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## **Digitalization of the Romanian public payment system. Towards increased or decreased citizen trust in the government?**

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**MASTER OF SCIENCE DISSERTATION**

*Digitalization of the Romanian public payment system. Towards increased or decreased citizen trust in the government?*

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## 1. Introduction

In the past decennia, information communication technology systems have been considered an essential resource in influencing the way organizations and institutions work (Gil-Garcia & Helbig, 2006). Globalization and the rapid evolution of information and communication technologies bring fundamental changes in all aspects of society. Boosted by rising expectations of citizens and the private sector, similar adjustments are taking place in the administration. The use of technology in support of government activity can contribute to a more accessible, faster, cheaper, and more efficient public administration (Vasilache, 2008). In this sense, e-government means not only technological developments but also cultural and organizational changes in the overall administration. In other words, electronic networks are critical infrastructures, built and promoted, that physically and socially interconnect the citizens, the business environment, and administrations (Dobrica, 2006). Through network technologies, a new society can be built by bringing together knowledge from different geographical locations and cultures (Rodriguez, 2002). In this regard, all public agencies need to find new ways of working and learning how a government organization is constructed in the information technology era. According to Vasilache (2008), “e-government is not just done by simply adding the letter “e” to the government” (Vasilache, 2008), but it must instead focus on the process of governance itself, not on IT; on citizens and their needs, not on computers; on the transformation of processes, and not on their translation; on people, not on systems.

E-Government services are one of the most effective means of fighting corruption, a critical factor in institutional transparency and credible regulation of the business environment (Pacesila, 2007). Also, in addition to the significant effect on the transparency of state institutions and the credibility of the business environment, the implementation of e-government solutions results in improving the quality of information, reducing its dissemination time, and significantly minimizing the administrative costs for the state, as well as those generated by regulations for citizens and companies (Pacesila, 2007). Institutional transparency, regulatory credibility and reduced regulatory and administrative costs are crucial determinants of an economy's competitiveness.

From a human capital point of view, the overall expectation of citizens from the public authorities and civil servants is to reasonably fulfil the interest of the population, as well as to successfully manage the public resources (Mahmood, 2016). According to M. Mahmood (2016), providing adequate and trustworthy e-government services to the general population represents a mechanism to increase citizen trust while also creating a constructive business

environment (Mahmood, 2016). Currently, there is an apparent negative shift in citizens' trust levels in their governments, as well as in digital public services. The adoption of e-government functions is portrayed as a significant factor in improving public services, which are a necessary tool for creating or maintaining citizen trust in the government (Mahmood, 2016). However, author and PhD. M. Mahmood (2016) argues in his paper that "citizens' trust is an intricate perception. Factors influencing trust and confidence of citizens are not inherently understood." (Mahmood, 2016). In addition, he adds that "many studies have identified a clear need for developing a better understanding related to the drivers behind rebuilding trust in citizens in relation to the use of e-government practices" (Mahmood, 2016). To better exemplify this theoretically constructed argument, Hibbing and Theiss-Morse argue in their book that American citizens' levels of trust in their national and local governments have gradually decreased during the years (Shapiro, 2003) due to the inability of public authorities and elected politicians to best represent the interests of the general population and make efficient decisions in this sense (Shapiro, 2003). A large percentage of the population thus believes that politicians are driven by greed in their political acts and seek to protect their own interests instead of working towards fulfilling the needs of their citizens (Shapiro, 2003).

At the supranational level, since 2014, the European Commission has been examining the digital progress of EU member states in the Digital Economy and Society Index (DESI) reports (European Commission, 2021). DESI reports include both country profiles and thematic chapters. In addition, an in-depth chapter on telecommunications is attached to the reports on each member state. The DESI country reports combine quantitative data from the DESI indicators for the five dimensions of the index with observations on country-specific policies and good practices (European Commission, 2021). The latest figures published by the European Commission reveal that the top four countries with the highest score in e-government performance are Malta, with a score of 97%, Estonia with 92%, Austria and Latvia with 87% (European Commission, 2020). On the other hand, the EU countries with the lowest performance in providing e-government services are Romania, Bulgaria, and Croatia (European Commission, 2020). E-government performance is measured according to four main benchmarks, namely, user-centricity, transparency, key enablers, and cross-border mobility (European Commission, 2020).

When referring to e-services use across European countries, this is mainly affected by how qualitative the provided services are, the degree of citizen trust in public authorities, as well as digital discrepancies between citizens, which is a result of income per capita and also

people's education levels. Studies have shown that these previously mentioned factors are less present in non-Western European countries than in developed Western-European states (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). Consequently, one can assume that decreased use of e-government services in these countries is a result of lower education levels, less trust in local/national governments and digital divisions emerging from low-income levels. In a more explicit sense, the unproportioned e-government investments across European countries influence the likeability of e-service use amongst citizens. For instance, countries such as Malta, Estonia and Scandinavian countries have significantly progressed in terms of e-government provision (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). Therefore, a larger share of the population is using these services. On the other hand, states like Romania, Bulgaria, Cyprus, Greece, and Spain have not necessarily focused on developing this sector, therefore the lack of e-service use by their citizens (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). According to Perez-Morote, Pontones-Rosa and Núñez-Chicharro (2020), "only a citizen-centric e-government policy, accompanied by an appropriate communication and promotion strategies, can help balance the levels of supply and demand" (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). Furthermore, it is notably essential to mention that financially austere European countries, such as several Southern and mostly Central and Eastern-European countries, are less likely to succeed in developing a strategy to properly invest in e-government functions as to serve the broader interest of the population who could benefit from using e-services (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020).

Research has increasingly focused on the implementation of e-government services in different countries and how the digitalization of public services is perceived by parts of the population. The presented literature in this research paper accounts for the diversified opinions of certain scholars with regards to the discussion on e-government influencing citizen trust in public authorities. On the one hand, some authors who have previously conducted studies on this topic argue that the use of e-government functions have proven to be efficient in some cases. Others believe that, even though the status-quo of e-government is not at its peak in terms of effectiveness with regards to citizen trust, methodical improvements in e-government operations can significantly increase levels of public trust in the government (Pacesila, 2007). The main concerns, nevertheless, consist of high levels of financial expenditures for e-government, people refraining from using innovative technologies and rather opting for the traditional use of government services, as well as the difficulty of specifically measuring indicators such as efficiency (Warkentin, Gefen, Pavlou, & Rose, 2002). The third category of scholars appreciates that the empirical research conducted across various countries

demonstrates that only a negligible percentage in the increase of citizen trust in public authorities has resulted from actual e-government operations (Morgeson III, Amburg, & Mithas, 2011). As far as the relationship between the digitalization of public services and citizen trust in Romania is concerned, there is not enough literature focusing on this topic. Nevertheless, the extant literature on the adoption of e-government services in Romania shows a general and common view of the scholarship who agree on the fact that the implementation of digitalized public services is a particularly slow process in the central and local public administration system that still needs many systematic developments.

While scholarly work conducted across Western European countries have somehow shed more light on the relationship between e-government and citizen trust in public institutions/public administration systems, research on this topic in the Eastern European scenario, and more specifically, in the Romanian spectrum, is insufficient. Due to the inexistence of a proper budget and the unwillingness of public authorities, more specifically, the government, to allocate resources for the development of research in the field of public administration digitalization (Masoud, 2021), there is not enough information provided on this topic that would permit a decent understanding of the research problem. In this regard, the research problem is represented by the missing link between the digitalization of public services – more specifically, the implementation of public e-payment systems – in Romania and citizen trust in the government. It is theoretically important to study e-government and citizen trust in Eastern European countries such as Romania, as research on this topic is mainly carried out in developed, occidental countries where governments invest in e-government services. Thus, there are more ways and resources available in the extant literature that could help bridge the gap between the two variables, as well as explain the missing links between e-government and citizen trust and form certain correlations. Moreover, carrying out this research and exposing the research problem can add value to the existing literature on this topic for multiple reasons. First, it is important to understand to what extent e-government services are used by Romanian citizens and how or if they play any role in influencing their levels of trust. Secondly, it is also relevant to take into consideration the digital behaviours, as well as political attitudes – levels of trust in government - of the people, as these differ from the behaviours and attitudes of the individuals from developed countries. In this sense, citizen trust needs to be measured according to its relevant context. Overall, the theoretical importance this research provides is represented by the different perspectives used in analysing the gap between e-government service use (public e-payments) and citizen trust in the government, which consequently seek to display a

differently interpreted reality fuelled by an authentic representation of the given elements and the connection between them. As per the above arguments, it is theoretically relevant to study the levels of trust of non-elite e-government users in less developed countries, such as Romania.

Due to the lack of information about this field, this paper will draw relevant conclusions based on quantitative research and the limited existing knowledge and will seek to bridge the gap. Furthermore, the paper will give recommendations for implementing and developing the digital interaction between the government and citizens in Romania. The research itself is yet to present findings in rapport with the Romanian citizens' levels of trust in the government. Nevertheless, this research paper is expected to become the foundation for future studies which will further deepen the understanding of behavioural consequences of the Romanian population towards the digitalisation of public services, starting with the most vital one: public e-payment systems.

Furthermore, to understand the variables of the research and the link between them and to emphasize the importance of the research gap, the presented literature is divided into four main topics. First, the paper presents literature reflecting the general benefits of e-government from an economic, political, and social standpoint. The following section emphasizes the importance of citizen trust in the government and also summarizes debates on this topic in non-Western European countries, justifying why it is important to address them for the purpose of this research. Furthermore, the paper addresses the ideas taken from different scholarly works on e-government and citizen trust at the international and European levels. It has been concluded that, while several experts agree that e-government plays a positive role in influencing citizen trust in public authorities, many impose a more sceptical view, implying that there are still many methodical improvements to be implemented in the e-government spectrum. Apart from that, it is suggested that only a negligible percentage in the increase of citizen trust in public authorities has resulted from e-government operations. The next topic of the presented literature offers a new perspective on understanding e-government as the digital interaction between governments and citizens. This section also provides brief insights from the literature on public e-payment systems, both at the international and national levels.

## **Research question**

**How does the implementation of public e-payment systems influence Romanian citizens' level of trust in the government?**



## **2. Theoretical framework**

### **2.1 Benefits of e-government services**

E-government is, in the general sense, the use of computer applications and other information technologies by the government, based on the Internet and combined with processes that implement these technologies to improve access to and delivery of information to the government and services to the public, or to other government agencies and entities (Pacesila, 2007). This brings improvements in the way the public authorities work, which results in increasing the effectiveness, efficiency, and quality of services (Pacesila, 2007). The strategy of transition to e-government involves the transformation and modernization of government through information and communication technology. In the views of author Mihaela Pacesila (2007), digital governance refers to the use of web infrastructure to provide online services (Pacesila, 2007). According to an analysis of websites in major cities, which considered five variables, namely security and confidentiality, possibility or degree of use, content, type of online services offered, citizens' response and ensuring their participation through websites, it has been concluded that increasing participation is a key element in e-government strategies (Pacesila, 2007). Providing the necessary information and knowledge in the field represents the first step, in fact, a priority for governments at the beginning. They need to be integrated through interactive tools that allow, for example, the involvement of citizens in defining and evaluating public policy (Pacesila, 2007).

E-government is globally seen as an essential part of the public administration reform, as well as its modernization, and involves a process of digitization of the public sector whose purpose is to facilitate the interaction between public institutions and citizens through information technology applications (United Nations, n.d.). E-Government is crucial for the elimination or simplification of bureaucratic procedures, for the improvement of the access to information, to reduce public spending, to combat corruption or to strengthen the administrative capacity of public institutions, becoming imperative for its development (United Nations, n.d.). The transition from traditional methods of governance to e-government is advantageous for both citizens (users) and local/national administrations (Lau, 2005). For instance, e-government improves the availability, accessibility, and transparency of services. In theory, it offers unlimited access - 7 days a week, 24 hours a day - to users seeking to access their online information or process services (Lau, 2005). This permanent access allows users who previously would not have been able to easily access their services, for different reasons such

as restrictive office hours, or public institutions offices being too far to reach, to carry out their procedures when they wish (Lau, 2005). Moreover, thanks to online procedures, the degree of comfort for users is notably increased, as there are no lines to wait in and no distance to cross. Apart from this, the quality of services is also improved, as the end users can find the information and adequate resources they need in a more precise and simplified way (Lau, 2005). The procedures are streamlined, requiring fewer documents to provide, and the user is no longer obliged to fill in data in interminable forms. Additionally, the citizens can follow the process of their requests live, knowing where it stands, which therefore increases the level of transparency (Lau, 2005).

The digitalization of public services means efficiency and transparency due to the electronic archiving of documents that, once digitized, can be searched, and accessed anytime and from anywhere. It also signifies amplified access to open data and information, not only for the improvement of judicial processes but also for the civil society, who can more easily detect and report thefts from the public budget (Gilbert, Balestrini, & Littleboy, 2004). Moreover, also from a transparency point of view, e-government services allow for bureaucratic procedures to be simplified, which leaves less room for politically appointed officials to intervene in the process while making it much easier to verify. What is more, digitizing public services ensures more efficiency in procurement and ways to set cost standards, evaluate bids, and report theft almost automatically where this occurs (Gilbert, Balestrini, & Littleboy, 2004). From a political standpoint, digitalizing the public administration also means making the political factor accountable to the citizens: once every acquisition and decision is easily accessible and intelligible to the citizen, the politician can be sanctioned almost instantly by the press, civil society and especially by citizens who have the voting power (Gilbert, Balestrini, & Littleboy, 2004).

