

From bureaucracy to e-Government: Digital transformation of Public Administration in Romania for a sustainable future

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ABSTRACT:

The digital transformation of public administration is an essential pillar for modernizing and streamlining public services, contributing to a sustainable future. Romania has adopted ambitious strategies for digitalization, aligning with European initiatives such as the Digital Compass 2030 and using tools such as the National Recovery and Resilience Plan. However, progress is uneven, and Romania consistently ranks last in the European digitalization rankings (DESI). This research aims to investigate how public administration in Romania is evolving towards e-government, analyzing the policies, strategies and determinants of this process, to identify the main challenges and opportunities associated with the digitalization of the public sector. The methodology used is based on comparative analysis of public policies and secondary analysis of existing data, examining strategic documents, international reports and relevant national initiatives. Strategic documents (SNDICDR, PNRR), international reports (DESI, Eurostat) and national initiatives (Ghișeul.ro, e-government hubs) are examined to highlight progress, bottlenecks and lessons learned. A SWOT analysis is also carried out to identify the strengths and weaknesses of the digitalization of public administration in Romania, correlated with the opportunities and threats in the European context.

The results suggest that, although there is a strategic framework and significant funding, the lack of clear coordination, the insufficiently adapted legislative framework and the low degree of adoption of digital services by the population and SMEs remain major challenges. The study provides a critical perspective on the factors that facilitate or hinder the transition to e-government and proposes directions for strengthening the digital transformation in Romanian public administration.

Keywords: digital administration, e-government, public policies, digitalization, Romania, sustainability

1. Introduction

The digitalization of public administration is a key priority in the contemporary context, where the efficiency and transparency of public services are indispensable for the sustainable development of society. In Romania, the transition from the traditional bureaucratic system to electronic governance (e-Government) is supported by ambitious strategies and significant funding, aligned with European initiatives such as Digital Compass 2030 and the National Recovery and Resilience Plan (PNRR). However, the progress made is uneven, and Romania continues to occupy lower positions in European digitalization rankings, such as the Digital Economy and Society Index (DESI).

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This research aims to analyze how the Romanian public administration is evolving towards the adoption of e-government, identifying the main policies, strategies and determinants involved in this process. The final objective is to highlight both the existing challenges and opportunities that can contribute to accelerating the digital transformation and strengthening the sustainability of the public sector.

2. Literature review

The digital transformation of public administration is a complex phenomenon that involves profound changes in organizational structures and in the way public services are delivered to citizens. According to Gustafsson (2017), the digitalization of public administration involves a continuous translation of digital strategies into concrete actions by local actors, which involves significant organizational and cultural challenges. In this regard, several studies (Cordella, 2007; Cordella & Tempini, 2015) have analyzed the relationship between electronic bureaucratization and the capacity of public administration to adapt to rapid changes. Moreover, Cordella and Tempini (2015) emphasize that digitalization does not completely eliminate bureaucratic structures, but rather reconfigures them in an electronic format, influencing the efficiency and transparency of public services. This perspective is also supported by Gil-Garcia and Martinez-Moyano (2007), who argue that the digital transformation of public administration is strongly influenced by existing regulatory systems and rules, thus being an incremental and context-dependent process.

In the recent literature on digital governance, Dunleavy et al. (2006) propose the concept of “digital governance”, characterized by efficiency, openness and citizen-orientation, as an alternative to the traditional model of “New Public Management”. This vision aligns with the Digital Compass 2030 objectives of the European Commission (European Commission, 2021), which aims to create a competitive and sustainable European digital space.

However, the DESI reports (European Commission, 2022; European Commission, 2024) highlight Romania’s significant gaps in digitalization compared to other EU member states. Recent studies (Ciobanu et al., 2019; Damaschin & Mihăilă, 2023) however identify structural barriers such as the lack of clear coordination, the insufficiently adapted legislative framework and the reluctance of the population to adopt digital services. Such issues are also addressed in the analysis of Turmac (2023), which provides a practical perspective on the technical tools used in the digitalization of social services at the local level and from a strategic point of view, Bryson (2018) emphasizes the importance of coherent and sustainable strategic planning in the context of digitalization. In Romania, strategies such as SNDCIDR and PNRR are welcome but their implementation is still fragmented and uneven (Matei et al., 2010; Burlacu et al., 2022). Moreover, in the Romanian context, the issue of transparency and corruption approached from the perspective of digitalization is analyzed in comparative and correlative studies (Androniceanu et al., 2022; Profiroiu et al., 2019). These studies suggest, however, that digitalization could contribute significantly to increasing transparency, provided that institutional and cultural resistances are overcome. Recent research has also shown that the COVID-19 pandemic has emphasized the need for digitalization of public services,

accelerating the adoption of digital solutions (Negescu et al., 2021; Popescu et al., 2021) and this context has led administrations to adapt quickly, highlighting both systemic vulnerabilities and emerging opportunities of digitalization (Burlacu et al., 2021).

In the context of sustainable development, much debated in today's research, more than five years ago Rădulescu, Burlacu and Bodislav (2019) argued that e-government would represent a paradigm for sustainable governance with a positive impact on economic and social development (Burlacu et al., 2019; Burlacu et al., 2022).

