions create a culture of mistrust they will be hindered to engage in change. In this regard, Romania represents a good example of people having a negative perception of public value due to constant corruption problems.

1.2.1. Romania – reforms for integrity

On 1st of January 2007 Romania has concluded the fifth enlargement of the European Union and became a Member State [24]. On the first day of the ascension, the European Commission set up the Cooperation and Verification Mechanism (CVM) as interim measure in order to help them progress and achieve the EU average benchmarks in terms of judicial reforms and anti-corruption [25]. Romania had four benchmarks to achieve, according to Article 1 of 2006/928/EC: Commission Decision of 13 December 2006 [26]:

- Ensure a more transparent, and efficient judicial process;

- Establish an integrity agency with responsibilities for verifying assets, incompatibilities and potential conflicts of interest;
- Continue to conduct professional, non-partisan investigations into allegations of high-level corruption;
- Take further measures to prevent and fight against corruption within the local government.

After years of efforts, in November 2022, Romania has successfully completed the CVM, managing to radically reduce the corruption level (figure 1), however problems regarding transparency, institutional integrity and corruption still emerge. According to Transparency International, out of 180 countries that are being evaluated, Romania is ranking 68 in corruption. Corruption Perception Index (CPI) is an important indicator that shows the levels of bribery, diversion of public funds, officials using their public office for private gain without facing consequences, nepotistic appointments in the civil service, access to information on public affairs/government activities, excessive bureaucracy and overly complex procedures in the public sector which may increase opportunities for corruption, and many more [27]. According to CPI, Romania scores 46 out of 100 (figure 2), where 100 means no corruption, a “clean” country and 0 means a very high level of corruption. In comparison to other European countries considered to scorers – Denmark (90 CPI), Finland (87 CPI) or Norway (84 CPI), Romania along with Bulgaria and Hungary are bottom scorers with 46 and under CPIs [28].

	Romania 2016	Romania 2021	EU 2021
Bribery Rate in Education	23%	11%	6%
Bribery Rate in Health	33%	22%	3%
Citizens who think most or all MPs are involved in corruption	54%	51%	28%
Citizens who think most or all local government representatives are involved in corruption	38%	33%	19%
Overall corruption	17%	20%	N/A

Fig. 1. Romania 2016-2021 Global Corruption Barometer Comparison

Source : OECD, https://www.oecd.org/en/publications/strengthening-romania-s-integrity-and-anti-corruption-measures_ff88cfa4-en.html

Score changes 2012 - 2024

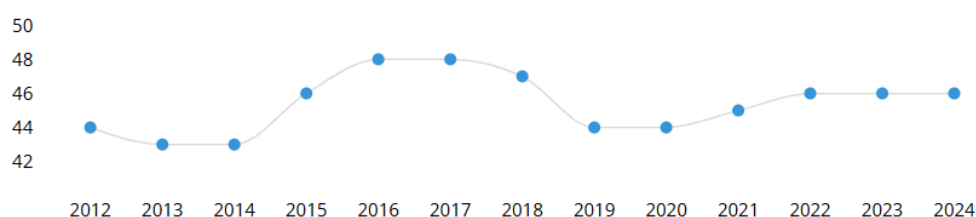


Fig.2. Corruption Perception Index Evolution

Source: Transparency International, <https://www.transparency.org/en/cpi/2024/index/rou>

The stagnation between 2022 to 2024 highlights the potential of the country to control the corruption level, however it can also showcase that its ability of combating corruption is falling short, despite its efforts. The Anti-Corruption Strategy for 2021-2025 relies on political support to implement significant legislative reforms, the legislation regarding integrity remains fragmented and the frequent changes in legislation still raise concerns [29]. On the other hand, the selection of the President of the National Integrity Agency and the new mandatory electronic asset declaration platform allowed the Agency to work more efficiently, highlighting that the introduction of digitalization can help in carrying out transparency and integrity [29].

Additional to the previous efforts, the Government of Romania adopted the National Recovery and Resilience Plan (NRRP) for 2022-2025 which intends to improve the digitalisation of the justice system [29]. Romania's NRRP consists of 66 reforms spread across seven pillars which include digital transformation and smart, sustainable and inclusive growth, that highlight the importance of: "increasing digital competence for public service and digital education for citizens, legislative transparency, and simplification of bureaucracy and procedures for businesses, cybersecurity of public and private entities owning critical-value infrastructure, digitalisation of different public institutions and their customs" [30].

Even though these efforts play an important role in improving Romania's overall performance and implement EU benchmarks, corruption thrives in weak governance structures showcasing that a complex set of legislative reforms can be inconsistent. In this regard, citizens' value perceptions of e-government adoption consistency and integrity are likely to be influenced and to become a barrier.

1.3. The relationship between e-government and integrity

As previously presented, it is agreeable that both e-government and integrity, individually, play a very significant role in the public sector. Considering that the implementation of e-government services in the public sector contributes to a higher level of integrity in the public sector, we look at the opportunities that e-government brings such as – transparency, accountability, efficiency, effectiveness, without overlooking the limitations and possible risks like – system breaches, people's willingness to use the services as part of G2C component or probable system failures that require a high repairment budget and expertise.

Public sector is built upon bureaucracy and complex rules that are considered to make it function accurately [14]. Over the years its actions are by default complying to guided values, as the *raison d'être* of bureaucracy is the "legitimate authority expressed in patterns of normative rules and the right of those elevated to authority to issue commands" [31]. In this regard, we can remark that the public sector and its activity are based on integrity and its variables. However, hence the world is moving fast towards digitalization, public sector institutions started changing the focus from complex, long term, effective bureaucratic activities; to simple, short term, effective and efficient, accessible activities [14]. This change of focus set the base for New Public Governance approach grounded in decentralization and embracing "the need for flexible administrative procedures in which trust, citizen involvement and enhanced public-private interactions are primary governance tools" [32].

In this regard, this paper envisions the relationship between e-government and integrity as being two folded – e-government is seen as an integrity enabler and integrity is seen as the condition for e-government to success. In other words, while e-government can raise the level of integrity by increasing transparency, accountability, efficiency in the public sector, its efforts are depending on the current level of institutional integrity. Therefore, if the citizens do not trust the public institutions due to various deviations from governance ethics such as lack of transparency in the public administration, lack of fairness in the justice department, lack responsibility or honesty, the willingness to use e-government services can be easily hindered. Consequently, the system is most probable to fail due to integrity either from the lack of citizens' trust in institutions or from being exploited and used for various forms of corruption, such as covering fraud.

Subsequently, trust plays a significant role in this relationship as it is a factor that helps the change to happen, an objective in e-government policies and an important and probable barrier in the development process [33]. In his work, Geert Bouckaert talks about three clusters of trust: "from society in the public sector (T1), from the public sector in society (T2) and within the public sector (T3)". T1 represents the "traditional" trust concept that became very significant with the introduction of New Public Management (NPM). T2 is the opposite direction of trust and used in services such as tax compliance where the public sector relies on the citizens to respect their official obligations. The two Ts are mostly represented by reciprocity between society and public sector [33]. Bouckaert highlights that when either of the two parts demonstrate active distrust and

dishonesty, there will be a certain resistance and evasion. Even the suspicion of any type of dishonesty can negatively affect the relationship. T3 is a newer concept representative to a managerial administration that highlights the importance of “working together”; a shift from Weberian bureaucracy to partnership and collaboration within the institution for a more sustainable system [33]. All three clusters of trust are significant and complementary to one another, however, in order to maintain a balanced level of trust the society must cultivate a culture that is moving towards this matter [33].

Consequently, trust becomes an essential factor in the relationship between e-government and integrity making it fundamental for the creation of smart cities. The more citizens trust the public sector, the more open they will be in adopting the new practices and substitute administrative tasks through e-services while maintaining the interdependent relationship and cooperating towards improvement.

1.3.1. Smart cities require smart citizens

In today’s world the ultimate objective for each urban environment is to become “smart” and to fulfil the needs and requirements of citizens and both private and public sectors in a “smart” way [34]. Smart cities are hard to define and there is no commonly accepted definition. According to professors Săvulescu and Antonovici smart cities “hold the ability to develop an important ecosystem in view to enhance the modernization of administration, companies, based on the digital technologies”. Washburn et. al described it as the “use of smart computing technologies to make the critical infrastructure components and service of a city—which include city administration, education, healthcare, public safety, real estate, transportation, and utilities—more intelligent, interconnected, and efficient” [35]. Giffinger et. al, on the other hand, focuses more on the citizens, describing the smart city as “a city well performing in a forward-looking way in economy, people, governance, mobility, environment, and living, built on the smart combination of endowments and activities of self-decisive, independent and aware citizens” [36]. Additionally, in their work, Caragliu et. al focuses its description on the economic impact – “when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural re-sources, through participatory governance” [37].

Even though each of the given definitions is highlighting the importance of diverse actors of the digital network, all four descriptions have a common focus – the people and their active participation, representing the smart citizens. In his work, Kumar Deepak opens up an important perspective, introduced through the Smart Cities Mission created by the Government of India. They are indicating that the proper functioning of a smart city requires smart citizens who “involve themselves in the decisions on deploying Smart Solutions, implementing reforms, doing more with less and oversight during implementing and designing post-project structures in order to make the Smart City development sustainable” [38, 39].

Therefore, citizens are the link between integrity and e-government development, completing a virtuous cycle (figure 3). Institutional integrity builds trust in the public sector (T1), which increases the willingness of citizens to adopt new practices, leading to a higher adoption of digital public services. Additionally, the higher adoption, along with the increased trust leads to active engagement and continuous feedback, making citizens part of the solution deployment. Eventually, the citizen-oriented and collaborative solutions, lead to an improved quality and responsiveness of e-government services, that increase the integrity by reinforcing institutional transparency and responsibility and reducing bureaucratic rigidity. Ultimately, the cycle continues.

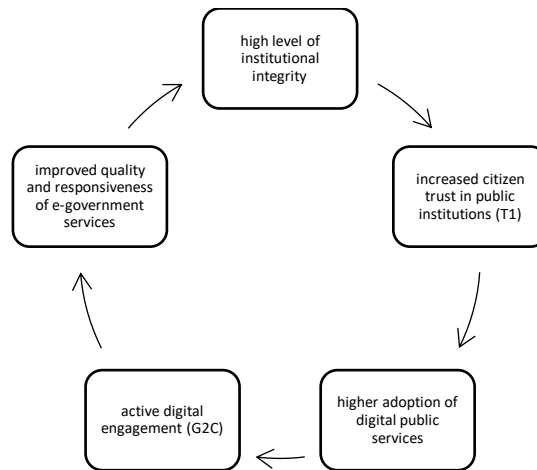


Fig.3. Integrity-Trust-Adoption Cycle

Source: Author's own work

1.3.2. Positive impact of e-government

On a general note, digitalization eliminates geographic borders and it facilitates an easier communication and trade [34]. In the public sector, digitalization can eliminate institutional borders within public administration environment and between citizens and the public sector. In her work, Karina Radchenko, explored the impact of a smart city highlighting some important aspects [40]. The development the smart cities has improved the quality of life, networking and the learning process and awareness of both customers and employees. Additionally, the introduction of e-services has reduced the bureaucracy and it has facilitated new workplaces and human potential and skills [40]. On this matter, in the research applied by Fayomi and Abdulqadir to 8 top managers and 59 employees working virtually, factors such as connectivity, flexibility and autonomy were identified benefits of remote work and they became objectives for the organization when planning virtual work arrangements [41].