Furthermore, due to the digitalization of public services, citizens are no longer required to visit the various counters and offices of different institutions to carry out and fulfil the procedures of each administration (Lau, 2005). With the implementation of e-government, the organization of services is no longer done according to the internal structure of the administration but according to the needs of the citizens. The link with the public is thus strengthened, the logos of the administrations are, for example, more visible and these procedures no longer represent a complex and tedious process preventing proper internal functioning (Lau, 2005). Finally, it is also possible to personalize these e-government approaches by citizens profiles and events. The digitalization of public services allows better-

targeted information, consultation of a personal file, and possibly sending by email or SMS personalized information as well as pre-filled forms according to the answers given (Lau, 2005).

In the views of authors Gil-Garcia and Helbig (2006), ICT projects can generate benefits that are seen as the final outcomes deriving from their utilization. For instance, several e-government benefits such as service quality, efficiency, cost reduction, policy effectiveness, active public participation, and transparency seem to unquestionably emerge from the use of ICT practices in organizations and institutions (Gil-Garcia & Helbig, 2006). When talking about service quality, a study conducted in 2003 by the OECD suggested that all the policy statements on e-government included in the report indicated the improvement of service quality as a substantial goal on governments agendas. Many local and national governments around the world have sought to enhance service quality, both for citizens and private entities, through customer orientation. Furthermore, in terms of efficiency and cost reduction, the OECD (2003) stated that “ICT use in government has often been driven by the need to reduce the call on resources, either to reduce overall spending or to allocate funds to higher priority areas.” (Gil-Garcia & Helbig, 2006). The e-management part of e-governance puts considerable emphasis on achieving efficiency, through different means such as “payment processes, procurement, payroll, and human resources management” (Gil-Garcia & Helbig, 2006). Nevertheless, it has been concluded that electronic procurement has not been a successful cost-saving initiative of e-government, as it seemed to have performed unsatisfactorily (Gil-Garcia & Helbig, 2006). As for policy effectiveness, this e-government benefit has been discovered recently. Nevertheless, scholars and experts concluded that digitalized public services and e-initiatives can stimulate the achievement of significant outcomes in policy areas, i.e., (cyber)security, health, education, anti-crime (Gil-Garcia & Helbig, 2006). Lastly, e-government initiatives in several countries have witnessed an increase in active citizen involvement and transparency (Gil-Garcia & Helbig, 2006). According to Gil-Garcia and Helbig (2006), “the relationship between governments and citizens involves many very important social and political factors. For instance, e-democracy initiatives do not refer only to online voting, but also to communication exchange between elected officials and citizens” (Gil-Garcia & Helbig, 2006).

In her article entitled “Understanding E-government Benefits: An examination of Leading-Edge Local Governments” (2007), Mary Maureen Brown seeks to understand how e-government benefits can be achieved through analysing the applicability of maturational models (Brown, 2007). Past scholarly research on the topic of technological innovation in the public system has consistently used the framework of maturational models as the main discussion point. According to the author (2007), “the maturational model fits well with the

notion of incrementalism, which suggests that government innovation tends to occur in small steps over extended periods” (Brown, 2007). Following this reasoning, one can deduct that performance and productivity gains equal technological maturity (Brown, 2007). Therefore, technological innovation in its early stages brings smaller benefits compared to technological advancements at their maturity peaks, resulting in greater gains (Brown, 2007). To gather the results for her research, the author administered 3 ICMA surveys on a 4-year time frame – the first one conducted in the year 2000, the second one in 2002 and the last one in 2004. The main findings of the research show that the more online services provided by a local/national government to its citizens, the greater the number of benefits can be observed (Brown, 2007). In this case, it can be presumed that a maturation process was not a vital element for progress to occur (Brown, 2007). Overall, the main idea of this research is that, even though the maturation framework is beneficial in explaining accumulated efforts, it might not be as helpful in comprehending the achievement of e-government benefits (Brown, 2007).

The authors M.P. Gupta and Debashish Jana (2003) argue that even though many governments have already managed to digitalize public services to serve the needs of their citizens, it is of great importance to implement a framework that can measure the performance of e-government and based on the results of the assessment, to ensure that steps are taken in the right direction (Gupta & Jana, 2003). According to Gupta and Jana (2003), institutions and governments that are successful in the adoption of e-services have developed a ‘‘culture of measurement’’ (Gupta & Jana, 2003), meaning that employees are trained on understanding and detecting performance factors and, concomitantly, the organization is being governed through the processes delivered by e-government (Gupta & Jana, 2003). The authors assert that ‘‘ these organizations are careful to ensure that performance is not merely a tracking exercise of items and numbers, but truly an assessment of the actual performance status and improvement in gains’’ (Gupta & Jana, 2003). The objective of the study is to create an adaptable framework aiming to select an applicable plan of action that could measure the palpable and less palpable benefits that e-services could bring (Gupta & Jana, 2003). To gather the results, further analyse them and draw up the framework, the authors have carried out an Indian case study of the New Delhi Municipal Corporation (Gupta & Jana, 2003). The main findings of the case study show that, to properly evaluate the benefits of digital public services, both tangible and intangible, the projects that are carried out must reach a certain maturity level and appropriate ICT systems need to be implemented (Gupta & Jana, 2003).

## 2.2. Citizen trust in the government

To understand the spectrum of citizen trust in the government, one must first conceptualise "trust" as a separate element. According to Hardin (1993), trust can be defined as a relationship between entities A, B and X. A trusts B to accomplish X and where entity A awaits B to action a certain thing that would benefit him/her (Hardin, 1993). When referring to citizen trust, authors Stephan Grimmelikhuijsen and Eva Knies suggest (2017) suggest that "this threefold relation yields a risk as citizens are uncertain as to whether government organisations carry out the tasks they are entrusted to. Risk becomes relevant when governments exert a certain degree of power over citizens, which can either be used properly or abused" (Grimmelikhuijsen & Knies, 2017). In addition, it is important to acknowledge the element of interdependence, which entails that a symbiotic relationship must be formed between the two parties. Therefore, when referring to citizen trust in governmental authorities, the citizens depend on the government's capacity to discuss decisions, take policy measures, and audit the results. On the other side, according to the authors, for governmental policies to be effective, governments are dependent on citizens to collaborate and ensure certain rules are respected. (Grimmelikhuijsen & Knies, 2017).

The concept of citizen trust reflects the way citizens experience the treatment offered by public entities. In essence, this concept is dictated by a division of opinions, in the sense that, on the one hand, people tend to believe they will be treated in a fair and equal way by their political leaders (ERCAS, 2015). Nevertheless, on the other hand, often, individuals are treated in distinct manners by the public authorities, according to how closely connected they (the citizens) are with the latter (public authorities), be it through wealth, status, race, ethnicity, religion etc. (ERCAS, 2015). Historically speaking, the Western European states enlightened themselves and requested more equality offered by the government and public institutions to their citizens, even though this evolutive process was substantially long-lasting (ERCAS, 2015). In this sense, these countries have essentially started to accord more trust in their governments after witnessing the desired outcomes. According to the European Research Centre for Anti-Corruption and State-Building – ERCAS (2015), "it seems rather unlikely that a society where great disparity of power and fortune exists can generate a state which treats everyone equally, but such evolution is closely bound up with economic development" (ERCAS, 2015). For instance, this is the category where non-Western European countries fall. While Western European countries possess more resources that permit an equal allocation among the population and therefore more collaboration, trust, and integrity (ERCAS, 2015),

Eastern European countries fall behind in this sense. These developed societies represent the outcome of evolutive historical processes, as previously mentioned (ERCAS, 2015).

Nevertheless, there have been some debates in the extant literature from the last twenty years around the argument that trust could be a "socially engineered" concept (ERCAS, 2015). Essentially, citizen trust in public authorities lays the basis of the democratic political systems in terms of legitimacy and sustainability. In other words, citizen trust highlights the capability of governments to efficiently govern their societies and fulfil the needs of the population without having to utilise coercive forces (ERCAS, 2015).

According to findings of the report on public integrity and trust in the EU published by the European Research Centre for Anti-Corruption and State-Building (ERCAS), citizens of the EU member states are influenced by different categories of government within the European Union (ERCAS, 2015). Nonetheless, the authors of the report assert that citizens' political socialisation is the result of their education levels and national media outlets and internet usability. Moreover, ERCAS (2015) argues that the primary way of expressing one's thoughts of political socialisation is through public trust in national governments and institutions (ERCAS, 2015). The research findings show that the Scandinavian countries and Malta score the highest levels of citizen trust in their national governments in the year 2013 (ERCAS, 2015). On the other hand, Southern, Central and Eastern European states such as Spain, Italy, Greece, Slovenia, Croatia, Bulgaria, and Romania reflected the lowest percentages of citizen trust in their local and regional governments (ERCAS, 2015). Countries like Spain and Italy scored an average of 18% and 15% of citizens trust in the government (ERCAS, 2015).

Experts on political governance and trust argue that a leading factor in influencing citizens' confidence in their local or national governments is represented by corruption levels (Zhang & Kim, 2018) (Kumagai & Iorio, 2020). High levels of perceived corruption by citizens negatively impact the degree of trust in public authorities (Melios, 2020). According to Georgios Melios (2020), "corruption is a significant determinant of trust in national governments, particularly in countries where austerity was present" (Melios, 2020). In this sense, the latest figures of the Global Corruption Barometer in the EU, approximately 35% of the people in EU countries believe that corruption represents a significant issue in their societies, worsening. Other 44% of the participants believe that corruption cases are not decreasing (Transparency International, 2021). The data shows that, in Central and Eastern Europe, the number of people who consider corruption to have risen in the past 12 months has increased compared to previous years (Transparency International, 2021). For instance, Cyprus ranks first with a percentage of 65% of people believing corruption levels rose in the last year

in their country, while Slovenia, with 51%, Bulgaria, with 48%, Romania, with 45%, Croatia and Portugal with 41% fall right behind in this ranking (Transparency International, 2021). On the other hand, the countries with the least percentage of people who believe corruption is a rising issue are Estonia and Finland, with 18%, respectively 16% (Transparency International, 2021).

To illustrate the surge of corruption cases in Eastern European countries and the consequent lack of citizen trust in public authorities, Romania is a fit example, given the various arrests that have been made in recent years for acts of corruption by public officials (ERCAS, 2015). For instance, in 2015, Horia Georgescu, then director of the National Integrity Agency in Romania and Alina Bica, who was the chief prosecutor of the Directorate for the Investigation of Organized Crime and Terrorism has been arrested for fraud charges related to the National Property Restitution Agency (Costea, 2020). Allegedly, the two have stolen an accumulated amount of 75 million euros from the Romanian state (Ardeleanu, 2015). Following the incident, it has been revealed that almost all the restitution of the confiscated assets during the Communist era have been corruptly managed. This led to exaggerated compensation sums that had to be paid by certain people involved. According to ERCAS (2015), "Romania had so far paid over five billion euros to the fund, a sizeable share of the 2010 budget deficit, which was eventually covered by every public sector employee to the tune of a quarter of each of their annual salaries" (ERCAS, 2015).

Recent studies have generally concluded that citizens' trust in their governments has gradually decreased. According to scholars Michael Parent, Christina A. Vandebek and Andrew C. Gemino (2005), as a method of combatting overall citizen scepticism, governments are making efforts to implement service efficiency as a part of their national public administration models (Parent, Vandebek, & Gemino, 2005). The study conducted by the authors sought to challenge the premise that political self-efficacy results in increased citizen trust in governmental authorities. In order to comprehend the population's views regarding whether e-government services can increase trust and the external political efficacy of the citizens, an online survey was administered to 182 Canadian voters (Parent, Vandebek, & Gemino, 2005). The overall conclusion emphasised that citizens already possessing high levels of trust in the government and internal self-efficacy will have these strengthened even more subsequently to improve public e-services.

On the other hand, the participants with low trust levels in public authorities and internal self-efficacy will not change their opinions (Parent, Vandebek, & Gemino, 2005). In this sense, Parent et al. (2005) agree that "if politicians' aim to increase trust, they would be better

served to focus on non-Web-based courses of action. The bureaucracy, seeking efficiency in service delivery, is better served to do the same, perhaps at the expense of improvements in Web site performance" (Parent, Vandebek, & Gemino, 2005).

Continuing the discussion on trust, authors John R. Hibbing and Elizabeth Theiss-Morse (2002) seek to challenge the common belief in the political literature that American people's feeling of distrust in the government would decrease if they were more politically involved in decision-making (Shapiro, 2003). In this sense, the authors argue that a significant part of the American population distrusts their governments and political representatives due to the inability of their elected politicians and public officials to make effective decisions that would benefit the public good (Shapiro, 2003). Moreover, Hibbing and Theiss-Morse claim that half of the respondents from the administered surveys and focus groups would be more politically involved if non-political experts and business leaders would manage the country's decision-making process, given the common belief that politicians are corrupt and seek to serve their interests (Shapiro, 2003).