3. Methodology

The methodology used in this study is a mixed one, which included qualitative and quantitative methods, for a comprehensive approach to the digitalization process of Romanian public administration. In the first stage, the research was based on the comparative analysis of strategic documents and relevant public policies, both at national level (SNDCIDR, PNRR) and at European level (Digital Compass 2030). This analysis allowed the identification of the assumed objectives and the assessment of the progress made in relation to the strategic objectives. Subsequently, a secondary analysis of statistical data and international reports, such as DESI and Eurostat reports, was carried out to highlight the degree of adoption and use of digital technologies in public administration in Romania compared to other European countries. In addition, a qualitative analysis was carried out by examining the content of official communications. Finally, the SWOT method was applied to diagnose the current situation and to identify the strengths and weaknesses of public administration in Romania in the context of digitalization, correlated with the opportunities and threats existing at the European level..

4. Result and discussion

The research conducted allowed for an in-depth analysis of the digitalization of public administration in Romania, in a European context, with a focus on identifying the factors influencing the transition from a traditional bureaucratic model to one based on digital governance. The results obtained indicate the existence of significant differences between Romania's strategic aspirations, expressed through documents such as the SNDCIDR and the PNRR, and the realities encountered in administrative practice.

The analysis of empirical data and the review of the literature revealed that, although Romania has adopted coherent strategies, in line with European initiatives (European Commission, 2021), the implementation process is characterized by fragmentation and inequality. Major challenges were identified both in the existing digital infrastructure that explains the low level of use of digital services by citizens and the business environment, as well as significant limits in terms of digital skills developed at the level of civil servants. A synthesis of the main findings resulting from the research and the specialized literature is presented synthetically in Table 1:

Table 1. Key findings on the digitalization of public administration

Area analysis	Findings extracted from literature and empirical sources	Main source
Strategic framework	National strategies coherent and aligned with EU policies, but fragmented and uneven implementation	Bryson (2018); Matei et al. (2010)
Digital infrastructure	Existing infrastructure, but insufficient, fragmented and unevenly distributed	Ciobanu et al. (2019); Damaschin & Mihăilă (2023)
Use of digital services	Low level of digital adoption among citizens and SMEs	DESI (2022); European Commission (2024)
Human resources and skills	Significant digital skills deficit in public administration	Gong et al. (2020); OECD (2019)
Coordination and interoperability	Persistent coordination and interoperability problems between institutions	Gil-Garcia & Martinez-Moyano (2007); Matei et al. (2010)
Organizational Culture	Resistance to change and persistence of traditional bureaucratic culture	Cordella (2007); Cordella & Tempini (2015)
Impact on sustainability	Limited impact on sustainable development due to poor implementation	Rădulescu et al. (2019); Burlacu et al. (2022)

The analysis confirms that, although there are clear resources and policies, the major problems are generated by insufficient implementation capacity, lack of coordination and interoperability and organizational culture resistant to change. Complementarily, the results suggest the need for integrative approaches that could combine technical and organizational elements with the social and cultural dimension of digitalization. The idea of creating a coherent and adaptable digital ecosystem that can effectively contribute to sustainable development and to improving the services offered to citizens emerges, which is in line with the findings in the specialized literature that recommends a series of sustained investments in infrastructure, professional training and the development of a pro-digital organizational culture as key factors in the success of the strategic implementation of e-government in Romania.

SWOT Analysis

SWOT analysis is a valuable methodological tool in identifying the factors influencing the digitalization of public administration (Helms & Nixon, 2010) and facilitates the assessment of strengths, weaknesses, opportunities and threats associated with this process. Based on the results obtained and the syntheses of the specialized literature, a SWOT analysis was developed for the digitalization of public administration in Romania:

Strengths	Weaknesses
- Coherent strategic framework aligned with Digital Compass 2030	- Low level of digital skills among civil servants
- Existence of functional platforms (e.g. Ghișeul.ro)	- Poor inter-institutional coordination
- Available European funding (PNRR, ERDF, other EU instruments)	- Fragmented digital infrastructure and lack of interoperability
Opportunities	Threats

- Increased interest of citizens and SMEs in digital services	- Risk of failure in absorbing funds due to internal bureaucracy
- Public-private partnerships to accelerate digitalization	- Vulnerability to cyber attacks
- Reforms imposed by the EU and conditioned by PNRR	- Lack of continuity in policy implementation depending on the political cycle

This analysis confirms that Romania is at a favorable strategic moment, but the success of the transition depends on the administration's ability to correlate the strategic vision with coherent and sustainable operational actions..

Table 3. Degree of use of e-Government services in Romania and the EU

Indicator	România (%)	Media UE (%)
Use of public digital platforms	25	65
Online citizen-government interactions	20	58
Fully digital services	18	62

Source: Eurostat (2023), DESI (2023)

Table 4. Financing of digitalization through PNRR and absorption of funds

Component	Allocated funds (million EURO)	Absorbed funds (%)
Digitalization of public administration	1200	30
IT&C infrastructure	800	40
Digital education	600	25

Source: Ministry of Investments and European Projects (2023), Report on the implementation of the PNRR (2023)

The analysis reveals that in Romania there are major discrepancies between the proposed strategic objectives and the results actually obtained, as illustrated in Table 3 and Table 4 and these differences between Romania and the EU average reflect deep structural challenges, including the lack of inter-institutional coordination, the under-financing of certain key components as well as a possible reduced administrative capacity.