From an economic perspective, Radchenko explains that the introduction of e-procurement led to increased investments and economic growth, it has helped the local talent resources to be seen and supported, it has increased competitiveness between municipalities which resulted in the switch from low-skills to higher skills economy and increased salaries. Additionally, e-government practices allow a successful public-private partnership that foster new economic opportunities [40].

While e-government ensures many opportunities and benefits, Romania's context presents unique challenges. Despite doing many efforts towards digitalization the results do not seem satisfactory due to the lack of citizen involvement.

1.3.3. Romania – efforts for e-government implementation

Romania has implemented initiatives regarding the improvement of transparency and integrity levels since 2003 when the Parliament of Romania enacted the Law no. 161/2003 regarding transparency in the administration of public information and services through electronic means [2, 42]. This law highlighted the importance of e-government by focusing on the efficiency of public services by reducing bureaucracy and corruption, as well as redefining the relationship between citizen and public administration by increasing the transparency, accessibility and effectiveness of public services through electronic means [42].

In 2011, it was launched the first national platform for online payments – www.ghiseul.ro, a way for citizens to easily pay their taxes and duties 24/7 from the comfort of their own home. What started as a small reach website with only 40 city councils registered and around 16 000 transactions in the first year of activity, currently, the platform has 2 525 848 active users and as of 2025, it has 1 554 429 transactions [43].

In 2020, the Authority for the Digitalization of Romania (ADR) was created in order to promote the transition to e-service for a more transparent, secure and fast public and private sector [44]. Under its surveillance, and as a part of Law no. 161/2003 and UE Regulation 2018/1728 regarding the implementation of a single digital gateway (SDG), Romania created a National Electronic System accessible through the portal www.e-guvernare.ro. Its objectives are aligning to those of the SDG [44]:

- Reducing administrative tasks for citizens and companies;
- Free movement of both citizens and companies;
- Elimination of discrimination and ensure functioning of the EU internal market;
- Simplification of tasks and de-bureaucratization.

The platform is complex and it offers significant information regarding citizens, businesses and services assistance and solutioning of problems services. www.e-guvernare.ro became a centre which encompasses a list of different platforms both national (ghișeul.ro, S.E.A.P or Single Electronic Contact Point) and European (e-Justice, Solvit, IMI/SIPI). Besides ghișeul.ro, one of the most effective platforms is Single Electronic Contact Point (PCUe) which offers legislative information about diverse institutions and the necessary documents in order to solicit an action from that institution, directly through the portal for both citizens and businesses. PCUe offers e-services in multiple domains such as: social assistance, citizenship, agriculture, constructions, culture, family, education, health, tourism, transport, urbanism, fiscality, communication, activities in border area, consumer protection, labour, services of local and central administration, scientific and technical professional activities [45].

Romanian Public Procurements Electronic System or www.e-licitatie.ro, is another example of an effective e-service as it provides updated information and news regarding public procurements all over the country, as well as guides for both the contracting authority and bidder. It encompasses many domains of interest such as: agriculture and food, constructions, electric and thermal energy, gas and water, hotels and restaurants, mining, quarrying and extraction industry, manufacturing industry, health and social assistance, services, IT&C, transport, real estate, renting and concessions, utilities, wastes and environment [46].

The concept and the opportunities that the platforms offer is important and effective, however, the connection with the citizens is low. It is considered that a smart city needs smart citizens that actively participate in the e-government process. The most effective option for them to participate is to provide feedback, which unfortunately for the Romanian citizens, it is either a non-existent function, either it is not working (figure 4). The only platform that is completely operative by offering comprehensive services and feedback for improvement is PCUe.

Send us your feedback

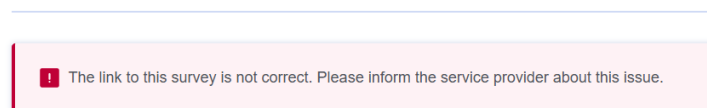


Fig.4. Feedback error

Source: <https://www.e-guvernare.ro/>

In December 2022, Romanian Parliament enacted the Law no.361 regarding the protection of whistleblowers in the public interest highlighting the importance of feedback and reporting misconduct and unethical practices [47, 48]. This act is based on the Directive (EU) 2019/1937 of the European Parliament and of the Council of 23 October 2019 on the protection of persons who report breaches of Union law [47, 49]. Romania is one of the 9 South eastern European members of the Regional Anti-Corruption Initiative (RAI) since 2000 whose objective are based on maintaining the ethics and integrity through whistleblowing, transparency, anti-corruption and standards [50].

While whistleblowing systems are used mostly within the company or institution, it is important to enable the option of feedback for citizens while using the e-services platforms, as they increase the integrity level of the institution and help citizens to feel heard and to build trust that their opinion matters. In this way they become more open to change and to using these platforms. Despite a strong legislative reinforcement for both integrity and e-government the lack of citizens' trust and inclusion creates a gap in the cycle that hinders the performance of e-service backsliding into complex risks.

1.3.4. Risks of e-government

Even though e-government is a strong tool for ensuring integrity and lowering the corruption level and it has become a mandatory request from EU, it does not mean it is flawless. Its risks and issues can be divided in two: system failures and social "errors". System failures are represented by lack of proper infrastructure, errors and system breakdowns or cybersecurity vulnerabilities which develop into costly problems that however can be solved in a relatively short time. Social "errors" are the ones related to citizens and their willingness and possibility of using e-government. In this regard, Karina Radchenko talks about the negative impacts of a smart city and, among others, she highlights some important aspects such as the privacy concerns, risk of social marginalization and loss of social interaction [40] which are constant issues that can occur at any time no matter the how sophisticated the platform or system.

In terms of social interaction and privacy concerns, Romania and its lack of feedback or whistleblowing mechanism, are a real-life example that the digital transition is creating a barrier in the connection between institutions and citizens not only due to physical distance but also by creating the impression that citizens' opinion does not matter, whereas public sector must be citizen centric and fulfil citizens' needs as their main priority.

Another important risk, as presented by Baltac, is the digital divide that represents "the gap between people with effective access to digital and information technology and those with very limited or no access at all to the same things" [51]. This "plague", as the author names it [51], is something inevitable and it comes in many forms based on citizens' age, education, financial status or even region.

The digital divide can be seen in Romania just by taking the example of ghiseul.ro platform. Despite the growth of active users from 2011 to 2025, the adoption rate of the platform remains low considering the potential number of users. To explain this gap for a comprehensive understanding, an equation was created to estimate the adoption rate of the platform. In order to have an accurate rate, the equation is composed from the number of active users and the potential user base represented by the population aged 25 and above, meaning 13 932 215 citizens [52]. The average age when citizens begin to pay taxes is based on the assumption that they start working and managing administrative tasks after completing their education, around 25 years old.

$$\text{Adoption rate} = \frac{\text{number of active users}}{\text{potential user base}} \times 100 = \frac{2\,525\,848}{13\,932\,215} \times 100 = 18.129\% \quad (1)$$

The result, approximately 18.13%, is small when considering the strong legislative framework and the constant improvement of e-government and e-services. Additionally, out of the total of 19 064 409 citizens [53], more than 80% have access to internet [54]. However, despite the technological availability, this gap showcases a strong digital divide. The 18.3% adoption rate of the platform sets focus on important issues and barriers towards the adoption of e-government services that go beyond the lack of trust, absence of feedback and whistleblower mechanisms. Romania's aging population, the low-level digital literacy, lack of inclusive platforms for people with disabilities and elderly, hinder citizens from engaging with the change.

Despite its potential, like everything else, e-government has many risks and challenges. While infrastructure and system issues may arise due to lack of proper planning and weak strategies, they can also be solved through reinforcement. However, issues related to the citizens are critical,

constant and they are revealing that e-government development challenges goes beyond technicalities. Without a strong relationship between government and citizens where the trust, interest and integrity go both ways, the transition to e-government will not thrive.

This chapter explored the complex relationship between e-government, as an integrity enabler, integrity, as the condition for e-government to success, and citizens as the key actor for development. Despite being a facilitator for transparency, integrity and efficiency, the success of e-government relays on the human factor which becomes a barrier due to the inevitable gaps that are creating due to digital divide, lack of feedback opportunity, privacy concerns, institutional integrity perception, trust and corruption awareness. However, these gaps can be solved by putting citizens needs first and creating platforms for smart citizens them with smart citizens.

Consequently, this first part of the paper set light of the cyclic relationship between the main actors – integrity builds trust, trust provokes adoption and citizen participation in a substitute-interdependent relationship ensures a successful and durable change. Understanding the dynamics happening inside the cycle provides a smooth transition to the next chapter in comprehending the barriers and challenges of e-government and integrity through Romanian citizens' perspective upon the subject.

2. Citizens' Perception on Romanian Digital Public Services

This chapter aims to put the theory into practice. As expressed in the previous chapter, this paper highlights the importance of citizens perception as a significant missing link in the implementation process of digital transition and e-government employment. As professor Manda highlighted in his book, the *raison d'être* of public sector is fulfilling citizens' needs, however applicable to the current situation, when there is a gap between the design of the strategies and reforms and the reality of public sector implementation, as Heek explained, it results in the failure of government. Therefore, in order to achieve the goal of creating smart cities and the goals discussed throughout the years and followed to be implemented by Romania's Recovery and Resilience Plan, citizen's and their needs must be carefully considered.

As previously explained, the idea of "smart citizens" does not focus only on their knowledge, it highlights how significant their active implication in the governing process is. In this regard, this paper has expressed the need and importance of feedback provision. According to the Digital Decade Country Report (DDCR) from 2023, despite the reforms and strategies implemented, Romania is still underperforming in comparison to EU's average, highlighting that "only 24% of internet users use e-Government services, compared with the EU average of 74%" [55]. This low scoring as presented by DDCR is due to various and consistent problems such as user support, user interface, feedback, transparency, data security, issues that will be explained further in this chapter as well in the context of digital transition.

As briefly explained in the Methodology, in order to efficiently gather information from the citizens, an online questionnaire, created through Google Forms, has been distributed. A disclaimer is that hence the paper discusses the Romanian context and the answers will be provided by Romanian citizens, it was decided that, for their comfort and in order to receive accurate opinions, the questionnaire will be delivered in Romanian language, and it is further translated by the author.

The questionnaire was answered by 80 citizens and it contained 26 mixed questions both close and open ended, as well as Likert scales from 1 to 5 (where 1 represents the lowest level of agreement and 5, the highest level of agreement), in order to achieve a comprehensive understanding of their opinion. With the intention of maintaining the focus on the main subjects of the paper, the questionnaire was dedicated to 4 key topics:

- context and demographics;
- user's experience;
- trust and integrity;
- smart citizens and feedback.

2.1. Context and demographics

The questionnaire started by addressing general questions regarding the age group of the respondents, the area of living, the last finished education level, and their self-assessed level of digital competencies, in order to answer one of the research questions – *Do demographic factors such as age and digital literacy influence citizens' accessibility, or their willingness, towards using digital public services?*

The respondents were asked to express their area of provenience (figure 4), their age group (figure 5), and to self-assess their digital knowledge (figure 6). The level of digital competences was divided in three categories: basic level of knowledge (using a smartphone, using social media, internet surfing), intermediate level of knowledge (using various online platforms, using multiple online platforms, ability to manage basic cybersecurity practices, recognizing phishing, registering accounts, making online payments), high level (advanced use of digital services, ability to use MS Office, management of online security and personal data, all of the above).