Another school of thought is highlighted in Snow-Bailard's book entitled *Democracy's Double-Edged Sword: How Internet Use Changes Citizens' Views of Their Government* who seeks to comprehend, as the title suggests, whether access and use of the Internet by citizens influences their perceptions and levels of trust in the government. The author employs an experimental approach by analysing the behaviour of citizen groups – users and non-users of the Internet – from Bosnia-Herzegovina and Tanzania. According to Jack Barry's book review, the main conclusion of Snow-Bailard's research reveals that "higher levels of Internet use correspond with increased citizen satisfaction" (Barry, 2017). Moreover, the author suggests that in countries where democratic legitimacy is unsatisfactory or below average (such as Bosnia-Herzegovina), subsequently to start using the Internet, citizens tend to form a more accurate opinion about how democratic their governments are (Barry, 2017). Based on the aforementioned claims from the scholarly works on e-government and citizen trust, this research is designed to add value to the extant literature by testing the given hypothesis that the use of public e-payment systems in Romania results in higher levels of citizen trust in the government.

Authors Perez-Morote, Pontones-Rosa, Nunez-Chicharro (2020) argue that events such as economic crises, corruption cases, or disclosed classified information can play a significant role in the way citizens perceive trust in their governments or public administrations systems (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). Across European states, most notably across Eastern European countries, citizens have been inferring their decreasing levels



of trust in their national public authorities, i.e., their governments. According to Easton (1965), the concept of citizen trust in the government signifies that the citizens of a country confide in the acts of a "government to do what is right and perceived fair" (Easton, 1965). As Perez-Morote, Pontones-Rosa and Nunez-Chicarro (2020) suggest, the most reliable way to measure trust in the government is by evaluating the degree to which citizens believe that public institutions operate primarily considering the interests of the population (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). In recent years, with the development of ICT systems in public administration, scholarly debates now focus on citizens' levels of trust in e-government services. It is notably important to specify that, with this rising trend, more attention is directed towards the aspects of governance as far as privacy and information control are concerned (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020).

### **2.3 E-government and citizen trust at the international and European level**

The authors of the article entitled "Rethinking e-government performance assessment from a citizen perspective" argue that the evaluation process of e-government performance should be mainly carried out according to the opinion of citizens (Barbosa, Pozzebon & Diniz, 2013). The study provides a model which cements nine performance dimensions (Barbosa, Pozzebon & Diniz, 2013). According to the authors, the model was constructed based on the analysis of a series of interviews with non-randomly selected participants to understand their perceptions regarding e-government services (Barbosa, Pozzebon & Diniz, 2013). The main findings show that, after understanding what the most important dimensions are according to the opinion of citizens, decision-makers and technology developers will offer a more precise clarification regarding the purpose of e-services to be provided (Barbosa, Pozzebon & Diniz, 2013).

The study conducted by M. Warkentin, D. Gefan, P.A. Pavlou and G.M. Rose (2002) in the early 2000s emphasises one of the earliest debates centred around the adoption of e-government services in relation to citizen trust (Warkentin, Gefen, Pavlou, & Rose, 2002). The authors agree that, compared to traditional public service delivery, e-government operations are particularly efficient in that they reduce public expenditure while also improving the quality of services. Moreover, they perceive citizens levels of trust to represent fuel in the adoption of digitalised public services (Warkentin, Gefen, Pavlou, & Rose, 2002). In their article, Warkentin, Gefan, Pavlou and Rose (2002) seek to comprehend the link between public trust and e-government, ultimately suggesting several methods through which citizen trust in digital

governance can be increased (Warkentin, Gefen, Pavlou, & Rose, 2002). The approach used to solve this puzzle is to investigate online tax services in western countries. To create more citizen trust in e-government services, the authors propose implementing an "independent judicial system with appropriate legal powers" (Warkentin, Gefen, Pavlou, & Rose, 2002). Furthermore, this study is particularly relevant as it also focuses on cultural variables, risk perception, control, and technology acceptance. To test their hypotheses, the authors use quantitative data in the form of a survey conducted among 1000 taxpayers in countries such as the US, South American and African states (Warkentin, Gefen, Pavlou, & Rose, 2002). The main findings show that people with more technology acceptance and risk-taking capacity, and high-power distance individuals are more likely to make use of e-government services. In addition, one of the main conclusions of the research is that citizen trust represents a necessary component in the efficient adoption of digitalised public services (Warkentin, Gefen, Pavlou, & Rose, 2002). In this regard, the authors argue that governments can "enact institutional guarantees, improve their social characteristics and make the public knowledgeable about them" (Warkentin, Gefen, Pavlou, & Rose, 2002).

Shifting towards a different set of ideas, Lemuria Carter and France Bélanger (2005) acknowledge that, while the implementation of e-government services can bring a plethora of benefits such as increased access to information, higher governmental accountability, and transparency, more quality and efficient services for citizens, as well as less public expenditure, they are somehow conditioned by citizens' inclination towards utilising these innovative processes, i.e. online tax payment systems, e-voting, digital license renewal etc. (Carter & Bélanger, 2005). From a theoretical point of view, this research draws on elements from the Technology Acceptance Model, Diffusion of Innovation, as well as frameworks of trustworthiness, with the final aim to create, as the authors suggest, "an insightful model of e-government adoption" (Carter & Bélanger, 2005). In order to collect data, the authors conducted a survey administered to 106 people, aged 14 to 83, at a community event. The questionnaire was designed based on concepts such as the trustworthiness of the Internet, trust in the government, perceived ease of e-government services usage, and their usefulness, PCI items and intentions (Carter & Bélanger, 2005). The main findings of this study depict that citizens' degree of willingness towards adopting digital public services depends on people's "perceived ease of use, compatibility and trustworthiness" (Carter & Bélanger, 2005). Moreover, after analysing the results, the authors assert that being aware of these indicators can enable governmental institutions and public agencies to create e-government services compatible with citizens' needs (Carter & Bélanger, 2005).

Horst et al. (2007) have approached the topic of e-government in the Netherlands by studying how risk perception and trust contribute to citizens' intention of adopting government e-services. The authors' principal methodical instrument consisted of surveying 238 participants in order to investigate Dutch citizens' perception regarding e-government services and to what extent they intend to make use of them (Horst et al., 2007). The research findings show that, while citizens displayed a positive reaction towards the practicality of e-government services, the risk perception was found to mainly predict the usefulness of electronic services overall (Horst et al., 2007). The study designed a predominant model that could lay the foundations of general e-government application in the Netherlands.

Scholars such as Belanger and Carter affirm that levels of trust certainly influence the use of digital public services by citizens (Bélanger & Carter, 2008). In the same views, Tolberg and Mossberger (2006) suggest that increased citizen trust in governmental authorities correspond to the more rigorous use of e-government services (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). Equally, users of digital public services who are satisfied are more prone to have increased confidence in their governments (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). According to Perez-Morote, Pontones-Rosa and Nunez-Chicharro (2020), the findings of their study suggest that "interaction through online may be especially important for increasing process-based trust and also that improving interactions could also include an expansion of participatory opportunities" (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). Furthermore, Sternstein (2010) has concluded that higher degrees of transparency of e-government services offered to the public result in an increased probability for these services to be further recommended, as well as improved levels of trust in governmental authorities (Sternstein, 2010). Other discoveries in the extant literature have found that citizens are more prone to trust the practical part of the digital public services they use, rather than having confidence in their national government who provides these functions (Sweeney, 2007).

In their article entitled "Misplaced Trust? Exploring the Structure of the E-Government-Citizen Trust Relationship", Morgeson III, Van Amburg, and Mithas (2011) explore the structure of e-government in connection with citizen trust in the public agency, seeking to fill in the gaps from previous literature on this subject (Morgeson III, Amburg, & Mithas, 2011). Employing a cross-sectional research design, the authors use surveys conducted among a total of 787 taxpayers in the US, the data being retrieved from the American Customer Satisfaction Index study (Morgeson III, Amburg, & Mithas, 2011). Apart from quantitative data collection methods, this research also employs structural equation modelling techniques. According to the

authors, this method serves to test "the conceptual model linking e-government, satisfaction and trust in government" (Morgeson III, Amburg, & Mithas, 2011). In order to properly analyse this linkage, the statistical model comprises elements such as prior expectations, satisfaction with e-government, factors leading to the decision to adopt digital services, and trust in specific public agencies and the federal government. The main findings of this study depict an overall sense that providing e-government services does not lead to a visible increase in citizen confidence towards a specific institution or the federal government (Morgeson III, Amburg, & Mithas, 2011). Nevertheless, digitalised public services can increase citizens' trust concerning the future achievements of national public institutions (Morgeson III, Amburg, & Mithas, 2011).

Based on the fact that there is not enough focus in recent literature on the relationship between trust in public institutions and citizen trust in digital methods of delivering public services, the research conducted by S. Horsburgh, S. Goldfinch and R. Gaud (2011) seeks to understand whether there is any correlation between citizen trust in the government and trust in e-government services (Horsburgh, Goldfinch, & Gaud, 2011). In order to test their hypotheses, the authors employed quantitative methods of data collection in the form of phone surveys conducted among people from Australia and New Zealand. In this regard, answers were collected from 500 Australian citizens and 500 New Zealanders. The main results showed that, contrary to the formulated hypotheses, there is no proper correlation between people's trust in government institutions and trust in e-government services (Horsburgh, Goldfinch, & Gaud, 2011). In their analysis of results, Horsburgh, Goldfinch & Gaud (2011) noted that part of the respondents, regardless of their trust levels in the government, do not necessarily have faith in online forms of public service delivery due to concerns about gathering of personal data, web sites security, as well as online payment processes (Horsburgh, Goldfinch, & Gaud, 2011). On the other hand, the findings depicted a positive correlation between public trust in government institutions and support for investing in e-government functions. Moreover, it was revealed that participants who use the Internet more frequently are more prone to use and trust e-services (Horsburgh, Goldfinch, & Gaud, 2011).

On a different note, the study conducted by Belanche Gracia and Casaló Ariño (2014) analyses how e-government initiatives can influence or affect citizens' trust in the public administration in Spain (Gracia & Ariño, 2014). The research conducted by the authors takes two approaches, the first one directing itself towards investigating whether the quality of e-government operations has a positive impact on citizen trust in the overall public administration system. Secondly, the authors seek to identify the target group that mostly makes use of e-

government services in Spain to understand how to trust in public administration could be maximised (Gracia & Ariño, 2014). In this regard, there are two governmental instruments used in this research that are designed to help citizens use digital public services, namely "public e-service quality" and "public administration communication" (Gracia & Ariño, 2014). The authors conducted a web survey designed for Spanish citizens who have previously utilised digital public services in their country for data collection purposes. To collect as many answers as possible, the survey was published on several governmental websites and portals destined for discussions on e-government-related issues (Gracia & Ariño, 2014). The main findings of this study show, on the one hand, that when citizens perceive e-government services as having a great degree of quality, trust in the public administration is exponentially growing (Gracia & Ariño, 2014).

On the other hand, it was revealed that public administration communication, for instance, governmental campaigns, does not visibly impact citizens' trust. One reason for this could be that citizens usually reject advertisement or commercial input from organisations or institutions in general (Gracia & Ariño, 2014). Overall, the main conclusion of this research is that Spanish citizens who have previous experience with using digital public services and who are more prone to use e-services subsequently generate a higher sense of trust in the public administration (Gracia & Ariño, 2014).

#### **2.4. E-government as Digital Interaction**

The paradigm in which, from a social, economic, and technological point of view, organisations and institutions on the international landscape carry out their activity is currently found in the interference of technological fields with a deep and complex transformative role. The said transformations concern both tangible resources and the intangible spectrum, more precisely, the rules, the norms, the way of working, sometimes even the organisational structures and models (Welby, 2019). These changes are generated and maintained by technologies at different stages of the operating cycle, emerging technologies. The phenomenon of digital interaction has gone through several stages globally, and it can now be said that its influences are found in almost every aspect of life or all kinds of organisational processes (Welby, 2019)

In the modern public administration field, digital interaction generates many advantages that should be found in institutional strategic approaches and be promoted by its leaders (Roja

& Boc, 2021). On the one hand, digital interaction streamlines institutional activity, leading to efficient use of resources, cost reduction, and the institution's contribution to technological and socio-economic progress. On the other hand, digitalisation generates new opportunities by activating institutional capacities and capabilities to deliver innovative services and products to citizens and public administration stakeholders (Roja & Boc, 2021). The emergence of new forms of interaction based on information technology highlights the opportunity to establish a direct and dynamic relationship between the public administration and its stakeholders, especially with citizens (Roja & Boc, 2021). Digital technologies allow the administration to provide a more appropriate and tailored response to citizens' expectations regarding public services, policies, trust, co-participation, and consequently, a new perception of the administrative process and new experiences for citizens. Moreover, connecting and informing citizens through digital services, which define the concept of digital governmental interaction in public administration, contributes to increasing public engagement (Roja & Boc, 2021). Digital interaction is an opportunity to strengthen and support participatory democracy, to consult and co-create value with citizens through the digitalised administrative process.

The process of digital transformation has disruptive valences. It involves the transition to digital services with a high degree of decentralisation and integration, encouraging a more efficient interaction between citizens and public administration (OECD, 2016). The convergence of citizens' needs to reduce the time required by the administration to respond to requests and the increase of administrative transparency has led to the need of innovating public services, the inclusive commitment of citizens and the adoption of agile practices that better serve socio-economic needs (OECD, 2016). The digitalisation of public services involves rethinking how public institutions design and deliver services to citizens. More precisely, the transition from the traditional way of organising and functioning to a citizen-centred institutional ecosystem (OECD, 2016).

#### **2.4.1. Public e-payment systems**

A significant part of international public institutions and organisations still utilise non-electronic payment methods, such as cash or checks. According to the European Commission (2016), "This high usage of non-electronic payments generates significantly higher operating costs, lower control and transparency, slower payment, and carries a high risk of fraud" (European Commission, 2016). The use of public electronic payments can accelerate the application of online transactions and provide vital information facilitating increased control,

monitoring, and predicting competencies (European Commission, 2016). Digitalising public online payment systems can bring certain notable benefits, such as the enhancement of e-government services, particularly in areas such as e-Welfare disbursement (pensions and social assistance), e-Procurement and marketplace solutions (goods and services acquired by public institutions) and e-Collections (taxes and fees collected from citizens and private entities) (European Commission, 2016).

Moreover, the provision of public e-payment systems can increase the democratic legitimacy, especially in states that are continuously confronting this issue, such as non-Western European countries. Access to e-payment platforms designed by public institutions for citizens represents an important tool in ensuring more transparency and efficiency of the public processes. Citizens can track the progress of their applications or procedures at any stage. In addition, open access to data and information can enable detecting and reporting thefts from the public budget (Gilbert, Balestrini, & Littleboy, 2004). Apart from that, providing online methods of public payment reduces the costs for the overall public administration and the simplified procedures limit the intervention from public officials and politicians in these processes, therefore rendering them more transparent. This is notably important in non-Western European countries, such as former Communist bloc countries, where corruption cases seem to surge. In essence, if governmental entities can provide well-functioning and efficient public e-payment platforms for citizens, there are more chances for democratic legitimacy to increase. Therefore, more trust is conferred to governments.

When looking at the various services made available on the Internet, one can note that online payment platforms are a vital factor in ensuring that electronic transactions are being fulfilled with the necessary speed and accuracy. Moreover, online payment systems are needed to prevent needless media breaks (Treibkmaier, Floh, & Pinterits, 2006). It is a well-known fact that an increasing number of people are now making use of e-payment services worldwide. According to a study conducted by Horst Treibkmaier, Arne Floh, and Andreas Pinterits (2006), "30% of Austrian Internet users engage in online banking" (Treibkmaier, Floh, & Pinterits, 2006). The authors conclude that a plausible consequence for this figure is the increasing need for e-payment services as part of the larger spectrum of e-government. Furthermore, Treibkmaier, Floh and Pinterits (2006) suggest that "efficiency, security, cost, and usability are essential prerequisites for users to carry out financial transactions on Web sites successfully" (Treibkmaier, Floh, & Pinterits, 2006). In this sense, e-payment methods are perceived as efficient only if they are both accepted and utilised by the end-users (citizens, public and private entities).

Highly essential to understand when seeking to ensure an appropriate application of online payment systems, as well as meeting citizens' expectations and avoiding unnecessary costs is carrying out the previous assessment(s) of people's intentions to make use of e-payment systems in a digitalised society (Treibkmaier, Floh, & Pinterits, 2006). The authors appreciate that, even though the digitalisation of public services across the world has achieved substantial milestones in its development, there are still significant steps to be made. For instance, according to Treibkmaier, Floh and Pinterits (2006), "only 33 countries out of the 191 members of the United Nations facilitate online transactions, such as submitting forms or paying fines" (Treibkmaier, Floh, & Pinterits, 2006). The study results suggest that citizen trust in e-payment systems security is perceived as a significant factor in people's intention of adopting online payment systems as part of their social routine. From the viewpoint of public authorities, these have somewhat lower chances of exerting influence in this regard (Treibkmaier, Floh, & Pinterits, 2006). According to the authors, "while national institutions in developed countries are usually perceived as trustworthy, users' attitudes toward the Internet may be more sceptical, depending on their previous experiences" (Treibkmaier, Floh, & Pinterits, 2006).

The article written by Andrei Ioan Haas and Andrea Zolde (2020) addresses a current issue in the Romanian financial scene, namely the behaviour of taxpayers in the fiscal domain (Haas & Zolde, 2020). The research objectives are two folded. Firstly, the authors focus on highlighting the leading factors affecting taxpayers' fiscal processes and secondly, they seek to shed more light on the importance of digitalising public e-payment services in Romania (Haas & Zolde, 2020). The findings show that one of the main problems limiting the increase of taxpayers' compliance levels is the flawed relationship between the National Agency of Fiscal Administration and the taxpayer. It is not based on trust but rather on the power conferred upon the authority of the state. Based on this general finding, it can be noted that the main influencing factor that could increase voluntary compliance would be the provision of a "small facility" for taxpayers who declare and make payments on time (Haas & Zolde, 2020). In addition to increasing payment compliance levels, such a measure would also eliminate the dissatisfaction of taxpayers with a high spirit of fiscal citizenship vis-à-vis the measures through which those with lower compliance levels can benefit from certain discounts or exemptions from their tax obligations (Haas & Zolde, 2020).

Moreover, after processing the collected data, it was revealed that a relevant percentage of taxpayers consider that there are frequent changes in the Romanian tax legislation, which represents a factor leading to a degree of non-compliance shared by a significant number of respondents (Haas & Zolde, 2020). As far as the digitalisation of the public payment systems



is concerned, the authors suggest that the introduction of smart portals and the support of services provision through third-party systems must be linked to reducing the tasks that taxpayers are confronted with when fulfilling their fiscal obligations. At the same time, these must improve the taxpayer–fiscal apparatus relationship (Haas & Zolde, 2020). In addition, the evolution and development of IT companies have an increasing impact on the tax administrations and, at the same time, possess the power to increase taxpayers' satisfaction with optimising, modernising, and providing simple, convenient, and secure services. However, the authors point out the slow process that some tax administrations must undergo regarding implementing these technologies (Haas & Zolde, 2020). This is due, to a large extent, to the historical regulations in the financial field, which, according to Haas and Zolde (2020), need to be reviewed and updated obligatorily (Haas & Zolde, 2020).

**Hypothesis:** The use of improved public e-payment services in Romania results in higher levels of citizen trust in the government.

### 3. Research Methodology

The case study used as the basis for the methodology of this research is represented by the trends in the national public system digitalization and citizen trust in Romania. To justify the relevance and choice of this case study, fundamentally, it is important to understand that, prior to the emergence of the COVID-19 pandemic, the digitalization of the public administration system was poorly developed at the national level, resulting in the country occupying the 26th position out of the 28 EU countries in the Digital Economy and Society Index. Nonetheless, when the pandemic commenced, and the first lockdown in Romania was enforced, there was a higher need for digitalization in all sectors of society, especially in public administration. In this regard, the government created the Romanian Digitalization Authority (ADR), which coordinates the digital transformation process of the Romanian economy and society (Romanian Authority for Digitalization, 2020). The information presented below in the case study reveals that, even though e-government services and public e-payment systems were poorly developed prior to the pandemic, figures revealed that a significant part of the population - who regularly accesses the Internet – were/are using public e-services, Romania ranking 8th in terms of users of e-government services among EU countries (European Commission, 2020). The above-presented data are a significant point of departure for investigating the given hypothesis, as it is essential to comprehend whether the use of improved public e-payment

systems (as a sub-component of the broad spectrum of e-government services) plays any significant role in increasing citizen trust levels, given that many internet users in Romania utilize e-government services.

In sum, the information presented in the first two sections of the methodology is relevant to the construction of the case study and justification of selecting it as the foundation for this research, as it offers various insights regarding how e-government trends have developed throughout time in Romania, as well as the main factors that characterize the national public system digitalization. Apart from that, the following section explains how e-government is constructed, implemented, and functions in Romania and how it is rated at the supranational level. These are important determinants when comparing the performance of digital public services in more developed countries that have already started to develop a pattern of investing resources in digitalizing their public sectors in the last two decades. Moreover, as previously mentioned, the discussion on what has changed in the post-pandemic times in terms of public system digitalization is also relevant as it further allows a more active debate on whether improved public e-payment systems influence citizen trust in the government. In this sense, the second section of the case study focuses on understanding the trends of citizen trust concerning e-government in Romania. Even though limited as there is not enough literature on this topic, this information is highly relevant as it becomes the main point of reference for the discussion of the results in terms of citizens' levels of trust in the Romanian government, detailed in the analysis section of this research.

### **3.1. E-government trends in the Romanian landscape**

In Romania, information technology has penetrated mainly in the private sector. The public sector has incomplete systems which are not integrated into the national information flow (Negrusa, Gica, & Comsa, 2009). Citizens' information websites, such as the Presidential Administration, the Chamber of Deputies, the Senate, the government, ministries, local councils, prefectures, town halls, are mostly operational but are not built according to a set of common standards or requirements that allows both the integration in a single portal and the ensuring of optimal conditions for access to information of public interest (Pacesila, 2007). The Romanian governmental strategy for the shift to a more information-based society is centred on information sharing and fair collaboration between all components of society, namely the government, private sector, and civil society (Legislative Portal, n.d.). The Government of

Romania promotes various projects that aim to transform electronic services into a tool for public administration reform. The first results were encouraging. However, they disclosed that this reform must also take place in the office of every civil servant (Legislative Portal, n.d.). The National Electronic System in Romania is a public utility information system that aims to ensure access to public information and provide public services to individuals and legal entities (E-guvernare, 2020). It was launched in September 2003 (E-guvernare, 2020), with the occasion of the inauguration of the Information Technology Promotion Group. This system is accessible on the Internet, at [www.e-guvernare.ro](http://www.e-guvernare.ro).

The current COVID-19 pandemic demonstrates how important digital assets have become for countries' economies and how, according to a report issued by the European Commission (2020), "networks and connectivity, data, AI, and supercomputing, as well as basic and advanced digital skills support economies and societies, enabling work to continue, tracking the spread of the virus, and accelerating the search for medicines and vaccines" (European Commission, 2020). In this regard, according to last year's data published by the European Commission (2020), when the Covid-19 pandemic emerged, Romania was ranked 26th out of the 28 EU member states in the Digital Economy and Society Index (DESI) for the year 2020 – the data having been gathered in 2019 (European Commission, 2020). Based on information collected prior to the pandemic, Romania's performance during 2018 and 2019 was identical in four of the five DESI measured dimensions – connectivity, human capital, use of the Internet, integration of digital technology and digital public services (EUR-Lex, 2021), (DESI, n.d.). This situation was caused by the lack of interest of former governments and the absence of precise planning of the digitization process, the instability at the level of the responsible institutions, and the lack of governmental accountability regarding this major issue (European Commission, 2020).

Starting with November 2019, the digitization process has become one of the main priorities, reflected by establishing a central authority, the Romanian Digitalization Authority (ADR), with the main objective of coordinating the digital transformation process Romanian economy and society. This objective represents a fundamental element serving to implement Romania's new development model and reach similar levels to the more developed European states (Nita, 2021). ADR - The Romanian Digitalization Authority - is an institution created in 2020 to achieve the ambitious objectives of the Romanian government in the field of digital transformation of the Romanian society. ADR is organized and functions as a structure with legal personality within the Government apparatus and under the coordination of the Prime Minister, realizing and coordinating the implementation of public strategies and policies in the

field of digital transformation. And the information society (Romanian Authority for Digitalization, 2020). The Romanian Authority for Digitalization encourages public institutions and those in the private sector to move to the next level in ensuring fast, safe, and efficient services. ADR vouches to build and streamline processes, standardize them, get involved in elaborating correct and clear laws, and aid central and local public administrations in solving concrete, punctual problems (Romanian Authority for Digitalization, 2020). The objectives of the authority are multi-fold. First, it contributes to the digital transformation of the Romanian economy and society. Second, it seeks to establish proper e-government functions at the level of the public administration in Romania by operationalizing the standardization and technical and semantic interoperability of information systems in central public administration and implementing the principles of the Tallinn Ministerial Declaration on e-government in 2017. Finally, ADR contributes to the fulfilment of the objectives for Romania of the financial assistance programs of the European Union in its field of competence (Romanian Authority for Digitalization, 2020). The Romanian Authority for Digitalization has already created various operable platforms dedicated to citizens, such as SEAP, SIAE, aici.gov.ro, PCUe, e-guvernare and, lastly, ghiseul.ro.

Even if Romania recorded the best results in the Internet Connectivity dimension in 2019 (European Commission, 2020), due to the increased utilization of substantially high-speed broadband and the extensive obtainability of fixed networks with high-capacity, more notably in urban zones (UiPath Foundation, n.d.), the digitalization of the economy lagged, according to the European analysis in 2019 which showed that almost a fifth of Romanians have never used the Internet in their lives and less than a third have at least basic digital skills (European Commission, 2020). When referring to graduates in ICT, Romania is in the fifth position, with a score of 5.6% of all graduates, while the average in the EU is 3.6% (Alexandru-Caragea, 2021). Moreover, Romania is in the eighth position in the category of e-government service users, with 82% Internet users, as opposed to the 67% average of Internet users in the EU (European Commission, 2020). Nonetheless, this increased interaction between public institutions and citizens impacts internet users who must present completed forms. The modest results acquired on pre-filled forms and services completed exclusively online, where Romania ranks last (European Commission, 2020), indicate a systemic problem regarding the quality and usability of the services provided. There has been no improvement in digital public services for enterprises, Romania being in last place in this regard (European Commission, 2020).