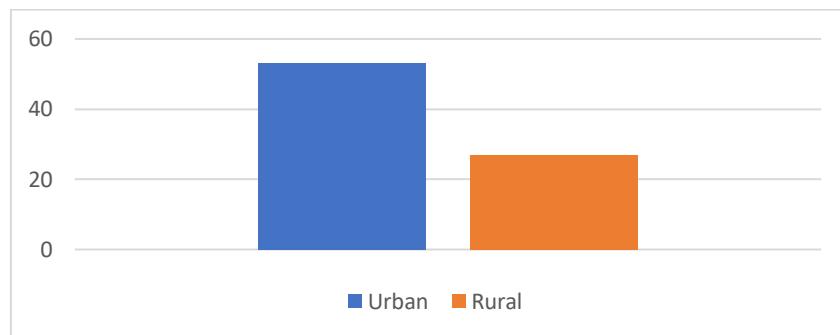


Fig.4. Area of living
Source: Author's own work

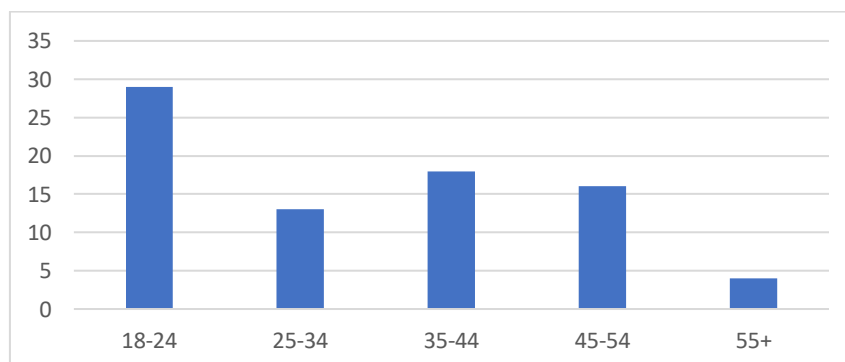


Fig. 5. Age group
Source: Author's own work

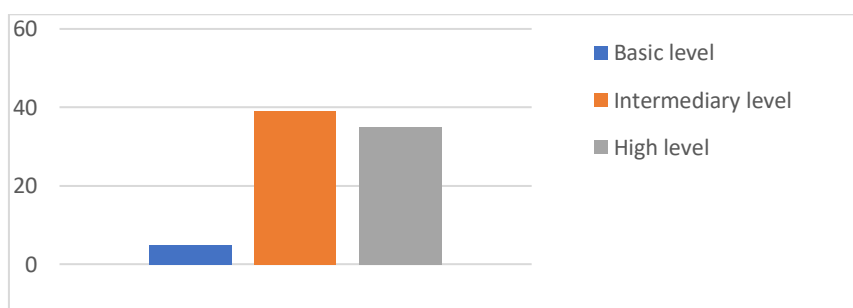


Fig. 6. Self-assessed digital competencies level
Source: Author's own work

The answers of this part were analysed under the assumption that people over 45 years old, people with less digital education and people from a rural area are more prone to not use digital public services. In this regard, out of the 80 respondents, 7 have claimed they do not use digital public

services, out of which – 4 coming from rural area and 3 from urban area, 4 respondents over 45 years old and 3 under, most of them with intermediary level of digital competences. Even though there is a slight difference between numbers, considering the small scale of this questionnaire, the answers express that despite having an intermediate level of digital competencies, and, as presented in the previous chapter, access to internet, people aged 45 and above as well as younger people from rural areas are prone to not use e-services. Unfortunately, according to the latest report of DDCR in spite of visible improvements regarding the digital transition “more than 72% of its population still lacks basic digital skills” [55].

On the other hand, from a critical point of view, 90% of the respondents, including: citizens over 45, citizens from rural areas, and citizens with basic level of digital competences, are using digital public services and their platforms. In this regard, it is significant to understand their experience as users and their opinions on how to improve the digital transition.

2.2. Users' experience

In order to find the barriers and understand the challenges, this section is focusing on the user's engagement with the digital public services and their platforms. According to the first section of the questionnaire, age group, knowledge and area of living to play an important part in the adoption rate of e-services, however it is important to understand the other factors that might hinder the engagement of the other categories of citizens. In this regard, this section looks upon the hypothesis that: a weak interface development can lead to a low number of people using the platforms.

Out of the 80 respondents, 64 of them are using at least one of the existing digital public services platforms as presented in the figure 7. As resulted in the answers and as expressed in the latest report of DDCR, ghișeul.ro still has the best performance and it is the most successful among citizens [55]. However, platforms such as Virtual Private Space (SPV) coordinated by the National Agency for Fiscal Administration, Electronic System of Public Procurements (SEAP/e-licitatie.ro), National Trade Register Office platform (myportal.onrc.ro) or e-guvernare.ro, are quite popular. Additionally, some respondents have claimed that they used CFR platforms owned by Romanian National Railways Company, suggesting a potential development in public e-transportation services.

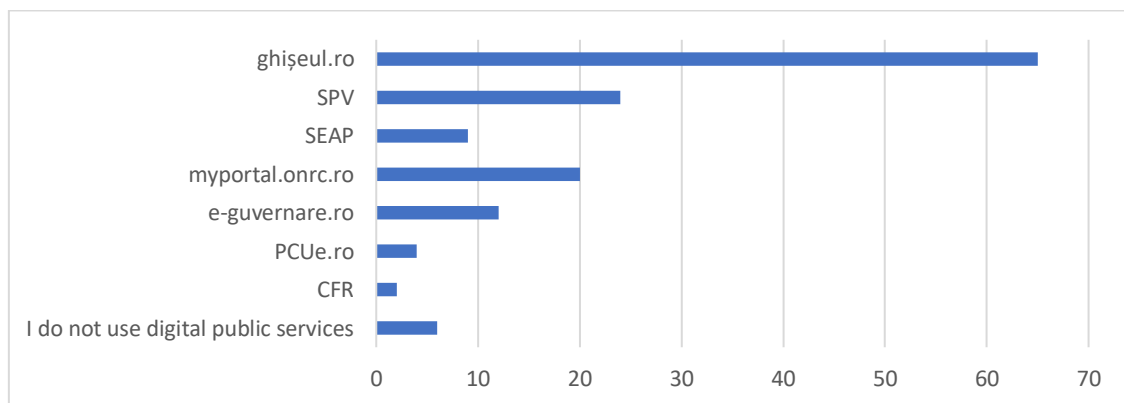


Fig. 7. Most used digital public services platform
Source: Author's own work

However, the question still remains: *why is there a low level of citizen engagement, on the national level, if people are open to digitalization?* In order to understand the possible barriers that hinder the engagement, the questionnaire considered factors such as the user interface and navigability of the platforms, including the frequency of errors encountered. In this regard, respondents were asked to rate from 1 to 5 how easy is to navigate the platforms, where 1 means very difficult and 5 means very easy (figure 8). Even though the answers have a positive tendency, most of them find the usability of the platform having an intermediate difficulty level making the user experience not quite intuitive. Yet, when considering the intermediate difficulty in the context of low adoption on the national level, it shows a high likelihood of the need for improvement of these platforms.

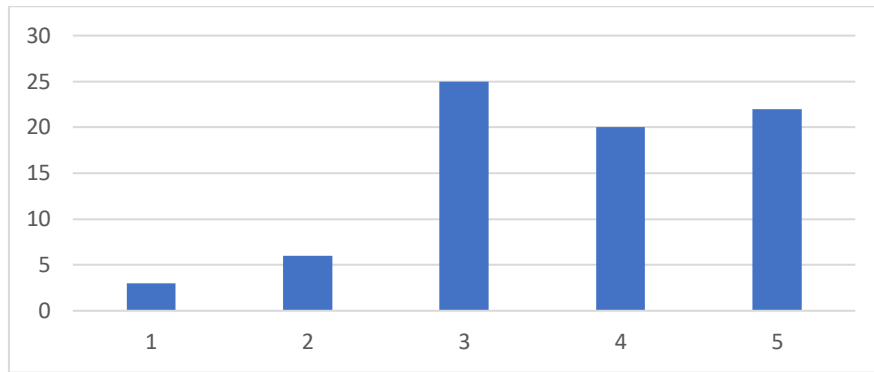


Fig.8. Platform navigability
Source: Author's own work

On the same note, the answers regarding the error frequency have showcased a significant gap that delays the adoption rate. On a Likert scale from 1 to 5, where 5 means high frequency of error occurrence and 1 mean low frequency of error occurrence, with a tendency towards low frequency of occurrence, respondent highlighted a constant level of errors when using the platforms (figure 9). The answers are based on the current world context where time and efficiency are very significant and the lack of stability and poor infrastructure of the platforms can lead to people not being able to use the digital public services to the fullest creating an inconvenience. In order to test this affirmation, respondents were asked if they have ever abandoned the platforms during their activity due to constant errors and 57.5% of them have answered “yes”. The frustration of wasting time and lack of fulfilment, can lead not only to a low citizen engagement but to deterring the trust between citizens and public institutions.

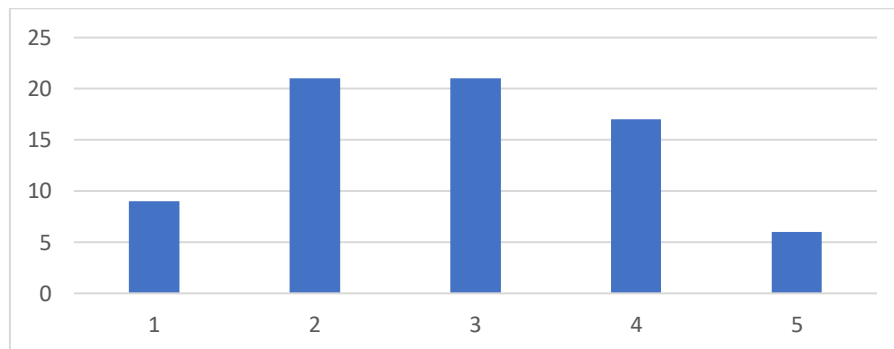


Fig. 9. Error encounter
Source: Author's own work

With the aim to have a clear understanding of the barriers and to find solution to overcome them, the respondents were asked to express the main problems that appear. Thus, the errors that occur the most are: the platform crashes and it suffers from constant lags, some pages do not exist, some functions in the menu do not work, the registering and getting access to use some of the platforms takes up to 10 days and is complicated and inefficient, interface is not user friendly. These continuous technical issues delay the adoption process and reduce the willingness of citizens to engage with these platforms due to inefficiency which, if maintained, creates discouragement and distrust in the process. Therefore, by solving these challenges the level of engagement will rise significantly.

Despite the errors, 91.3% of the respondents do consider that digitalization is a necessity and once it properly works it will be very useful. This high percentage is promising a positive outcome of the digital transition and a welcoming opportunity for improvement due to the interest and willingness of their engagement.