The causes underlying the precarious development of electronic public services in Romania are, among others, the absence of an efficient and effective IT architecture and the

lack of information systems necessary for central public institutions and the operationalization of electronic public services (Edupedu.ro, 2020). A study conducted in 2018 by Pricewaterhouse Coopers (PWC) on the implementation of digital governance in Romania has revealed that, in the EU, Romania ranks last in terms of digitalization at the economic and social levels, while at the global level, its position is in the second echelon (PWC Romania, 2018). The difficulty that Romania faces in implementing the digital strategy is caused by several barriers, such as the lack of an entity to coordinate efforts to implement the digital strategy, the absence of rudimentary digital skills to allow the utilization of progressive technologies by both citizens and staff of public institutions, the migration of IT specialists to more developed countries, the lack of proper legislation aligned with the European framework that can ensure flexibility in the implementation of digital initiatives, for instance, the implementation of electronic signatures and lastly, the relatively high cost of electronic signature certificates (PWC Romania, 2018). This study is particularly relevant for this research as it identifies and explains the different trends leading to poor implementation of e-governance in Romania and offers recommendations on measures that can be adopted to overcome these obstacles. Moreover, the report also describes the international context, illustrating how other countries approach the digitalization of public services and its benefits to their economy and society (PWC Romania, 2018).

Romania has made significant progress in e-Government, the national system being considered an example of good practice at the European level (Pacesila, 2007). However, the level of interaction between citizens and government remains low, both quantitatively (number of users) and qualitatively (low share of two-way interaction). Also, ensuring the availability of educational services and resources on the Internet, together with increasing the use of the Internet and the provision of computers in educational institutions, will generate a better prepared, more flexible workforce adapted to market requirements with positive effects on labour productivity, wages, and employment (Pacesila, 2007). This education system can also be useful to support permanent training, which is at an extremely low level in Romania. Furthermore, for the development of these services, it is necessary first to provide financial support and consultancy to expand public electronic services, especially for the business environment - Government to Business. (Pacesila, 2007). Secondly, it is important to stimulate the interoperability of public, national, and pan-European services, and exchange good practices. The steps taken in recent years to move to e-government have materialized insignificant results in this area. However, in Romania, there are long delays in implementing programs in the National Electronic System (Pacesila, 2007). The transition to electronic

interaction involves major changes in the internal workings of public administration, requires adaptation and new ways of working, including through appropriate and stable partnerships with the private sector and civil society (Pacesila, 2007). Nevertheless, although Romania is still at the beginning of the road to the effective and efficient digitization of public services offered by central and local public administration agencies and authorities, European Union policies and legislative initiatives have encouraged online resources and promoted ICT in the Romanian society. This fact is demonstrated by the number of people accessing the websites of the national public administration (Anghel & Neagoe, 2015).

### **3.2. E-government and citizen trust in Romania**

The theoretical approach used by E. Mitran and D. Savu, (2020) in their article "Public policies in the digital era", encompasses definitions and taxonomy of public policies, with an emphasis on the public administration digitalization, as well as on decision-making tools and techniques in the field of public policy, but also on methods and instruments for collecting, monitoring, and evaluating information (Mitran & Savu, 2020). These increase the capacity to procure and utilize data for a more precise analysis. This paper is particularly relevant as it highlights the role of the e-PP\_Portal, which is a specialized portal dedicated to specific activities related to public policy, namely definition, analysis, models, decision, implementation, monitoring and evaluation (Mitran & Savu, 2020). It was built in a modern, easily accessible way, using modern computer techniques. It also ensures a flexible system and a collaborative environment, allowing the management of basic activities: gathering, transmitting, processing, and interpreting the information necessary for decision making (elaboration of forecasts, policies, strategies, etc.) (Mitran & Savu, 2020). One of the quantitative methods employed by the authors takes the form of a questionnaire conducted among citizens, illustrating the study of citizens' levels of trust in the decision-making and transparency processes of the national administration and their involvement in the decision-making process. The main conclusion of this article highlights the need to focus on the implementation of digitalized public services to be used by citizens and collecting accurate information based on which a motivated decision can be made (Mitran & Savu, 2020).

Baltaru's paper on e-government in the European Union and the public administration reform focuses on determining the factors contributing to the adoption and development of public services digitalization across EU member states and candidate countries (Baltaru, 2012).

One of the conclusions of this study exhaustively captures the oppressive reality in which Romania persists. According to official statistics, Romania occupies the last position in the general ranking regarding the adoption of e-government at the supranational level and the level of candidate countries. The quantitative data analysis revealed that the variables significantly influencing the adoption of e-Government are the percentage of individuals who use the Internet at least once a week, trust in local public authorities, and the dimensions stated by Hofstede, namely power distance and uncertainty avoidance (Baltaru, 2012). As for the qualitative analysis, it was found that the strategies adopted by the government have a significant influence on the development of digital public service (Baltaru, 2012). One of the recommendations proposed by the author is that, before implementing any strategy, the Romanian government must take measures to expand the infrastructure necessary for the development of e-Government in all areas of the country and to ensure a proper internet connection in regions where it is not provided or is limited (Baltaru, 2012). A correlation was found between households who have access to the Internet and the percentage of people who use the Internet at least once a week. This variable significantly influences the adoption of e-Government (Baltaru, 2012).

### **3.3. Research design**

This study requires quantitative methods to understand and analyse the increasing or decreasing levels of citizen trust in the Romanian government and whether the development of e-government services influences these, more specifically, e-payment systems, in Romania. This research is based on quantitative methods, allowing for a more objective gathering and interpretation of data. The quantitative approach is more scientific and less biased, as the data is collected and analysed using statistics, which eliminates bias in a large proportion. In the same direction, quantitative data collection methods are suitable for this study as they grant more control over the data being gathered. Moreover, as it is experimental research, a quantitative approach is more suitable for testing the given hypothesis and ultimately supporting or rejecting it. Important to mention that quantitative methods allow for the interpretation of data collected from larger samples that are more representative of the population. Furthermore, the quantitative method is highly useful as it permits the findings to be generalised and examine causal relationships between variables. Lastly, quantitative research is more appropriate for this study than qualitative methods as the results can be replicated, ensuring increased reliability.

The most suitable fit for data collection is through the means of a survey, composed of 19 questions, from which 16 are closed questions (multiple-choice question, yes-no questions, Linkert-scale type of questions) and 3 are open questions, where respondents need to fill them in with brief answers. The survey was designed in a bilingual format, created in Romanian and English. The survey was created via the Qualtrics tool offered by Leiden University and was administered via various support groups for Romanian people on social media platforms such as Facebook and LinkedIn. These two social media platforms are a reliable source for representing the sample of the Romanian population. Facebook is the most used social media platform amongst Internet users in Romania to support this argument. According to a study published in October 2021, Facebook remains the most popular social media platform, with 93% coverage among Romanian Internet users in urban areas (G4 Media.Ro, 2021). The questionnaire was also administered to various individuals on LinkedIn who actively follow the Romanian Authority for Digitalization, which implicitly generated a hint that these persons might use e-government services/public e-payment systems. LinkedIn can also be considered a reliable source for representing the Romanian population, specifically the young professionals in Romania, who use this platform regularly for professional reasons. This group of young professionals also accounts for a significant percentage of the survey respondents. The participants were mainly selected based on whether they use e-payment systems. Even though this was not a mandatory requirement, it was made clear in the survey post published on the above-mentioned social media channels that the participants should have used public e-payment systems at least once as to be able to have a main sample of interest and to analyse the data accordingly. The survey was published on 10/12/2021 and was made available for eight days until 18/12/2021. The participants registered to complete the survey via the links in the posts published on the above-mentioned social media platforms. Moreover, the respondents voluntarily took part in the survey without any remuneration.

As for data analysis enables a more accurate explanation of the link between the dependent variable (citizen trust in the government) and the independent variable (public e-payment systems). The analysis also allows for the interpretation of a larger number of responses. In terms of case selection, the sampling strategy used for this research is a randomised one to avoid bias as much as possible and enforce the validity and reliability of the study. In this regard, the participants in the survey are Romanian citizens aged 18 to 55+, from both rural and urban areas, with different levels of education and different professions, varying from students, cooks and taxi drivers to diplomats, doctors, and engineers.



In terms of variable operationalisation, the independent variable represented by public e-payment systems is directly measured in the survey administered to the participants, through closed questions such as “ Do you make use of public e-payment services?”, where respondents are asked to answer with yes/no, or questions such as “ How often do you make use of public e-payment services?”, where the participants need to select the frequency with which they make use of e-payment platforms. Moreover, the survey contains questions where the respondents are asked to rate the main features of the e-payment systems they use, such as user-friendliness, security, transparency, and personal expectations of the given platforms. According to previous empirical studies in e-government use, the characteristics mentioned above are some of the most important features citizens consider when generally evaluating e-government service platforms. However, the extant literature does not specifically approach citizen use of public e-payment systems, which is also significant reasoning for the employment of this variable as the independent variable of the hypothesis.

Furthermore, as far as the dependent variable is concerned, this is represented by citizen trust in the government. To understand how this variable is measured, the participants were directly asked to rate their current levels of trust in the Romanian government, from extremely high to extremely low. This approach has been used by other experts in the field of citizen trust, i.e., Snow-Bailard, who seeks to comprehend whether citizens' access to and use of the Internet influences their perceptions and levels of trust in the government (Barry, 2017). During her field experiments in Bosnia & Herzegovina and Tanzania, Snow-Bailard directly asked the Internet users about their trust levels in their government, the press, democratic institutions, and human rights (Barry, 2017). The author's approach has led to conclusive results which succeeded in bridging the gap in the extant historical literature, represented by the views of non-elites from low-income countries regarding their use of the Internet concerning political, economic, and informational reasons (Barry, 2017).

What is more, the respondents of the survey were required to evaluate, using Linkert-scale questions, the Romanian government's ability to fulfil the social, economic, and political needs of its citizens. This idea behind the structure of this question fits within one of the three-dimensions framework constructed by scholars such as Grimmelikhuijsen and Knies (2017) - who have thoroughly studied citizen trust in governmental organisations – namely, perceived competence. In this sense, the three dimensions of trust in governmental institutions, as established by Grimmelikhuijsen and Knies, are perceived competence, perceived benevolence, and perceived integrity (Grimmelikhuijsen and Knies, 2017). According to the authors (2017), the dimension of perceived competence - which has been used as a foundation to measure

citizen trust in the government in this research paper – is defined as “the extent to which a citizen perceives a government organisation to be capable, effective, skilful and professional” (Grimmelikhuijsen and Knies, 2017). Moreover, similar to the approach used by Grimmelikhuijsen and Knies in formatting some of their survey questions, the Linkert-scale format was used for the questions referring to trust in the government. This approach was most suitable as measuring trust needs to be adapted “according to its relevant context” (Grimmelikhuijsen and Knies, 2017), in this case – the citizen context.

Moreover, question number 18 specifically asks the participants to confirm whether the digitalisation of public-payment systems has increased or decreased their levels of trust in the government. In contrast, the last question requires the respondents to name one or more factors positively influencing their trust in public authorities. In this regard, citizen trust can be measured according to the agency's performance – in this case, the governmental institutions – in providing functioning public e-payment services for the general population. In their study, Morgeson III et al. (2011) have measured the dependent variable of “citizen trust” in two ways, one of them being “generalised trust in Washington”, while the second one – relevant in this case – is “confidence in the agency experienced” (Morgeson III, Amburg, & Mithas, 2011). According to the Morgeson III et al. (2011), the latter is formulated on the idea that “citizens who experienced an agency through e-government will indicate greater confidence in the agency than citizens who experienced the agency through alternative means” (Morgeson III, Amburg, & Mithas, 2011). Judging from this, this question is constructed in such a way as to understand whether e-government service use plays a significant role in increasing citizens’ levels of trust. Moreover, Morgeson III et al. (2011) designed their survey in a similar way, including questions related to citizens’ overall trust in the federal government, satisfaction levels with the provided services, as well as a degree of confidence in the agency they have interacted with ((Morgeson III, Amburg, & Mithas, 2011). In the end, the study results showed that, overall, the use of e-government services does not lead to increased levels of trust in the federal government, nor with more satisfaction and trust in the agency experienced (Morgeson III, Amburg, & Mithas, 2011).

### **3.4. Empirical findings**

As previously mentioned in the research design section, the method for data collection used in this research is a survey – created using the Qualtrics platform offered by Leiden University– which has been completed by a sample of the Romanian population represented by

64 respondents. The survey consists of 19 questions, 16 of which are close ended, while 3 are open-ended questions where the respondents were asked to provide brief answers. The first questions of the survey are demographic-oriented, asking the participants about their age group, their gender, the area in which they live, and their levels of education and profession. The next part of the survey focuses on Internet-related questions (frequency of Internet use, interest in types of Internet content, preferred methods of public payments). Next, the following section focuses on a range of questions related to the digitalization of public administration and public e-payment systems. Lastly, the questionnaire ends by proposing several questions connected to citizens' perceptions and levels of trust in the Romanian government.

The survey results show that out of the 64 respondents, 28 of them are males, 35 are females, and one respondent preferred not to mention their gender. Moreover, in terms of the age group, most of the respondents accounting for 37.50% (24 individuals), are between 18 and 25 years old. The second place in the ranking is occupied by the 41 to 55 years old group, which accounts for 32.81% (21 individuals) of the total participants. The people occupy the third category with ages between 26 to 40 who form 23.44% (15 individuals). Lastly, respondents aged 55 or more account for 6.25% (5 individuals) of the total participants. In terms of geographical localization, the survey results show that the majority of the respondents who form a total number of 57 (89%) live in urban areas, compared to 7 persons (11%) who reside in a rural area. The next question of the survey that respondents needed to answer referred to their levels of education. The answers reveal that half of the people participating in the survey (32 – 50%) have a bachelor's degree, 12 of them (18.75%) have a master's degree, two persons (3.13%) are PhD graduates. In comparison, 14 people (21.88%) have a high school degree, three individuals managed to finish ten grades (4.695), and 1 (1.56%) person has attended school for less than ten years.