In order to understand the needs of the citizens, the respondents were asked to express what motivates them to use digital public services (figure 10) and what aspects hinders their willing to use these services (figure 11).

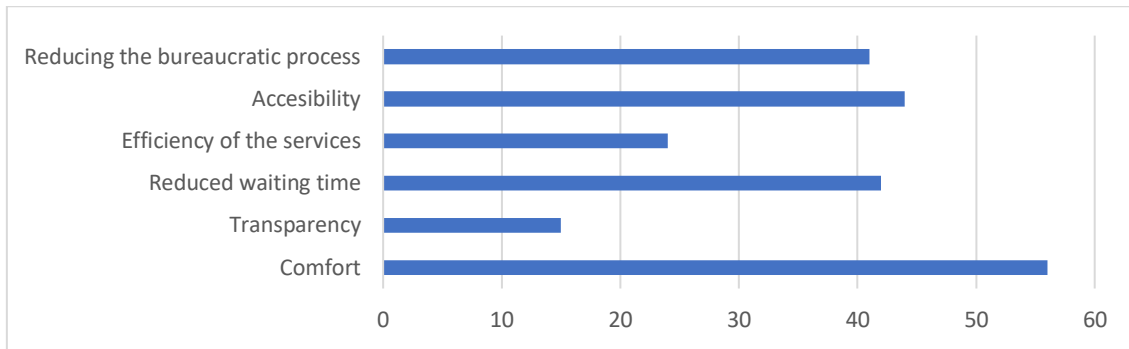


Fig. 10. Motives for using digital public services
Source: Author's own work

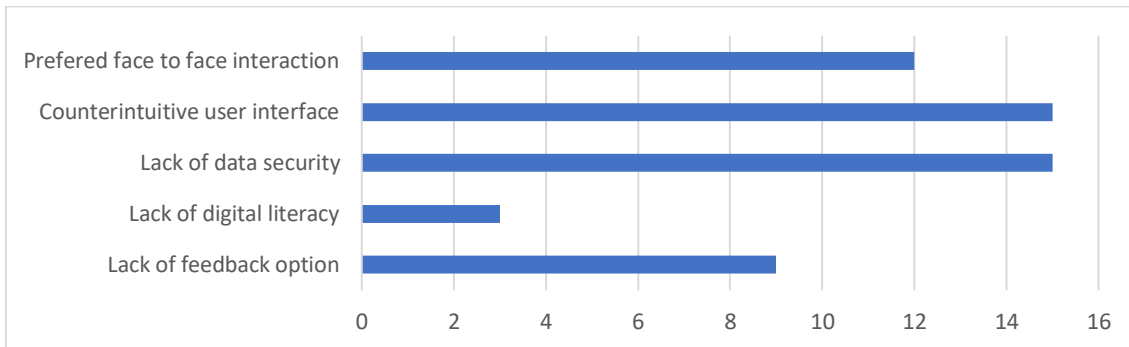


Fig. 11. Motives not to use digital public services platforms
Source: Author's own work

Digitalization is necessary due to the fast development and the fast track of living. With a population of 2.133.306 people as of July 2024 [56], Bucharest is considered an overpopulated city. Due to internal migration from the rural areas of Romania towards urban areas, Bucharest has encountered a population increase of 58.000 out of which 38.000 were from other counties of the country, as of 2023 [57]. Additionally, as part of Romania's Territorial Development Strategy (RTDS) 2021-2027, Polycentric Romania 2035 Strategy, highlights the lack of a polycentric network and directly addresses the challenges that comes with it [58]. By concentrating an excessive number of resources in certain areas, especially in Bucharest and other few developed cities, such as Cluj or Timișoara, influences internal migration and leads to overburdening the public services and the environment [59, 58]. From this perspective, until the strategy will be successfully implemented, people need an efficient way of performing their administrative and legal responsibilities. Therefore, a connected and efficient digital administration becomes a need that must be fulfilled in order to – reduce waiting time and bureaucracy from the comfort of their own home or office.

As explained in the first chapter, feedback plays a significant role in the Government to Citizens component. It is the factor that makes citizens feel seen and keeps them engaged. Additionally, the feedback offers an opportunity for constant improvement and creates trust between citizens and public institutions. Therefore, not taking advantage of this mechanism creates a disadvantage.

Another problem commonly expressed by the respondents is the lack of data security, or the fear that users' data would be used in other purposes than intended. The constant fear highlights a strong gap in the transparency between institutions and citizens, as well as a lack of accountability of public institutions regarding their actions.

In this regard, a notable example is the registration procedure with remote audio-video identification for the Virtual Private Space (SPV) coordinated and owned by the National Agency for Fiscal Administration (ANAF). Despite the long process of creating an account which can take up to 10 days due to the need of finding an open hour, date and the ANAF institution of affiliation without being directly attributed, the public institution does not take responsibility for the confidentiality of the online meet. Once the email of confirmation arrives the following

message is proclaimed: “For the visual identification service, you will use the Zoom videoconferencing application. The Zoom application is not controlled by the Ministry of Public Finance and, therefore, *it does not assume any responsibility regarding the confidentiality of personal data transmitted through this application*. The way in which the Zoom application treats the confidentiality of personal data is described here: [Privacy Policy](#)”. Even though through their policy Zoom does not save user’s data, the message expresses the lack of liability of the public institution, widening the gap between government and citizens and creating distrust.

Therefore, further in the questionnaire, respondents were required to answer questions regarding their trust level and the impact of e-government on their perceptions and on the public institution’s integrity.

2.3. Trust and integrity

As presented in the first chapter, trust is a key element when we discuss the development of public sector, especially in terms of e-government, because people tend to be held back by the idea of “unknown”, but they tend to hold onto what they trust. The previous results of the analysis, on demographics, context and user experience, take the barriers to another level connecting them with the trust perception of citizens upon public institutions. In this regard, earlier in the analysis it was shown that respondents are mostly hindered by constant technical malfunctions of the platforms and the lack of responsibility that public institutions show in the online activity.

This part of the questionnaire highlights the importance of the first two clusters of trust presented by Bouckaert: T1 – the “traditional” trust concept from citizens to public institutions and T2 – where the public sector relies on the citizens to respect their official obligations [33]. In this regard, the hypothesis of this section is that lack of trust in the public institutions leads to a hindered engagement of citizens with the e-government services.

Despite the high percentage of people using the digital public services, it is important to understand which type of services do they prefer (figure 12) and why in order to be able to enhance user satisfaction and to create future strategies for improvement. Therefore, respondents were asked to choose which type of services do they favour - “traditional public services”, “digital public services”, “both”, or “none”. The answers were divided as: 53.8% of the people said they prefer e-services, 11.3% prefer traditional services, 31.3% prefer both and 3.7% chose none of them. The varied answers highlight the importance of both types of services and the need of keeping both of them equally running in order to create inclusivity.

In terms of e-government development, the majority of choices preferring digital public services highlight a growing acceptance and engagement of digital services and e-government. However, the small percentage of people that prefer in-person interaction and the even smaller amount who do not prefer any type of these services, emphasizes on the need for continuous improvement. Through comparison, both services must implement what they lack from one-another in terms of transparency, security, waiting time, bureaucracy and efficiency, in order to create a sustainable institutional infrastructure

Additionally, from a critical viewpoint of the answers, the small percentage of people who have chosen none of the services as their preference, showcases the lack of fulfilment with both types of services and the lack of trust that these services will fulfil respondents’ needs. These gaps eventually lead to a vicious cycle of distrust – citizens do not trust the traditional means of public service delivery, which is coordinated by the public institutions, therefore they cannot trust the digital public service delivery as they are coordinated by the same entity.

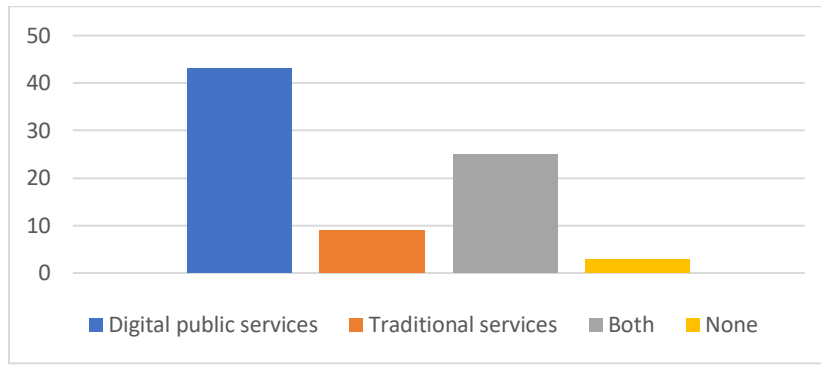


Fig. 12. Service preference
Source: Author's own work

Further in the questionnaire, respondents were asked to choose on a Likert scale, from 1 to 5, how much do they trust public institutions (figure 13) and how much they trust e-government (figure 14).

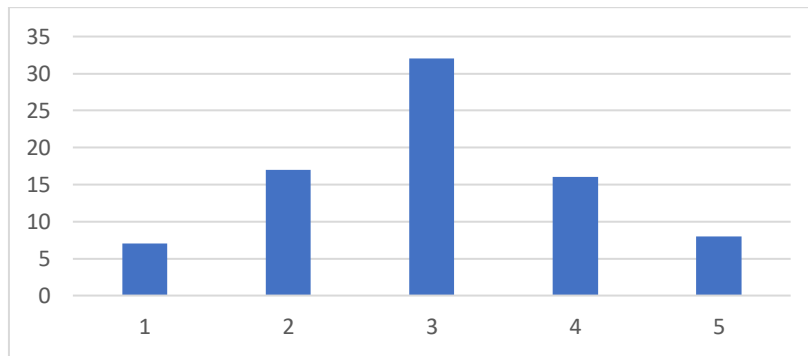


Fig. 13. Trust in the public institutions
Source: Author's own work

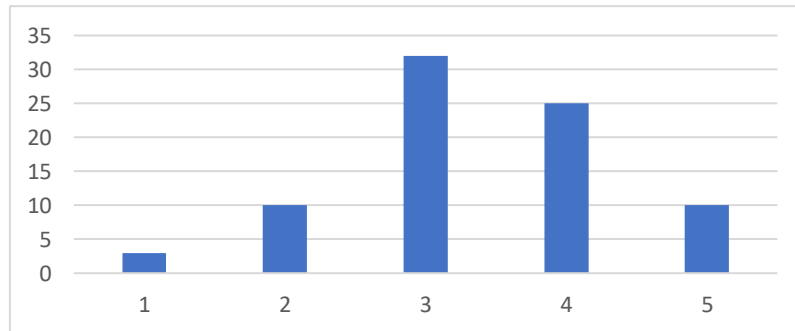


Fig. 14. Trust in the e-government
Source: Author's own work

By comparison, the results show a clear tendency towards trusting e-government and digital services more than the public institutions and traditional services. As presented in the previous section, people prefer convenience, less bureaucracy and efficiency all of which cannot be always found in the face-to-face services. On the other hand, the constant errors, lack of responsibility and data privacy concerns maintain a constant set back of the engagement, which demonstrates the small amount of people that do not trust e-government.