1	Male/Bărbat	43.75%	28
2	Female/Femeie	54.69%	35
3	Non-binary / non-binar	0.00%	0
4	Prefer not to say/ prefer să nu spun	1.56%	1
			64

(Figure 1: Gender of the respondents)

1	18-25	37.50%	24
2	26-40	23.44%	15
3	41-55	32.81%	21
4	55 +	6.25%	4
			64

(Figure 2: Age groups of the respondents)

1	Urban area/Zona urbană	89.06%	57
2	Rural area/ Zona rurală	10.94%	7
			64

(Figure 3: Geographical localization of the respondents)

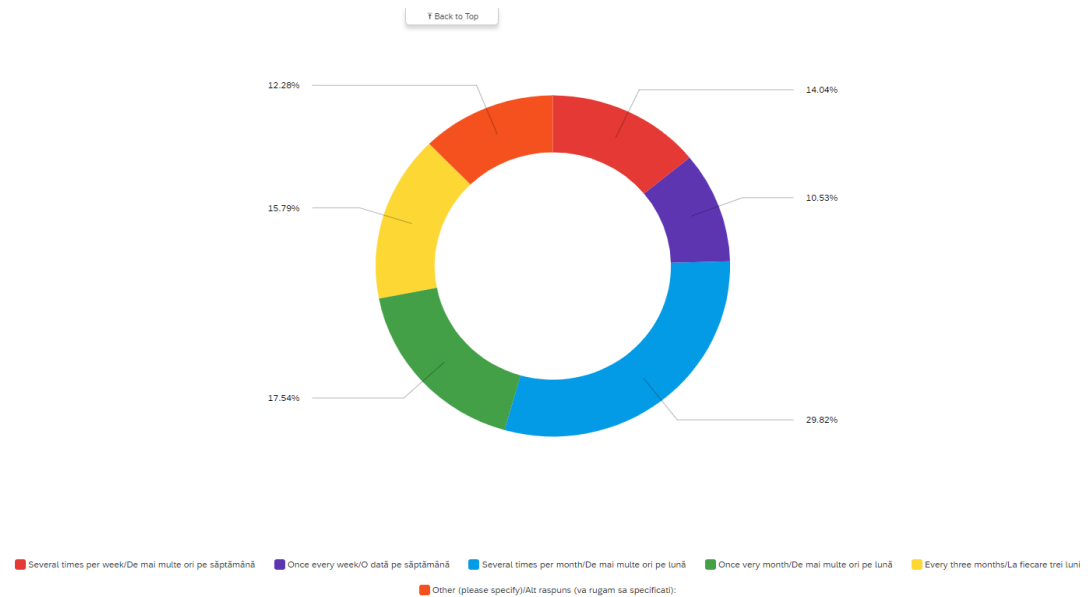
1	Finished less than 10 grades/ Am absolvit mai puțin de 10 clase	1.56%	1
2	10-grade graduate/ Am absolvit 10 clase	4.69%	3
3	High-School graduate/ Am absolvit liceul	21.88%	14
4	Bachelor graduate/ Am absolvit facultatea	50.00%	32
5	Master graduate/ Am absolvit master	18.75%	12
6	PHD graduate/ Am absolvit doctoratul	3.13%	2
7	Other/Alt nivel de studii	0.00%	0
			64

(Figure 4: Education levels of the respondents)

Furthermore, to understand the trends linked to citizens' e-government use, it is essential to identify the profession or domains of activity of the respondents. Among others, the participants have the following professions: economist, engineer, medical engineer, medical assistant, communications inspector, communications consultant, psychologist, professor, civil servant, jurist, cab driver, diplomat, consul, consular clerk, delivery person, lawyer, college professor, schoolteacher, architect, supply chain specialist, mechanic, business administrator, cook, accountant, marketing manager, marketing specialist, electromedical equipment technician, IT specialist, benefits and recognition advisor, policeman, tennis coach, security guard, university professor of biochemistry, translator, project manager, real estate consultant, data analyst, photo editor, finance director, logistics specialist etc. It is necessary to mention that part of the respondents is students with no active profession.

When referring to the use of the Internet, the majority of the respondents, forming a number of 61, confirmed they use the Internet every day, compared to only three persons who stated that they make use of the Internet more than five times a week. When asked what type of content they normally follow on the Internet, the answers display that the respondents are mainly interested in national and international news, online shopping, social media content, music, films and documentaries, technology, science, research, entertainment, sports, politics, finance, comedy, cultural content etc. Next, when asked how they prefer to make online payments (bills, taxes, fines etc.), most of the respondents (approximately 91%) opted for online payment methods. In comparison, 9% (6 people) chose traditional payment methods. The following survey question was designed as a Likert-scale type of question, where participants were asked to evaluate the efficiency of the public system digitalization in Romania. As such, 24 participants have a neutral opinion, considering the public administration digitalization to be neither efficient nor inefficient. Contrary to previous expectations from the extant literature presented in this research, it has been revealed that 23 of the participants – almost 36% - rated e-government services as efficient, and 8 of the respondents rated these as very efficient. On the other hand, a smaller number of people, more precisely 8, consider public e-services inefficient, while one person argues these are very inefficient.

To narrow down the discussion and dive deeper into the main subject of interest, the survey continues by asking the respondent whether they use public e-payment services. The results exhibit that 53 individuals utilize public e-payment platforms, while 11 do not. In addition, the participants were asked to name the main platform(s) they make use of when needing to execute public payments for institutions. In this sense, the main responses consisted of ghiseul.ro, aici.gov.ro, local municipality websites, euplatesc.ro, ANAF, SEAP, PCUe, Netopia Payments etc. As can be seen in Figure 5, in terms of frequency of public e-payment services use, a high number of the respondents, which account for almost 30%, utilize the platform(s) several times per month, 17.54% chose once every month, 15.79% use them every three months, 14.04% selected several times per week. In comparison, 10.53% opted for once every week and 12.28% chose another reason, i.e., once per year, when needed and so on.



(Figure 5 – Frequency of public e-payment services use)

Next, respondents were required to evaluate the public e-payment platform(s) in terms of user-friendliness, security, transparency, and degree of satisfaction in terms of own expectations.

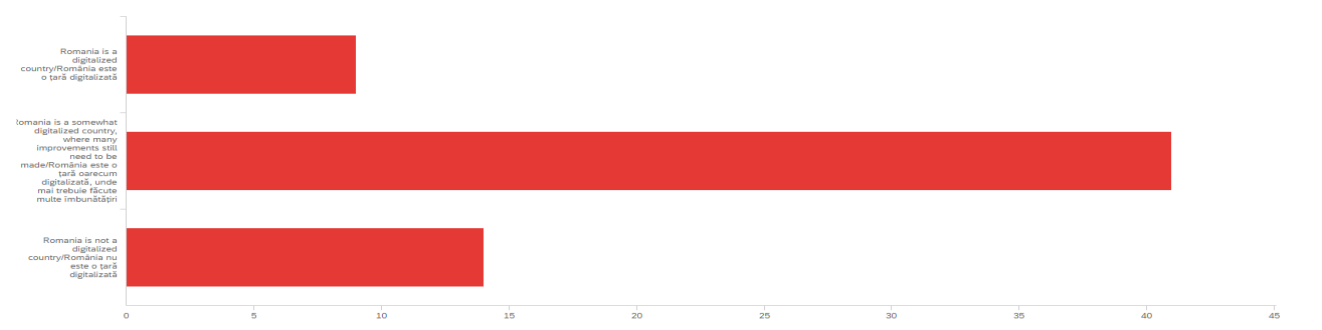
- The public e-payment platform I am using is user-friendly. When evaluating this statement, 17 respondents strongly agree with this statement, 21 somewhat agree, 11 neither agree nor disagree, six somewhat disagree, while none opted for strongly disagree.
- The public e-payment platform I am using is secure. When evaluating this statement, 19 respondents strongly agree with this statement, 16 somewhat agree, 24 neither agree nor disagree, three somewhat disagree, while none opted for strongly disagree.
- The public e-payment platform I am using is transparent. When evaluating this statement, 13 respondents strongly agree with this statement, 21 somewhat agree, 12 neither agree nor disagree, five somewhat disagree, while none opted for strongly disagree
- The public e-payment platform I am using is up to my expectations. When evaluating this statement, 14 respondents strongly agree with this statement, 20 somewhat agree, 11 neither agree nor disagree, six somewhat disagree, while none opted for strongly disagree

In this sense, it can be deduced that the majority of people who use public e-payment systems somewhat agree with each of the proposed statement.



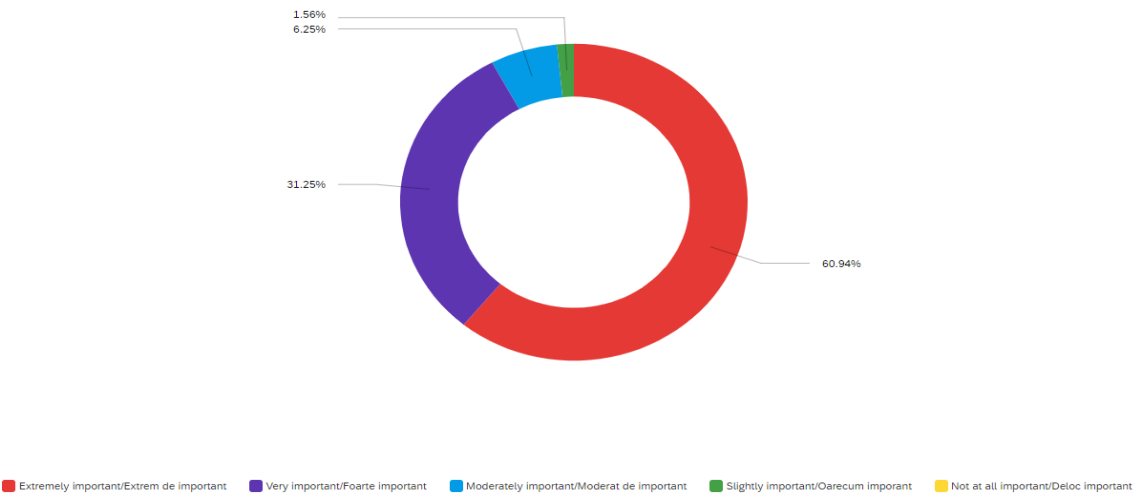
(Figure 6- Platform evaluation in terms of user-friendliness, security, transparency, satisfaction in terms of own expectations).

Furthermore, to understand citizens' perceptions regarding the degree of Romania's digitalization, question number 15 is a multiple-choice question to understand whether the respondents believe the country is digitalized, not digitalized, or somewhat digitalized, however needing more systemic improvements. Therefore, 64% of the participants consider that Romania is a somewhat digitalized country, where many improvements still need to be made, while 14% agree that Romania is a digitalized country and 22% consider it is not.



(Figure 7 – Citizens' perception regarding Romania's digitalization levels)

In the same direction of thought, given the digitalization surge that has been happening in the past two years, participants were asked to evaluate how important they consider it is to be able to make online payments for public institutions compared to traditional methods of payment. The majority of the respondents – 61% - believe it is extremely important to be able to use e-payment services, 31% consider it is very important, compared to 6% who selected moderately important and 2% who think it is slightly important to be able to make online public payments.

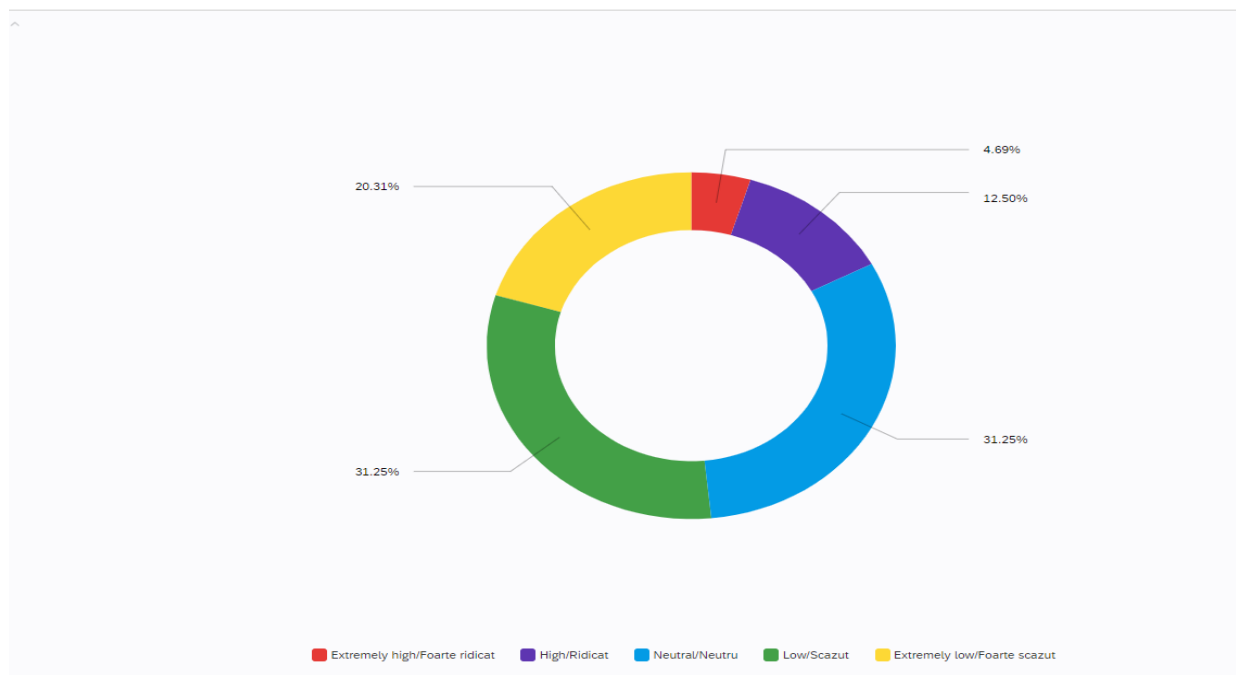


(Figure 8 – Citizens’ evaluations concerning the importance of being able to make online payments for public affairs)