From an analytical point of view, in the previous example with ANAF online platform registration, emphasized on the lack of accountability regarding the privacy and data security; therefore, the deficiency of trust can be directed towards the poor integrity of institutions due to constant corruption concerns that eventually hinder the trust in the new approach. In this regard, when asked if the lack of integrity and the existence of corruption hinders their willingness of using e-government services, 47.5 % of the respondents have confirmed, stating the possibility

that e-services might deal with the same corruption challenges as the traditional ones, despite the higher level of transparency.

In order to test this idea, it is important to understand how respondents perceive the level of integrity in public institutions, defined in the questionnaire as honesty, transparency and ethics of conduct. As presented in figure 15, more than 46.3% of the respondents have stated that the public institutions lack integrity by choosing 1 and 2 values, more than 38.8% believe that there is an intermediate level of integrity in the public institutions and only 15.1% of respondents consider a high level of integrity.

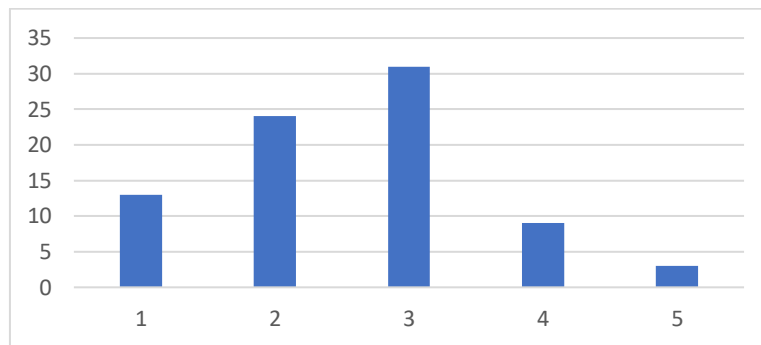


Fig. 15. The perception on integrity (honesty, transparency, ethics) of public institutions
Source: Author's own work

Therefore, the perception of integrity has a strong tendency towards a general distrust in the public institutions highlighting the importance of transparency, honesty, accountability and ethical conduct to fill the gap between citizens and government.

Considering the importance of citizens' beliefs and the higher level of trust in the e-government and e-services, respondents were asked to express their perceptions on the benefits of e-government on a institutional and cultural level by addressing the improvement of transparency of information and accessibility, level of integrity and level of corruption (figure 16).

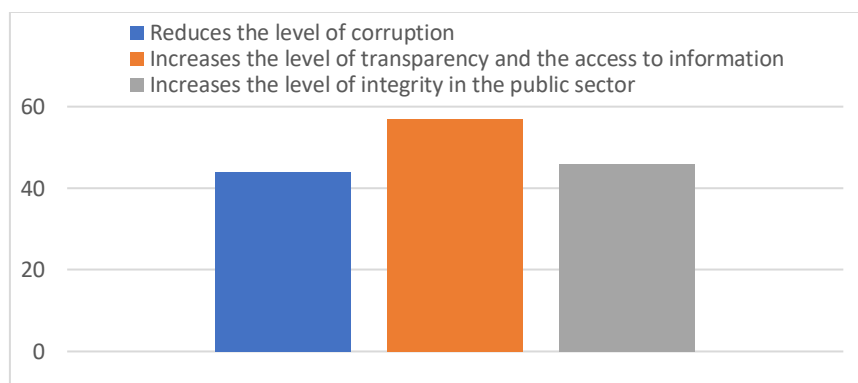


Fig. 16. Perceived benefits of e-government
Source: Author's own work

More than half of the respondents believe in the benefits of the digital transition and its potential of improving the governance process and their quality of life, by reducing the level of corruption, increasing the accessibility and transparency as well as the level of integrity. However, the other half of the opinions should not be ignored and they provide awareness of the possible barriers that the implementation might face.

Despite their importance, trust and integrity are not able to singlehandedly improve citizen participation. Even though 90% of the respondents are using digital services and their platforms; as presented in the first chapter, the adoption rate on a national level for ghișeul.ro is only 18%, and according to the latest DDCR report, the general adoption rate of digital services is only 27%

[55]. Therefore, further on, the questionnaire focuses its questions on the importance of citizen engagement in the implementation process of digitalisation.

2.4. Smart citizens and feedback

Building on the first chapter of the paper, the questionnaire has concentrated its questions on the importance of feedback as well. As previously discussed, a smart city requires smart citizens, that not only have the necessary knowledge, but who are interested in actively engaging with the government. In this regard, feedback is a key mechanism in this interaction.

Unfortunately, as previously explored, not all Romanian platforms for digital public services offer the possibility of providing feedback. Additionally, traditional services are not offering enough importance to this matter as well. According to the answers (figure 17), 57.5% of the respondents felt ignored when trying to provide feedback about the service performance despite the means of delivery. Furthermore, more than 80% consider the means of providing feedback a good motivation for their willingness to collaborate and engage with the public institutions.

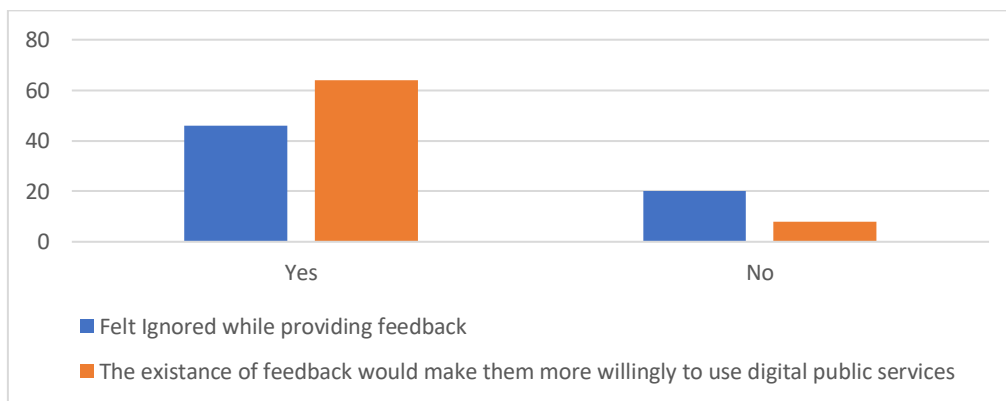


Fig. 17. Feedback perception
Source: Author's own work

Moreover, when asked what would improve their experience and what would make them more willing to use the e-government platforms and services, respondents have ranked four options based on their importance: the need for a more intuitive user interface, a better data security, feedback opportunity and user guides (figure 18).

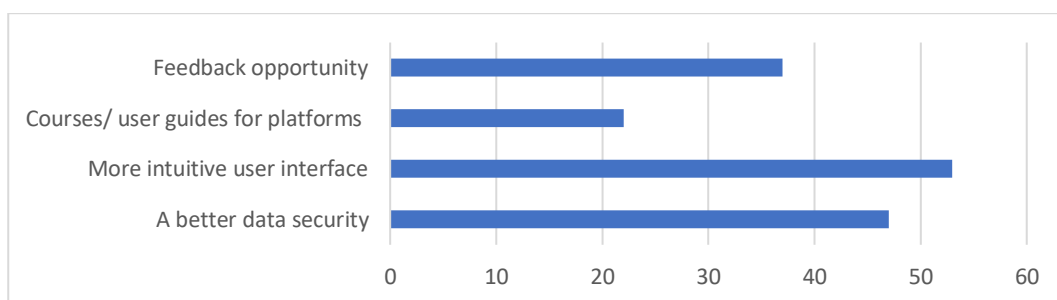


Fig. 18. Improvements of user experience
Source: Author's own work

Despite being ranked third among the responses, feedback mechanisms are vital for the development of digital public service platforms. As explained in the previous chapters, feedback is a significant tool for G2C communication by making citizens feel heard, building trust between citizens and public institutions, and supporting continuous service improvement. In this regard, feedback has the potential to influence and solve the other priority areas for improvement identified by the respondents – the need for an intuitive user interface, upgraded data security and accessible training through courses and user guides.

A user-friendly platform, along with user tutorials and training materials, are important factors that can diminish the digital divide. While it is a barrier that cannot be completely eradicated, the openness of the respondents from elderly age groups, rural areas and less tech-savvy individuals, suggest that these types of improvements can increase the service quality and can become a motivation for all groups of citizens to engage. Additionally, intuitive platforms lead to user's comfort, which as presented by questionnaire answers – it is one of the main reasons behind respondents' interest in using digital public services and their platforms (figure 10). However, in order to be able to understand the needs of less tech savvy groups and the performance of the platforms, a strong and ongoing feedback loop is highly needed.

The request for a better data security is directly bonded to the trust level in public institutions and institutional responsibility. Data security as an individual technical problem can be relatively easy improved through diverse tools such as: privacy policies, transparency protocols, two factor authentication, ROeID authentication, as well as compliance with cybersecurity laws, such as Law no.506/2004 regarding the processing of personal data and the protection of privacy in the electronic communications sector [60].

Unfortunately, the lack of accountability and the constant uncertainty create another barrier behind the technical barrier, that is even harder to eradicate. Accordingly, in spite of the existence of the previously mentioned tools, without maintaining a transparent, trustworthy and responsive communication at the G2C level, through active feedback mechanisms and evident institutional action, technical solutions remain weak in the face of trust barrier. Thus, the low level of trust along with the lack of institutional responsibility are affecting the perception of data security improvements and they become significant factors that hinder e-government implementation.

2.5. Questionnaire results

The primary idea of the study has circled around the virtuous cycle presented in the first chapter highlighting that the citizens represent the link that allows e-government to develop efficiently. The presumption was based on the relationship that integrity would create trust, which would increase citizens' willingness to adopt new practices such as digital public services and their platforms as part of e-government development. Additionally, by maintaining citizens' interest in e-government and their activity constant, through providing feedback and engaging with the platforms, is creating a balanced environment for e-government to grow and to constantly improve.

The answers received from the respondents of this questionnaire have highlighted a new perspective on the digital transformation challenges, showcasing both strengths and weaknesses in Romania's e-government environment. Even though, the respondents claim to be ready for a digital transition and eager to spend less time with bureaucracy from the comfort of their own home or office, their trust level remains low in both traditional and digital services due to lack of transparency and responsibility of institutions. Additionally, the infrastructure for the change is not finalised yet creating concerns over data security and bureaucratic ineffectiveness generating another significant challenge.

Digitalisation is a transitional process that must be done incrementally, but with a certain compulsion in order to be effective. It is a process beyond the familiar patterns that citizens are used with. In countries such as Romania, that still fights with corruption, lack of integrity and accountability of public institutions; the idea of interacting in person, submitting a file and receiving a receipt, has become a cultural procedure that goes beyond age, as a result of public institutions being granted immunity over citizens' needs.

In this regard, one of the main problems which resulted from the answers is the lack of proper communication between citizens and public institutions through feedback mechanisms and the lack of accountability of public institutions, which eventually lead to frustration and distrust, creating inefficiencies. Means of communication and feedback should be available for both traditional and digital services as they play a crucial role in improving the services. Therefore, by

strengthening the connection with citizens through feedback the trust can be rebuilt resulting in a better engagement.