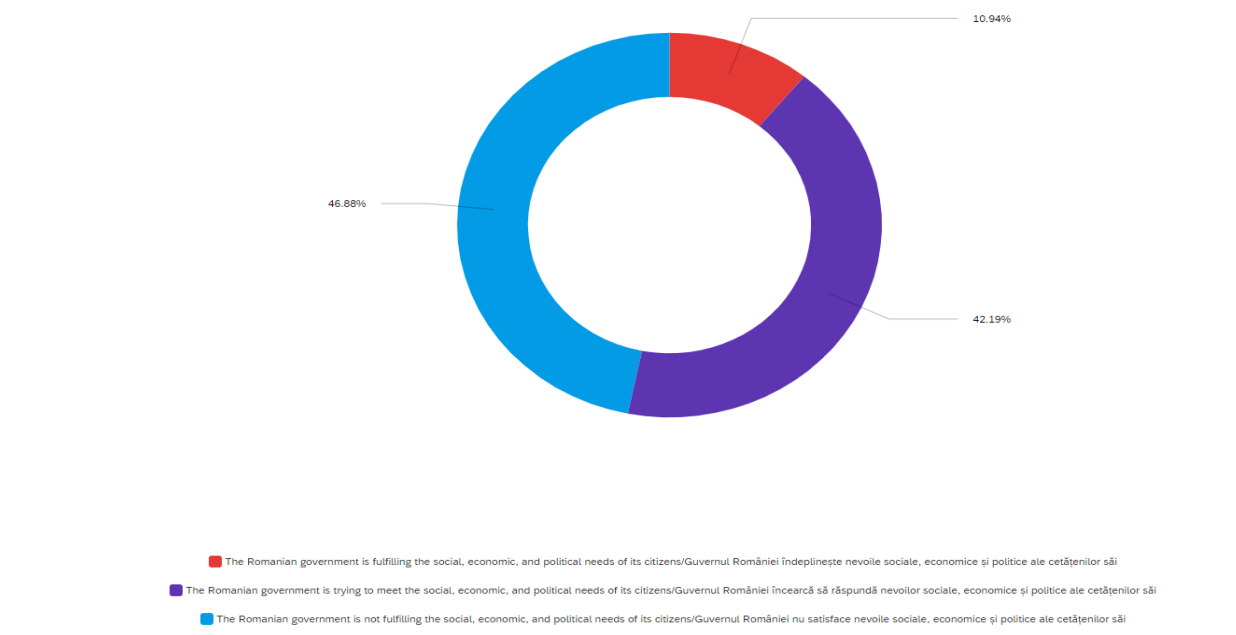
Shifting towards a different set of questions, the last part of the survey highlights the variable of citizen trust in the Romanian government. As such, respondents were required to evaluate their levels of trust in the Romanian government (figure 9). The results show that out of 64 respondents, 20 of them neither trust nor distrust governmental authorities and another 20 persons have a low level of trust. Additionally, 13 individuals have an extremely low trust level in the government, compared to 8 participants who possess a high level and 3 who declared to have an extremely high level of trust in the government of Romania. Following the same pattern, the next question is related to citizens’ perception regarding the ability of their government to fulfil their social, economic, and political needs (figure 10). In this regard, 7 people agree that the Romanian government is fulfilling the social, economic, and political needs of its citizens, 27 individuals believe that the Romanian government is trying to fulfil the social, economic, and political needs of its citizens, while the rest of 30 participants have a negative perception, considering that the Romanian government does not fulfil the social, economic, and political needs of its citizens.



16. What is your trust level in the Romanian government?/Care este nivelul dumneavoastră de încredere în guvernul României?



(Figure 9 – Citizens’ levels of trust in the Romanian government)



(Figure 10 - Citizens’ perception regarding the ability of their government to fulfil their social, economic, and political needs)

As previously mentioned, out of the 64 respondents, 53 of them make use of e-payment systems, while 11 of the total number of participants do not. When referring to the trust levels, out of the 53 respondents which are the main target group, one person has indicated an

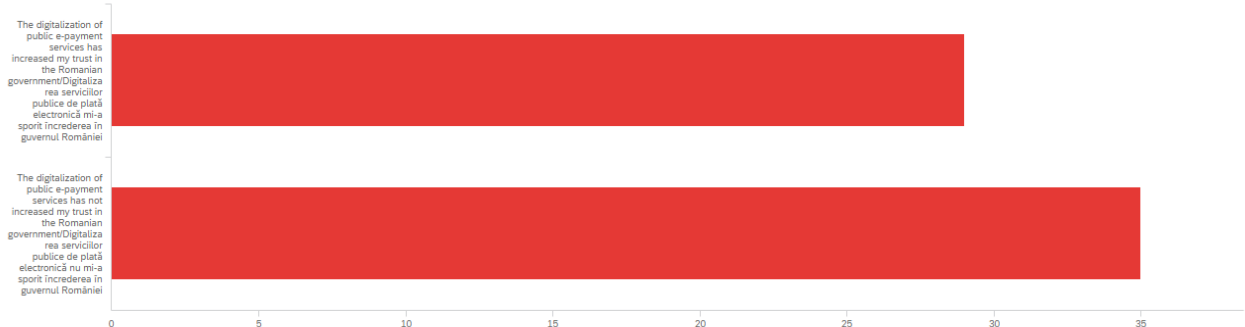
extremely high level of trust in the government, seven of them have a high level of trust, while 18 present a neutral trust level in the government, and the rest of 17, respectively 10 people from the population of interest have a low and extremely low level of trust in the Romanian government. As for the non-target group represented by the 11 people who do not use public e-payment systems, two individuals have confirmed they have an extremely high level of trust in the Romanian government, one has a high trust level, another two respondents have a neutral level of trust, while the remaining six – which form a majority – present low, respectively very low levels of trust in the Romanian government, as it can be observed in Figure 11.

1 16. What is your trust level in the Romanian government?/Care este nivelul dumneavoastră de încredere în guvernul României? 1.00 5.00 3.50 1.09 1.19 64

#	Field	Yes/Da	No/Nu	Total
1	Extremely high/Foarte ridicat	33.33% 1	66.67% 2	3
2	High/Ridicat	87.50% 7	12.50% 1	8
3	Neutral/Neutru	90.00% 18	10.00% 2	20
4	Low/Scazut	85.00% 17	15.00% 3	20
5	Extremely low/Foarte scazut	76.92% 10	23.08% 3	13

(Figure 11 – Citizens’ levels of trust in rapport with the usability of e-payment services)

The survey continues with a highly substantial question which directly asks the respondents whether the digitalization of public payment services has increased their levels of trust in the Romanian government (Figure 12). The majority of individuals who took part in this survey, namely 35 (54.70%) stated that the digitalization of public payment systems has not increased their levels of trust in the Romanian government, while the rest of the participants (29 – 45.30%) believe otherwise.



(Figure 12 - Citizens’ perception on the relationship between implementation of public e-payment systems and trust)

Lastly, the remaining question of the survey requires the participants to name at least one factor that would increase their trust in the government. Among the various answers, some of the most notable answers from the respondents are better social policies for the population, improved financial policies, less corruption acts, more governmental accountability and correctness, more transparency of the state, promises made during elections need to be transformed into reality, more political stability & continuation of government projects and initiatives, more determination to meet the social and economic needs of the population, policies that enable beneficial results for citizens, investments in the digitalization of several sectors of activity, depoliticization of state institutions, allocation of funds for the academic development of Romanians, allocation of financial resources for the development of research in science, government to connect to people's needs etc.

### **3.5. Analysis**

This section serves to analyse the results of the survey - administered to the 64 Romanian citizens - in light of the theoretical paradigms previously formed on the topic of e-government and citizen trust, as well as the implementation of public e-payment systems in Romania. In this sense, the analysis seeks to allow a better understanding of the formulated hypothesis and, more importantly, shows whether the empirical findings align with the theoretical framework. In other words, the analysis will either confirm or reject the hypothesis: *The use of improved public e-payment services in Romania results in higher levels of citizen trust in the government.*

The empirical findings gathered from the quantitative data collection methods – the survey which was completed by 64 Romanian citizens – demonstrate that generally, the population is quite digitally literate as almost all the participants make use of the Internet every day, they follow a variety of content on the Internet and their most preferred ways of payment, i.e., bills, taxes, fines are online methods of payment. Even though this type of digital behaviour is common in developed countries, it is important to note that, while Romania benefits from one of the fastest broadband internet connections in the world (Melenciuc, 2018), almost a fifth of Romanians have never used the Internet in their lives and less than a third have at least basic digital skills (European Commission, 2020). Nonetheless, a higher percentage of the digitally illiterate individuals in Romania live in rural areas, while the respondents of the survey come, for the most part, from urban areas, where internet access and usability is more common and frequent (Vasilache A., 2021).

In terms of digitalisation of the public sector, when the Covid-19 pandemic emerged, Romania was ranked 26th out of the 28 EU member states in the Digital Economy and Society Index for the year 2020 – the data having been gathered in 2019 by the European Commission (European Commission, 2020). Another study conducted in 2018 by PWC revealed that in terms of digitalisation at the economic and social levels, Romania was ranked in the last position. The report concluded that, among other impediments, one of the most significant obstacles the country is facing in implementing the digital strategy is the lack of a legitimate and properly functioning entity responsible for coordinating efforts to implement the said digital strategy (PWC Romania, 2018). Then, when the spread of the Covid-19 virus generated a 3-month long lockdown that prohibited individuals from leaving their residences unless strictly necessary, i.e., health reasons, supplying food, urgent travels etc., the government created the Romanian Authority for Digitalization to facilitate, among others, digital payments for public institutions such as taxes, fines, or different bills to be paid by citizens (Romanian Authority for Digitalization, 2020). From that point onwards, a part of the population started to utilise these digital platforms as a replacement for traditional methods of payment. In this sense, the findings show that, out of the 64 respondents, 53 of them make use of public e-payment systems. More specifically, out of the 53 users, 8 of them use public e-payment platforms several times per week, 6 of them – once a week, and 17 of them utilise these services several times per month. Thus, it can be concluded that these online payment applications are efficient, functioning and successfully promoted as a significant number of citizens started to use them, some with more frequency than others. To reinforce this statement, the results show that, out of the total of respondents, 23 participants consider the public system to be well digitalised, while 8 of them believe that e-services in Romania are very efficient.

In a broader sense, while some believe that non-Western European countries are lacking resources in terms of digitalisation of public services due to poor economic development and lack of resources in the digital sector (ERCAS, 2015), recent studies have revealed that Romania has made significant progress in the field of e-Government, the national system being considered as an example of good practice at the European level (Pacesila, 2007). This affirmation is also backed up by the opinion of the citizens who took part in the survey, most of them – 64% – considering that Romania is a somewhat digitalised country, where many improvements still need to be made, while 14% of the respondents agree that Romania is a digitalised country. Overall, it seems that Romanian citizens are not necessarily reluctant to use e-government services, but even more than this, they argue that the country has developed in terms of public sector digitalisation.

When looking at the e-government services offered by countries with an improved level of digitalisation, different studies show that citizens are more inclined to adopt and use the digital platforms of public institutions if they are designed to be highly secure (Treibkmaier, Floh, & Pinterits, 2006). In this sense, the participants were asked to review the e-payment systems they use according to four main factors, namely, user-friendliness, security, transparency, and satisfaction in terms of their own expectations. When referring to the "security" feature, more than half of the respondents agree that the platform they are using when making online payments for public institutions is secure. Furthermore, an important element in the design of e-government services and, implicitly, e-payment systems is transparency. In this sense, the simplified procedures integrated into the design of public e-payment systems limit the intervention from public officials and politicians in these processes, therefore rendering them more transparent (Gilbert, Balestrini, & Littleboy, 2004). This is a significantly important feature, especially for the public administration systems of countries that seem to have experienced a surge in corruption cases made by public officials (ERCAS, 2015). In this regard, the results of the survey show that the majority of the respondents, consisting of a total of 34 individuals, who use public e-payment services rate these platforms they make use of as being transparent. This is an essentially positive finding which can successfully enhance the country's development towards more transparency in the public administration system, as well as its progress in the fight against corruption.

The emergence of new forms of interaction based on information technology highlights the opportunity to establish a direct and dynamic relationship between the public administration and its stakeholders, especially with citizens (Roja & Boc, 2021). Digital technologies allow the administration to provide a more appropriate and tailored response to citizens' expectations in terms of public services, policies, trust, co-participation, and consequently, a new perception of the administrative process and new experiences for citizens. Moreover, connecting and informing citizens through digital services, which define the concept of digital governmental interaction in public administration, contributes to increasing public engagement (Roja & Boc, 2021). Digital interaction is an opportunity to strengthen and support participatory democracy, to consult and co-create value with citizens through the digitalised administrative process. In this sense, the topic of digital interaction seems to be positive in popularity among the respondents of the survey, as most of the participants (39 individuals) consider it is extremely important to be offered by their governments the opportunity to make online payments for public institutions, in an efficient way, while 20 persons agreed it is very important.