On the other hand, despite the high level of self-assessed digital literacy, the digital divide still remains an issue as respondents from all age categories, predominantly 45+ have highlighted that the platforms are not user friendly and require an improvement on this matter, as well as guides and courses on how to use the platforms. On the same note, respondents have concerns about inclusivity regarding the elderly and people with disabilities (figure 19), which leads us to the inquiry – *Do digital public services need to replace the traditional services? If yes, can they have full inclusivity in terms of citizens' needs?*

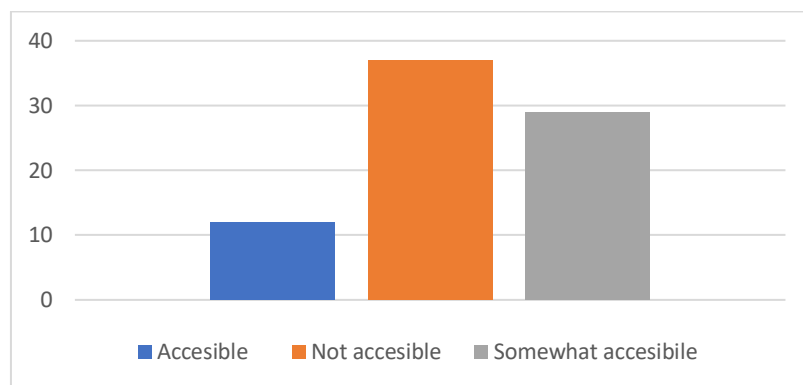


Fig. 19. Accessibility of digital public services for older individuals, less tech-savvy individuals and individuals with disabilities

Source: Author's own work

Emphasizing on the importance of feedback through this questionnaire and analysing the reactions of the respondents, the answer to the first questions is *no*. The digital public service and e-government will not be able to replace traditional public services and the traditional interface of public institutions. This perspective can be caused by two general motives – cyber security (having important documents in a tangible form is somewhat safer and helpful in case of a cyberattack) and the choice of older individuals to use the in-person services. On the other hand, yes, the digital services must be inclusive for less tech-savvy individuals and they would be a significant help for people with certain disabilities. Therefore, the more we improve the features of digital services platforms and provide comprehensive guides on how to use them, based on the needs of willing citizens, the more willing citizens will engage and use them. Therefore, the in-person interaction will be used by less people and it will increase efficiency.

Another significant problem highlighted by the respondents is the constant errors that occur, highlighting the poor execution of the platforms. This can be due to the rushed implementation process. As explained before, digitalisation must be done with a certain compulsion, which can sometimes create pressure on the public institutions to implement. An example in this regard is Romania's National Recovery and Resilience Plan. Chronologically, the plan was approved by the Council of European Union at the end of 2021 with a consistent fund of 28.5 billion € [61] and it was followed by a revision at the end of 2023, which incorporated new objectives (21.8% of the plan fostering digital transition) [61]. In August 2024, the minister of Research, Bogdan Ivan has announced the target of digitalising 36 public services by the end of 2025 [62]. Despite the comprehensive set of reforms and objectives, the short time period of implementation, along with the lack of responsibility, rushed execution, the necessary administrative capacity, and lack of proper testing, lead to delays in the implementation process and malfunctions of the platforms. This matter represents another significant reason for the digital transition's setbacks, limiting its efficiency and effectiveness and undermining public trust in the institution's capacity of fulfilling their needs.

Due to these impediments, Romania still struggles in terms of e-government implementation and ranks among the lowest in European yearly reports, despite the constant efforts. In this regard, it is necessary to evaluate Romania's implementation process in comparison with developed

countries from EU and outside of it, that have a high performance in the e-government area, in order to surpass the challenges that its facing.

3. Comparative Analysis and Policy Recommendations

While the previous chapter offered significant insights regarding the perception of citizens concerning the barriers that hinder e-government implementation; this chapter shifts the attention towards applicable solutions. In this regard, this chapter will provide a comprehensive analysis of how other countries have addressed similar challenges as Romania and what transferable strategies they have implemented in order to support their digital transition.

Although the digitalisation process across EU was largely driven by the community's directives, the key elements that make the difference between rankings are public trust, infrastructure, time of implementation and institutional responsibility. As resulted from the previous chapter, these significant areas must be improved by Romania.

This chapter begins with contextualising Romania's position in EU and Global rankings by analysing important digital governance benchmarks such as: E-Government Development Index (EGDI) along with E-Participation Index (EPART), Digital Economy and Society Index (DESI) and European Quality of Government Index (EQI). Furthermore, this chapter will explore countries with better rankings than Romania, but similar challenges and backgrounds, which can offer valuable insights in terms of solutions for a more efficient implementation – Bulgaria, Germany, Türkiye. By drawing lessons from these actors, this chapter aims to offer feasible recommendations for Romania, in order to overcome the existing barriers.

3.1. Romania in EU and Global rankings

While acknowledging that the previous chapter showcased the results of a small-scale questionnaire and the limitation of generalising the results, it is important to analyse Romania's performance within key global and regional indexes. EGDI, DESI, EPART and EQI offer a significant overview of the digital maturity of the country and its institutional integrity.

3.1.1. E-Government Development (EGDI) and E-Participation (EPART) Indexes

EGDI “incorporates the access characteristics, such as the infrastructure and educational levels, to reflect how a country is using information technologies to promote access and inclusion of its people” [63]. The EGDI is a composite measure of three important dimensions of e-government, namely: provision of online services, telecommunication connectivity and human capacity [63]. Additionally, through its updated formula, EGDI encompasses E-Participation Index (EPART) as well offering an even more comprehensive understanding of countries' performance.

The ranking in EGDI is based on group rating classes. In Table 1 and 2, it is shown that Romania is part of the very high group rating class (VHEGDI). The “very high” EGDI values range from 0.75 to 1.00 inclusively [63]. This group is further on divided in four sub classes – V1 (lowest), V2, V3, VH (highest), meaning that Romania is part of the lowest class and it can easily decrease in class. However, e-government development has decreased with 15 points since 2022, its e-participation worsening with 4 points, highlighting significant deficiencies expressed by the respondents of the questionnaire, such as the need of improvement in user interface, lack of responsiveness of platforms and authorities, need for guides and courses for digital skills improvement.

The low EPART performance, reflects the limited feedback channels and mechanisms corresponding with respondents' dissatisfaction with institutions not valuing their opinions, and the absence of transparent and meaningful digital interaction, which eventually leads to the preference of traditional public services and lack of trust in the public sector.

Table 1. Romania's EGDI performance 2022-2024

E-Government and Development Index	
2024 Rank	72
Group	VHEGDI
Rating Class	V1
2022 Rank	57
Change	-15

Source: <https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/140-Romania>

Table 2. Romania's EPART performance 2022-2024

E-participation (2024 EPART)	
2024 Rank	58
2022 Rank	54
Change	- 4

Source: <https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/140-Romania>

3.1.2. Digital Economy and Society Index (DESI)

Digital Economy and Society Index, shows the digital progress of the member states of European Union highlighting the challenges and gaps that each country has in terms of digitalization [64]. DESI plays a very significant role in this analysis as it clearly shows the level of digital skills, digital infrastructure and digitalisation of public services, among others [64]. Tables 3 and 4 showcase the underperformance of Romania in the stated areas, with small exceptions. However, the low scoring corresponds with respondents' answers in terms of the quality of digital public services and the need for education and more user-friendly platforms.

Table 3. Romania's digital skills performance 2021-2023

Digital skills	Romania DESI 2021	DESI 2022	DESI 2023	EU DESI2023	EU 2030 target
Internet use	76%	82%	84%	89%	
At least basic digital skills	NA	28%	28%	54%	80%
Above basic digital skills	NA	9%	9%	26%	
At least basic digital content creatin skills	NA	41%	41%	66%	
Enterprises providing ICT training	6%	6%	9%	22%	20 million approx. 10%
ICT specialists	2.4 %	2.6%	2.8%	4.6%	
ICT graduates	6.3%	6.7%	6.9%	4.2%	

Source: European Commission, Digital Decade Country Report 2023 Romania, <https://comunic.ro/wp-content/uploads/2023/09/DD-Country-report-RO.pdf>

Table 4. Romania's digitalisation of public services performance 2021-2023

Digitalisation of public services	Romania DESI 2021	DESI 2022	DESI 2023	EU DESI2023	EU 2030 target
e-Government users	NA	NA	24%	74%	
Digital public services for citizens	NA	44	48	77	100
Digital public services for businesses	NA	42	45	84	100
Pre-filled forms	NA	19	41	68	
Transparency of service delivery, design, and personal data	NA	41	44	65	

User support	NA	72	68	84	
Mobile friendliness	NA	75	77	93	
Access to e-health records	NA	NA	57	72	100

Source: European Commission, Digital Decade Country Report 2023 Romania, <https://comunic.ro/wp-content/uploads/2023/09/DD-Country-report-RO.pdf>

3.1.3. European Quality of Government Index (EQI)

The European Quality of Government Index (EQI) was developed by the Quality of Government Institute of Gothenburg University and it represents the only measure of institutional quality available at the regional level in the European Union. The institute is defining the institutional quality as “a multi-dimensional concept consisting of high impartiality and quality of public service delivery, along with low corruption” [65].

EQI focuses on “capturing average citizens’ perceptions and experiences with corruption, and the extent to which they rate their public services as impartial and of good quality in their region of residence” [65], ranking it between -3 – very low quality of governance and 3 – very high quality of governance [66]. In this regard, Romania’s performance mirrors the answers from the small-scale questionnaire, as the respondents indicated a certain fear of misuse of personal data, as well as the concerning lack of institutional accountability. The results indicated by both the questionnaire and EQI, suggest that the digital governance of Romania is still undermined by a weak integrity and low perceived legitimacy.

Table. 6. Romania’s EQI average 2021-2024

EQI by region	2021	2024
North-West	- 1.403	-1.02
North-East	- 1.74	-1.432
South-East	- 1.611	-1.5
South - Muntenia	- 1.398	-1.433
Bucharest - Ilfov	- 2.144	-1.542
South-West Oltenia	- 1.434	-1.183
West	- 1.18	-1.222
Average	- 1.559	-1.3331

Source: <https://eqi-map.qog.gu.se/>

3.2. Bulgaria

Romania and Bulgaria have always been grouped together in the European reports due to the common geopolitical context and common challenges throughout the years regarding public sector development and corruption encounters. Even though both countries have successfully completed the Cooperation and Verification Mechanism in 2023 and they have included comprehensive reforms in order to increase their overall performance as European Union member states, the two are still underperforming countries. However, in terms of digitalisation, e-government, digitalisation and effectiveness related statistics, even though they both rank among the last, there is a slight difference between their performances.

Table.7. Bulgaria’s EGDI performance 2022-2024

E-Government	
2024 Rank	55
Group	VHEGDI
Rating Class	V2
2022 Rank	52
Change	-3

Source: <https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/26-Bulgaria>

However, being part of VHEGDI means that both Romania and Bulgaria, have a good infrastructure, public service delivery and human capital, on paper. However, their actual

performance is the real-life representation of Heek's government failure model. Yet, the significant difference in the rank drop highlights a stagnation and an unsuccessful delivery of the targeted results in Romania's case, whereas Bulgaria's smaller drop in ranking indicates a more stable performance.

In spite of their performance, neither of the countries did not complete the Member States questionnaire (MSQ) through which the United Nations evaluate the e-government implementation in terms of innovation and legislative framework, suggesting that both Romania and Bulgaria must increase their transparency level and institutional responsibility.

According to DESI overview of 2022, despite being ranked last, Bulgaria scored slightly better than Romania with 37.7, while Romania scored 30.6. Both countries must make improvements in terms of connectivity, human capital, integration of digital technology, and digital services. However, in terms of the last topic, Bulgaria's performance is much better scoring 51.9, than Romania's core of 21, while EU average is 67.3.

Since 2023, the European Commission has integrated DESI in the State of Digital Decade report as part of the Digital Decade Policy Programme 2030, in order to comprehensively measure the performance of EU, countries based on digital skills, digital infrastructure, digitalisation of business and digitalisation of public services indicators, offering a more complex country overview [67]. In this regard, according to DESI 2024 report, both countries have a low take-up of digital public services, digital skills, e-ID systems, e-Health, and digital inclusion, however, despite the challenges, Bulgaria is ahead of Romania in implementation (figure 20 and 21). According to the report, "there have been rapid, positive developments in the field of digital democracy and e-Government over the past 2 years in Bulgaria" with "an overall e-Health maturity score of 77.2 in 2023, close to the EU average of 79.1" [68]. Additionally, in terms of digital skills, "Bulgaria has put in place a significant number of measures for training programmes in line with recommendations to upskill and reskill the workforce and address adult learning needs" [68].



Fig.20 Romania's performance according to Digital Decade targets, Figure 21. Bulgaria's performance according to Digital Decade targets

Source: <https://digital-strategy.ec.europa.eu/en/library/digital-decade-2024-country-reports>

The difference in the performance between Romania and Bulgaria is reflected in the national digital strategic roadmap. While Bulgaria is committed to meet the Digital Decade targets, and being citizen-oriented, it lacks legislative depth in some areas and it needs to broaden its approach, however, its execution is strong. On the other hand, Romania has a strong legislation but it is weak in execution and it has a low national level commitment which limits its effectiveness.

Unlike Romania, Bulgaria has focused on strengthening the interoperability framework and centralising the government portals. As presented in the questionnaire, Romania has a weak institutional coordination, which makes the implementation fragmented as explained in the DESI 2024 report – "although the formal adoption of the roadmap at the national level, which is crucial for the country to fully commit towards the Digital Decade objectives and targets, is still pending" [69]. Additionally, this fragmentation can affect the citizen's trust and the efficiency of public services.

In accordance with the European Interoperability Framework (EIF), as part of the Communication COM ((2017)134) from the European Commission adopted on 23 March 2017 [70], Bulgaria has implemented Bulgarian National Interoperability Framework (NIF). According to the legislation, NIF represents “promotes the development of interoperable systems that facilitate data exchange and collaboration between different organizations and levels of government”. By providing a common language and a framework, NIF ensures the compatibility of ICT solutions, security, and reliability, which enhances the efficiency of public services and improves the quality of Bulgarian and EU citizen outcomes. “The framework aims at identifying and developing building blocks in the field of eGovernment which can be reused in different projects, instead of investing in repeatedly creating multiple ad-hoc solutions in different administrations” [71].

Additionally, in 2022, the Ministry of e-Governance of Bulgaria has launched “Development and Implementation of Reference Architecture for Interoperability” (BRAI) as part of the “Good Governance” programme. The project contributes to the Single Digital Market objectives of the European Commission and it makes it significant for digitalisation performance as it reduces wasteful and inconsistent digital systems by creating a common structure for all governmental IT solutions [71].

As explained throughout the paper, citizens’ experience with the platforms and their opinion matters the most. When applying the questionnaire, many Romanian respondents, have expressed the need for knowledge and understanding how the platforms work and the need for connectivity. As previously expressed, the digital divide can be combated but the new generation can be taught how to fully take advantage of the ease and efficiency that digital public services provide. In this regard, The Ministry of Education and Science of Bulgaria has created the Digital Backpack, “an electronic platform to help solve the challenges of remote, face-to-face or hybrid learning” [72] starting from digital educational content, virtual classrooms, assessments, without losing focus on the individual relationship between teachers and students [72, 71].

Thus, despite not being a top tier country in terms of digital transition, Bulgaria is the perfect example that with the right focus targets can be achieved. While Romania focuses on perfecting the legislative framework and fulfilling the EU requirements more than fulfilling citizens’ needs, Bulgaria, even though encounters similar difficulties as its neighbour, keeps the focus upon its citizens and emphasises on a proper management of EU funds and education.

3.3. Germany

When asked to indicate a country, as a model that Romania should follow in terms of digitalisation and e-government, many respondents of the questionnaire have chosen Germany. It is known that Germany is seen as an opportunistic and desired destination for Romanians in terms of work and quality of life. As of 2022 reports, Romanians make up largest minority coming from an EU state in Germany of over 800 000 people [73].

Despite not being a digital leader like Estonia or Denmark, Germany is the real-life example that in spite of having advanced infrastructure, being economically strong, and being a top tier country in world and EU reports it still struggles to pursue the digital transition. Similarly to Romania, Germany deals with strong barriers regarding trust and accessibility issues, slow reforms despite resources, rigid public administration, overcomplexity of legislation and lack of interoperability between public services and between institutions [74]. However, the country makes great efforts towards eradicating these barriers with citizen-centred initiatives and innovative reforms and actions.

According to DESI 2024, the German Recovery and Resilience Plan (DARP) allocates “EUR 13.5 billion (48% of the total allocation) to the digital transformation of the country, of which EUR 12 billion directly contribute to achieving the Digital Decade targets” [74] highlighting the strong interest into developing the potential of the country on this matter.

Unlike Romania and Bulgaria, Germany has filled in the Member States Questionnaire (MSQ) for the United Nations E-Government Survey 2024 [75] indicating a higher level of transparency and responsibility than the other two states. In this regard, the results of the questionnaire highlight a strong focus on gaining citizens' trust and fulfilling their needs in order to help the implementation process. The country admits that currently, as of 2024, the national e-government strategy has a national focus and it will be aligned to regional or global guidelines, recommendations or goals (e.g. United Nations, African Union, European Union, OECD) after further development, indicating the importance of the national strategy to analyse the performance and the needs of the country, fill the existent gaps, before answering the global requirements.

In this regard, while facing a low adoption of e-government and digital public services, Germany has focused on education and innovation. Considering that in 2023, almost 23 million people between 40-59-year-old made up the largest age group in the country, followed by the next-largest age group of 65 years and older, being almost 19 million [76], Germany has made necessary steps to reduce the barrier towards digitalisation provoked by this matter:

- Digitaler Engel (Digital Angel) represents a project that features both online and mobile teams of advisers across Germany, who teach older people the digital skills needed for everyday life in an easily accessible way and strengthen local support structures. The project is actively working on teaching smartphone and table basics, digital estate and e-prescription [77, 75];
- Künstliche Intelligenz (KI) für ein gutes Altern (Ageing well with AI) is a project that takes into consideration that older people, too, come across procedures and technologies that are based on artificial intelligence in their everyday lives and have questions regarding their functioning, risks and opportunities [75, 78].

These two relatively simple measures, not only that increase the inclusivity perception level, but increases the trust level as well, by reducing the digital divide repercussions.

In terms of legislation, similarly to Romania, Germany has a complex legislative framework that sometimes can be a barrier itself. However, in terms of trust and citizens, the country's legislation reassures its citizens about their rights and safety. In this regard, in the Berlin Declaration on Digital Society and Value-Based Digital Government, discusses about "trust and security in digital government interactions, safe navigation and authentication, easy use of widely accepted and secure electronic identification conforming to European standards (e-ID), allowing securely access to public, private and cross-border digital services" [75]. In 2017, Germany became the first European Union (EU) member state that has successfully completed the notification of the electronic identification (eID) in accordance with the European Regulation on Electronic Identification and Trust Services (eIDAS Regulation) [79].

As presented in the beginning of the paper, the efficiency of digitalisation and e-government development are strongly related to citizens' perception, trust, and feedback, which Romania lacks according to the questionnaire responses and its overall performance. In this regard, Germany has introduced multiple options for citizens to express their opinions and indicate their problems in a user-friendly manner. Its initiatives, has taken Germany from the 57th position in 2020, to the 4th position in 2024, according to e-participation index which evaluates all United Nations member states. Among the initiatives Germany highlights in the MSQ the following [75]:

- E-petition, (<https://epetitionen.bundestag.de/>), which allows people to submit their petition directly and easily on the website with the assurance that "it doesn't matter whether it's a personal request or you want to solicit support for a cause of general interest, it only takes a few steps" [80];
- Continuous feedback regarding the usefulness of the information provided and additional advice to improve the user experience, as part of the Federal Portal [75, 81].

In order to reduce the interoperability barrier, in 2021, the Federal Ministry of the Interior, Building and Community (BMI), the State of Hesse, the Free and Hanseatic City of Hamburg as well as stakeholders from the tech scene, science and civil society, have founded GovTech Campus Deutschland [82]. This initiative promotes cooperation between administration, science

and the technology scene aiming to facilitate the transfer of GovTech solutions into administration [82]. Their target is to develop and apply digital technologies and solutions for public sector by connecting the federal, state, and local governments with the most innovative players in the tech scene, civil society, the open-source community, and applied research [83]. This initiative reflects Germany's strategic shift toward collaborative, innovation-driven governance, offering a practical model for Romania to reduce interoperability gaps through stronger public-private partnerships and open digital ecosystems.

According to the 2024 Digital Decade Report, "Germany has untapped potential to contribute to the EU's digital decade target on digital public services for citizens, while demonstrating a very limited dynamic" by ranking 75.8, below the EU average of 79.4 [74]. However, it ranks third last in the EU in terms of e-government usage over the last 12 months (62.2% against the EU average of 75.0%) [74]. In order to increase its performance, in 2017 Germany adopted the Online Access Act, or "Onlinezugangsgesetz" (OZG) as the fundamental legislation behind the digitalisation of public services [84]. Through this framework, Germany has proposed to digitalise 575 public services with a strong focus on user-friendliness factor by the end of 2022 [74, 84]. However, due to diverse barriers the transition has been delayed. Thus, at the beginning of 2023 only 122 services were available nationwide based on the OZG and by April 2024, the number reached 157 [74].

Although the goal has not been fully met, Germany showed perseverance and amended the Online Access Act in 2024, resulting in OZG 2.0. The updated version of the act sets focus on important barriers that might have altered the fulfilment of the first objective – fragmented public administration, lack of transparency, weak data control and security, low digital availability and accessibility [85]. The OZG 2.0 highlights that ongoing evaluation, flexibility, determination and connectivity are essential to maximise the efficiency and uptake of digital services in Germany.

Germany is the real-life example that even developed countries face difficulties, despite the existence of necessary resources and infrastructure. Similarly to Bulgaria, Germany has invested in digital literacy and has citizen-centred initiatives. Additionally, by filling in the MSQ and successfully implementing e-ID shows a higher level of transparency and institutional responsibility, which eventually leads to a higher level of trust as part of the Trust-Integrity-Adoption Cycle presented in the first chapter of this paper.

3.4. Türkiye

In spite of not being part of the European Union, Türkiye is a significant regional example for the EU states in terms of pragmatic digital transition of the public services and introduction of e-government. As part of OECD, it participates in EU aligned digital governance reviews and it often aligns with EU requirements such as single access point or digital identity standards.