Moving towards the subject of citizen trust in the government and its connection to the use of e-government services, one can note that the opinions of scholars from the presented literature are twofold. On the one hand, academics such as Tolberg and Mossberger (2006) suggest that increased citizen trust in governmental authorities correspond to the more rigorous use of e-government services (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). The same views are adopted by Gracia & Ariño (2014), who argue that when citizens perceive e-government services as having a great degree of quality, trust in the public administration is exponentially growing (Gracia & Ariño, 2014). On the other hand, scholars such as Parent et al. (2005) argue that "if politicians aim to increase trust, they would be better served to focus on non-Web-based courses of action. The bureaucracy, seeking efficiency in service delivery, is better served to do the same, perhaps at the expense of improvements in Web site performance" (Parent, Vandebeek, & Gemino, 2005). Similarly, other empirical research conducted across various countries demonstrates that only a negligible percentage in the increase of citizen trust in public authorities has resulted from actual e-government operations (Morgeson III, Amburg, & Mithas, 2011). To exemplify, the data gathered from respondents of the survey shows that, out of the 53 participants who utilise public e-payment systems, more than half of them have indicated low and very low trust levels in the government. Similarly, from the non-target group represented by the 11 participants who do not use e-payment services, it has been revealed that the majority of them also present low and very low levels of trust in the Romanian public authorities. In this sense, it can be concluded that there are no major differences between the population of interest and the non-target group as concerns the degree of trust conferred to the government of Romania. Moreover, there is no pattern detected in the use of e-payment systems influencing citizen trust in the government. Nonetheless, it is important to address the chicken-egg problem in this case, as it is difficult to assess whether the use of e-payment systems significantly influences citizen trust or vice-versa.

The case presented in this research, which refers to the Romanian context, shows more similarities with the second school of thought reflected in studies such as the one conducted by Parent, Vandebeek and Gemino (2005) or the work produced by Morgeson III, Amburg and Mithas (2011). In this sense, the results show that more than half of the respondents, amounting to a total of 35 (54.70%) who actively use public e-payment services, indicated that the digitalisation of public payment systems had not increased their levels of trust in the Romanian government. This finding can better be explained in the following way: while the majority of the respondents who utilise e-payment platforms for public institutions generally perceive these as well-functioning, user-friendly, secure, and transparent, this factor does not seem to

influence the citizens' trust levels in the government specifically. From what the results have shown, the low degree of trust in the government (more than half of the participants have low and, respectively, very low trust levels in the Romanian government) is impacted by other elements such as corruption acts, poor economic development, insufficient transparency and accountability of the state, politicisation of state institutions, lack of socially and financially oriented policies centred on the needs of the citizens, lack of investments in resources and unjust allocation of funds etc.

Furthermore, the trends of declining citizen trust in the government of Romania seem to fit within some of the paradigms explained by certain experts in this field, who have analysed these developments from different angles. For instance, authors John R. Hibbing and Elizabeth Theiss-Moore have argued that a significant part of the American population distrusts their governments and political representatives due to the inability of their elected representatives to make effective decisions that would benefit the public good. Conversely, scholars such as Perez-Morote, Pontones-Rosa, Nunez-Chicharro (2020) suggest that events such as economic crises, corruption cases, or disclosed classified information could play a significant role in the way citizens perceive trust in their governments or public administrations systems. The most reliable way to measure trust in the government is by evaluating the degree to which citizens believe that public institutions operate primarily considering the interests of the population (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020).

Taking all of the above into consideration, it can be concluded that the given hypothesis was not supported. From the data analysis, it can be concluded that, for the most part, the use of public e-payment systems in Romania does not result in higher levels of citizen trust in the government. This can be supported by the empirical findings, which indicate that the majority of respondents from both the target group (users of e-payment services) and the non-target group (non-users of e-payment services) seem to have low and respectively very low levels of trust in the government, irrespective of whether they utilise public e-payment systems or not. On the other hand, the results also show a certain degree of trust in public authorities among both groups, even though the individuals from these two groups are not majoritarian. The general finding of this research that the use of improved public e-payment services does not play a significant role in influencing citizens' levels of trust in the Romanian government aligns with some of the scholarly work conducted by experts on e-government and citizen trust, such as Parent et al. (2005) who argue that, in order to increase citizen trust in public authorities, elected officials should focus their efforts and attention on "non-Web-based courses of action" (Parent, Vandebek, & Gemino, 2005). Similarly, scholars such as Morgeson III et al. (2011)

concluded from their findings that there is an overall sense that providing e-government services does not lead to a visible increase in citizen trust towards a specific institution or the federal government (Morgeson III, Amburg, & Mithas, 2011). While the theoretical arguments presented in the literature review are two-folded, the studies adopting positive views that e-government use increase citizens' trust levels in the government are normally conducted based on data gathered from countries where the general population normally confers a fairly higher degree of trust in their elected public officials. Nonetheless, as the results have shown, Romania is a country where citizens are reluctant to trust their government due to the latter's inability to provide a proper standard and quality of life for the population.

#### **4. Conclusion**

Information communication technology systems have proven to be increasing in popularity and usability as all the sectors of society are in continuous development, requiring constant technological improvements. In this regard, the past two decades have witnessed surging trends in applying ICT processes in public administration. As mentioned in the previous chapters of this research, using technology in support of government activity can contribute to a more accessible, rapid, cost-effective, and more efficient public administration. To be more precise, the proper implementation of e-government services can offer many benefits ranging from simplified bureaucratic procedures, improved access to information to reduced public spending, decreased corruption levels, the stronger administrative capacity of public institutions and fewer complications for citizens. While e-government trends benefit from more functionality and usability in developed countries, the case is not the same for developing and less developed states, where governments are still struggling or, in some cases, are even reluctant towards the idea of designing well-functioning digital public services for the public administration and the citizens. It has been appreciated that e-government services are a broad topic of study. Therefore, this research has focused on public e-payment systems as a subcomponent of e-government.

More importantly, the research problem is related to an existing gap in the extant literature which refers to the missing link between public e-payment systems and citizen trust in the government. The dependent variable embodied by "citizen trust" is a complex and difficult to measure concept, which is interpreted differently by the various experts in the field. The common view of scholars who have focused their work on citizen trust in public authorities is that, generally, citizen trust in their national and local governments have gradually decreased



over time. One of the schools of thought on citizen trust argues that people's levels of trust in the government are influenced by various factors such as quality of life, transparency of the public system, security, economic development, education levels, social and economic policies etc. Studies focusing on citizen trust in less developed countries, such as non-Western European countries (especially Eastern-European countries from the former Communist block), generally agree that the average population tends to have lower levels of trust in the government than citizens of developed countries. This is due to low standards of life, improper educational systems, low income per capita, corruption, decreased levels of transparency of the state etc. (Pérez-Morote, Pontones-Rosa, & Núñez-Chicharro, 2020). Thus, in countries with lower economic and social standards, corruption is a leading factor contributing to decreasing levels of citizen trust in the government.

Even though scholars have sought to understand and bridge the gap between the impact of e-government service use and citizens trust in e-government, little has been written on how or whether public e-payment systems play any role in influencing trust in the government, especially in non-Western European countries. In this sense, the research question of this study - *how does the implementation of public e-payment systems influence Romanian citizens' level of trust in the government*- has sought to be answered according to the given parameters. Both the theoretical and empirical findings of this research have highlighted the decreasing levels of citizen trust in the government of Romania as a result of multiple systemic factors such as poor economic development, corruption, lack of competent politicians, flawed social and economic policies, improper allocation of funds, insufficient investments in resources etc. Nonetheless, the use of improved public e-payment services does not seem to generally influence the citizens' levels of trust in the Romanian government. For instance, the survey administered to the random sample of 64 Romanian citizens has revealed that more than the majority of the participants – who use e-payment services - argue that implementing public e-payment systems has not increased their levels of trust in their elected representatives.

## **5. Limitations & Recommendations**

One of the limitations of this research refers to the structure of the literature review. The final topic of interest from the literature review was supposed to focus on the link between e-government, public e-payment systems, and citizen trust in the Romanian landscape. Nevertheless, it is important to mention that little to no literature has been found on this subject and more specifically, on the link between the above-mentioned variables, due to lack of

research in the field of public systems digitalization in Eastern European countries. Moreover, given the fact that public e-payment systems are a new feature of the digital interaction in the Romanian public administration, there are insufficient studies on this topic, therefore the lack of linkage to previous literature. Nonetheless, this research sought to bridge the missing gaps in the limited literature on public e-payment systems in Eastern European countries. In this sense, this study is expected to become the foundation for future studies which will further deepen the understanding of behavioural consequences of the Romanian population towards the digitalisation of public services, starting with the most vital one: public e-payment systems.

Furthermore, another limitation has been discovered in the data analysis process, where there is a certain bias detected in some of the answers regarding the perception of trust in the government. To exemplify, the notorious corruption cases that have been happening in the past decades in the Romanian political scene has substantially transformed people's perceptions and levels of trust in their elected officials. Given the magnitude of this factor, there is a possibility of bias in the way people answered the questions of the survey regarding trust in the government, in the sense that the respondent might have based their answers solely considering the corruption factor, as well as the inability of public officials to fulfil their promises and deliver results.

In terms of recommendations for further research on this topic, it would be relevant to investigate, in a more detailed manner, the concept of citizen trust in governments in Eastern European countries, thus understanding whether there are certain similarities or differences in the way people perceive trust and how levels of confidence in public authorities differ according to factors such as education, social and economic background, culture, history etc. Moreover, in order to be able to bridge the gap between the dependent and independent variables more coherently, it is advised to conduct more research and investigate on public e-payment systems in Romania. For instance, conducting interviews with public officials or representatives of institutions operating in the digital sector in Romania, such as the National Authority for Digitalization, could be beneficial for improving the validity and reliability of future studies, as well as enriching the limited literature on this topic.

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## 7. Appendix

### Questionnaire

*Introduction: My name is Mara Olteanu, and I am currently conducting my master dissertation on the topic of e-government and citizen trust in Romania. More specifically, my research goal is to understand whether the implementation of public e-payment systems influence Romanian citizens' level of trust in the government. For the purpose of this research, I have created a survey consisting of a total of 19 questions, 3 of which are open-ended questions, and the rest are closed-ended questions. All the answers to this survey will remain and be treated with strict confidentiality and will be used only for research purposes. In this regard, I am kindly asking you to answer all questions truthfully, as this will help in providing more accurate results. This survey will take between 5-7 minutes to complete. Thank you for taking the time to participate in this survey! Your contribution is highly appreciated!*

1. What is your age:
  - 18-25
  - 26-40
  - 41-55
  - 55+
2. What is your gender:
  - Male
  - Female
  - Other
  - I do not want to specify
3. Where do you live:

- Urban area
  - Rural area
4. What is your level of study?
- Finished less than 10 grades
  - 10-grade graduate
  - High-school graduate
  - Bachelor graduate
  - Master graduate
  - PhD graduate
  - Other:
5. What is your profession?
6. How often do you make use of the internet?
- Everyday
  - More than 5 times a week
  - 1-4 times a week
  - Less than once/week
7. What type of content are you interested in looking at on the internet?
8. What is your most preferred way of paying your bills/taxes/fines?
- On the internet
  - Traditional methods: at the public service counter
9. On a scale from one to five, how efficient do you think the public system digitalization is in Romania:
- Very efficient
  - Efficient
  - Neither efficient nor inefficient
  - Inefficient
  - Very inefficient

10. Do you make use of public e-payment services?

- Yes
- No

11. If your answer to question number 10 was yes, could you please specify the platform you use:

12. If your answer question number 10 was yes, how often do you make use of public e-payment services?

- Several times per week
- Once every week
- Several times per month
- Once very month
- Every three months
- Other (please specify):

13. If your answer to question 10 was yes, please rate the below statements:

- The public e-payment platform I am using is user-friendly (strongly agree, agree, neutral, disagree, strongly disagree)
- The public e-payment platform I am using is secure (strongly agree, agree, neutral, disagree, strongly disagree)
- The public e-payment platform I am using is transparent (strongly agree, agree, neutral, disagree, strongly disagree)
- The public e-payment platform I am using is up to my expectations (strongly agree, agree, neutral, disagree, strongly disagree)

14. Please choose one of the below statements:

- Romania is not a digitalized country
- Romania is a somewhat digitalized country, where many improvements still need to be made
- Romania is not a digitalized country



15. How important do you consider it is to be able to make online payments for public institutions compared to traditional methods of payment?

- Extremely Important
- Important
- Neutral
- Low Importance
- Not At All Important

16. What is your trust level in the Romanian government/Romanian public authorities?

- Extremely high
- High
- Neutral
- Low
- Extremely low

17. Please choose one of the following statements:

- The Romanian government is fulfilling the social, economic, and political needs of its citizens
- The Romanian government is not fulfilling the social, economic, and political needs of its citizens
- The Romanian government is trying to meet the social, economic, and political needs of its citizens

18. Please choose one of the following statements:

- The digitalization of public payment services has increased my trust in the Romanian government
- The digitalization of public payment services has not increased my trust in the Romanian government

19. Please name at least one factor that would increase your trust in the Romanian government.