The digital transition for Türkiye started as a dual objective – to reduce the corruption and division of the country and to be able to become an EU member state. In this regard, Türkiye started its digitalisation roadmap in the early 2000s with fragmented initiatives such as: E-Europe+ initiative, the National Individual Information System, the Tax Collection Agencies Automation System and the Turkish National Information Infrastructure Main Plan which switched the focus of political thinking towards e-governance [86].

In 2004, Law No. 4982 was introduced as the legal foundations of e-governance that accelerated the transition, followed by Turkish ministries and state bodies beginning to prepare for the transition to e-governance by 2005 [87]. A total of 35 different government agencies started to promote 334 various services in this period. The Turkish state's digitization experiments finally came together in 2008 into a coherent system, known to the Turkish public as e-Devlet Kapısı (e-Government Gateway) [86, 88]. Through its constant efforts Türkiye proves that a country doesn't need to be top-ranked or to have a stable political and economic environment to create a trusted, efficient, and widely-used digital public service platform.

e-Devlet is a one stop portal with over 1000 services for both citizens and business. The number of e-Devlet users reached to 66.753.526 in 2024 out of 87.473.805, with an increase of approximately 4% in 2024, compared to 2023 [89], indicating a reasonable level of trust and engagement with a tendency for growing.

In terms of interoperability, the objectives of the National e-Government Strategy and Action Plan (2016–2019) along with the National Smart Cities Strategy and Action Plan (2020-2023), aimed to enhance coordination among different government institutions to provide seamless services, as well as to increase the stakeholder engagement as well as public-private partnerships [88]. In this regard the number of institutions that are part of the e-Devlet raise from 291 in 2016, to 1026 in 2023, to 1089 in 2025 [88]. Through its collaborative initiatives, Türkiye becomes a benchmark for clear, centralized, accessible platforms.

Türkiye is the example that constant improvement and valuing citizens' perception of the services quality, leads to an efficient digital transition. In this regard, the country has introduced throughout the years e-participation platforms and continuous feedback evaluation actions [88]:

- national e-participation platform, also known as “Presidential Communication Center (CİMER)”, represents an intuitive platform where citizens can interact with the state regarding their interests and complains, with a response timeframe legally mandated within 15 days for information requests and 30 days for complaints or suggestions [90];
- Disinformation Reporting System helps citizens to verify the accuracy and truthfulness of information and assists to counter the misleading and fake news that has been spreading among the general public [91];
- Mobile e-government portal availability, increases not only the e-participation but also the accessibility [92];
- “e-Devlet Satisfaction Survey”, in which the opinions and suggestions of 1 million users were received through the e-Government Gateway web page and mobile application (figure 22).

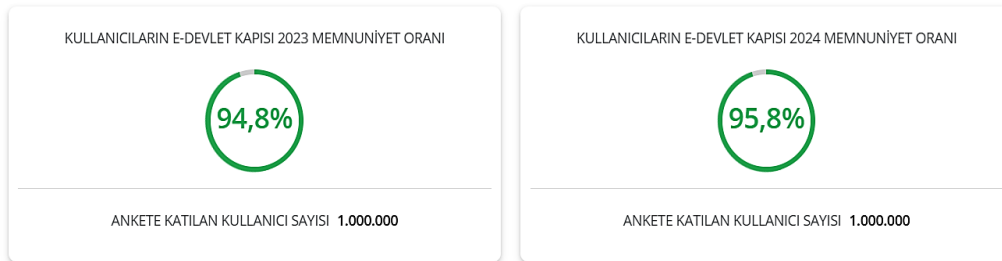


Figure 22. e-Devlet Satisfaction Measurement for 2023 and 2024

Source: <https://www.turkiye.gov.tr/edevlet-istatistikleri>

Putting the emphasis on transparency and feedback, allowed the constant improvement of the platforms that became intuitive and accessible to all group of citizens. However, despite the functionality of the platform, and being part of the very high-ranking class (V3) in e-government and development index, Türkiye still has a relatively low e-participation level of 0.86300 [93]. Unlike Germany, the country did not set focus on the education of the citizens despite listening to their needs. Implying that active feedback is not enough without the proper reforms and inclusion. In this regard, the digital divide did not appear due to age as only 10% of Turkish population is over 65 [94], but due to lack of education. Unfortunately, with a country as big as Türkiye along with the high number of population and immigrants' digital education programs would be eventually inefficient. However, for a country such as Romania, it might be helpful.

Thus, Türkiye demonstrates how a clear, unified strategy, combined with citizen-focused design, can dramatically improve digital uptake and engagement. With over 65 million active users, Türkiye's model offers Romania relevant insights into how service accessibility, feedback mechanisms, and usability can lead to higher adoption rates and increased citizen trust, even in contexts where institutional credibility is traditionally weak.

3.5. Recommendations for Romania

As resulted from the questionnaire, as well as from the indicators analysis, Romania is encountering multiple barriers that hinder the efficient implementation of e-government and digital transition such as: overly complex legislation, lack of national focus, fragmented digital services, lack of interoperability, lack of ongoing feedback, lack of digital literacy and lack of integrity. The study cases of Bulgaria, Germany and Türkiye have demonstrated that an efficient digital transition goes beyond infrastructure, substantial funding and legislative framework. In this regard, Romania should follow the positive examples of these countries:

- **Strengthen national coordination and interoperability.** Both the questionnaire responses and latest DESI report, highlight the need for a unified national digital strategy aligned with European Interoperability Framework and EU Digital Decade targets. By centralizing digital public services under a single, unified digital platform, inconsistency and confusion are avoided. Despite having a PCUe and an e-government platform, Romania must encourage collaboration between institutions and collaborative involvement by ensuring efficient and secure data exchange between central and local authorities.
- **Focus the digital public services on citizens' needs and encourage G2C interaction through feedback mechanisms.** As explained throughout the paper, the communication between government and citizens has a strong impact on the level of trust that is perceived towards institutions. Encountering a similar problem as Romania and in order to increase the level of trust, Germany and Türkiye implemented citizen-centred initiatives. In this regard, Romania should also conduct regular satisfaction surveys and implement platforms like Türkiye's CİMER or Germany's Federal Portal feedback tool, to encourage constant user engagement, and continuous improvement. In Türkiye's case, the constant surveys and feedback forms revealed the need for a more user-friendly platform, resulting in today's highly intuitive e-Devlet system, which is accessible even for a foreign user.
- **Invest in digital literacy and education.** As presented in the beginning of the chapter, in the latest DESI report Romania scores below EU average and it is advised to improve the level of digital literacy among its citizens. By implementing national strategies such as Digitaler Engel in Germany for elderly people, or even creating a e-Government literacy strategy that would include digital public service education from early ages, the digital divide would be reduced. Additionally, a national or community level e-government education project can serve as a good opportunity of public-private partnership which would simultaneously increase the digital literacy while contributing to economic development of the country.
- **Manage EU funds more effectively.** Similarly to Bulgaria, Romania has access to substantial EU resources via the Recovery and Resilience Plan (PNRR), but implementation remains delayed. While Bulgaria is working towards gathering more funds and uses them for innovation, Romania stagnates and it focuses mostly on perfecting the legislative framework. In this regard, Romania should expand its administrative capacity and project management abilities. While implementation should be done somewhat incrementally, a flawless legislation without an actionable and realistic plan of implementation will still hinder the digital transition.

As explained throughout the chapter, the main difference between all approaches is the citizen-centricity factor. While Bulgaria, Germany and Türkiye focus on fulfilling their citizen needs and creating an effective communication and agreement, and modelling the platforms based on the interaction, Romania sets the primary target on legislative framework and fulfilling EU requirements. All three countries are proof that despite the development level, infrastructure and compliance, delays and barriers will appear. However, they proved that continuous learning from mistakes, along with a meaningful two-way communication between G2C, trust and transparency, the digital transition will be effective.

Conclusions

This paper started on the idea that the digital transition of any country lays in the strength of the Government to Citizen (G2C) component and in order to have a successful implementation, citizens must trust the institutions and the quality of services that they offer. As explained in the theoretical grounding, the *raison d'être* of public administration is to understand the needs of the citizens and fulfil them. In this regard, as indicated by Heek, when the planned objectives do not show in the reality of the citizens, it leads to the failure of government, which transposed in our paper's context, it results in failure of fulfilling the needs of the citizens. If this "failure" component becomes a canon event, it eventually leads to mistrust and lack of engagement.

The theoretical grounding led to the Integrity-Trust-Adoption Cycle. By promoting honesty, responsibility and citizen centred values in decision making process, institutions will create a culture of trust and integrity that will encourage citizens to adopt e-government services, as they will become an extension of the quality offered by the traditional services. The high level of institutional integrity leads to the first cluster of trust as explained by Bouckaert, which will boost the digital adoption among citizens, leading to engagement and continuous digital improvement, which eventually will improve the integrity level and trust by itself. In this regard, the theoretical base has shown that citizens are the centre of effective implementation as their satisfaction and the interaction between them and public sector affect the desired outcomes. However, for a country such as Romania, where corruption and bureaucratic rigidity became part of the administrative culture, public perception and engagement is highly affected.

The results of the questionnaire approved this statement, as the majority of the respondents indicated their low trust level towards public institutions, the barrier that corruption, lack of institutional transparency and responsibility creates in their online participation, the fear for data security and the impression of being ignored while providing feedback or due to the lack of feedback channels. Despite the success of *ghişeu.ro*, that is considered a good practice in the Digital Decade reports, Romania still faces strong implementation challenges and delays. However, the respondents did show a higher level of trust and interest in digital public services than in the traditional interactions highlighting an odd gap between digital tools and institutional integrity.

The comparative analysis has brought to light the initial premise. All the three analysed countries, Bulgaria, Germany, and Türkiye, have fought similar challenges as Romania by shifting the culture of government style from authority centred, meaning both EU requirements and the state, to citizen centred. Germany, despite its economic and infrastructural advantages, is dealing with fragmented governance and rigid bureaucracy. However, in terms of digital transition it has focused its resources towards gaining the trust of its population, creating initiatives for reducing the digital divide and amplifying institutional transparency, which eventually led to a high e-participation and e-government development scores, as well as one of the highest EQI. Bulgaria, despite having fewer resources, and lacking complex legislation it created a coherent progress through proper management of EU funding, innovation and education initiatives, focusing primarily on citizens' interest and then on achieving EU Digital Decade targets. Türkiye, although not an EU member, has created one of the most centralised and user-friendly e-government system in the region, by focusing on the importance of citizens' needs and their continuous feedback despite the complex political and economic situation throughout the years.

Neither of these countries are world leaders in e-government and development, as well as neither of them reached a "perfect formula" for implementation. However, instead of being overwhelmed about the setbacks and trying to create a complex and rigid legislative framework, in order to fulfil the EU requirements, they focused on inclusive policy, transparent decision-making, responsive service delivery and real time feedback channels. These methods, highlight that where government involved citizens as active participants, the digital transition was smoother, the adoption rates increased, the satisfaction rate was higher, and public trust and institutional integrity improved.

Therefore, e-government and the digitalisation process should not be seen as set of simple requirements, but as a transformative approach to public administration. This paper has shown that this approach can only succeed when it reinforces G2C relationship through transparency, participation, and integrity. In this regard, Romania's roadmap towards effective implementation lies in introducing citizens not just as users, but as collaborators in building a more accountable and inclusive public sector.

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