Despite the relatively well-defined strategic framework and the financial resources allocated through European instruments, the digitalization of public administration in Romania seems to suffer from a series of systemic dysfunctions, which affect the implementation capacity and efficiency of digital public services. Table 3 and Table 4 reveal a major gap between the assumed objectives and the realities on the ground, which may indicate a structural problem, which could not be corrected only by specific investments, but would require deep reforms at the institutional and organizational level.

Another critical element identified in the research is the weak interaction between the state and citizens through digital channels, illustrated by the low level of use of e-Government services revealed by the fact that only 20% of Romanian citizens interact online with authorities, while the European average is 58%. This difference seems to reflect not only the lack of infrastructure or functionality of the platforms, but also an issue of trust and perceived usefulness, which is not sufficiently addressed in existing strategies nor in recent research disseminated in the mainstream of knowledge in the specialized literature.

In addition, the qualitative analysis of official documents and public discourse reveals a tendency of institutional fragmentation, where different authorities seem to manage digital initiatives without a clear mechanism of interoperability or common responsibility. This lack of coordination may be the explanation leading to duplication of functions, parallel platforms and confusion among end users – citizens and companies, so the size of human resources remains an essential but often underestimated factor. According to the data analyzed, civil servants in Romania appear to have a low level of digital skills, and continuous professional training opportunities also seem limited and often formal, and thus, digital transformation cannot be accompanied by a transformation of organizational culture, which usually generates resistance to change, persistent bureaucratic processes and a reactive, not proactive, mentality.

From the perspective of citizens, it seems that the lack of a clear regulatory framework for interoperability, digital identity, data protection and electronic signature would represent a major barrier to increasing the use of digital public services. Also, the user experience in interacting with digital platforms leads to efficiency and discourages repeated use.

At the macro level, the conditionalities imposed by the PNRR and Digital Compass 2030 offer Romania the opportunity to recover the gaps compared to the EU average, but it must be realized that this opportunity is conditioned by the capacity of the public administration to deliver measurable and sustainable results and the low absorption of funds available for digitalization (only 30% for public administration, according to data from 2023) indicates a problem of administrative capacity, but also of deficient strategic planning.

5. Strategic recommendations for strengthening the digital transition of public administration in Romania

Based on the analysis carried out and the findings presented, a series of essential strategic directions are outlined for strengthening the digitalization process of public administration in Romania.

A first recommendation aims to improve inter-institutional coordination mechanisms. The current fragmentation of digital initiatives, the lack of interoperability and overlapping competences indicate the need to create a central body with the role of strategic coordination authority in the field of digitalization of public administration. It should have clear responsibilities in defining technical standards, monitoring the implementation of digital policies and harmonizing interventions at local, regional and national levels.

Secondly, it is more than necessary to develop the digital skills of public administration staff. A low level of technological training of civil servants limits the capacity of institutions to adopt and manage digital solutions efficiently. It is therefore necessary to develop a national digital skills framework for the public sector, which should be correlated with continuous professional training programs, adapted to the specifics of each administrative level. Integrating digital components into career plans and evaluating the performance of civil servants could stimulate the assumption of digital transformation as a professional objective.

Another strategic direction could aim at strengthening the digital infrastructure and promoting interoperability between the IT systems of public institutions. Investments in

IT&C infrastructure planned on a sustainable basis that would avoid one-off, isolated and difficult-to-maintain initiatives, in parallel with the development and implementation of a national interoperability framework, which would define the principles, standards and obligations for the technological integration of public services, would allow overcoming these limits.

An often neglected aspect, but fundamental to the success of e-Government, is the optimization of the user experience in interacting with digital public services. Redesigning government platforms, with a focus on accessibility, clarity and ease of use, can increase adoption and user confidence in the efficiency of the digital state. Involving citizens in the process of testing and improving platforms can contribute to a better alignment between the solutions offered and the real needs of end users.

At the same time, increasing administrative transparency and stimulating citizen participation in decision-making processes can contribute to strengthening the social capital necessary for effective digital governance. Promoting online public consultation platforms, digitizing the petition process and initiating digital literacy campaigns can generate a critical mass of active users, able to capitalize on the benefits of digitalization directly.

Last but not least, it is recommended to create a coherent system for monitoring and evaluating digital progress, based on clear, quantifiable indicators and correlated with European strategic objectives, as transparent and periodic reporting of results could facilitate the identification of bottlenecks and early adjustment of policies, contributing to adaptive and performance-oriented governance.

Conclusion

The transition of public administration in Romania from a traditional bureaucratic model to e-Government is a complex process, but essential for the modernization of the state and the achievement of sustainable development objectives. The research highlighted the fact that, although Romania has a coherent strategic framework and important sources of European funding, the major obstacles remain related to effective implementation, administrative capacity, rigid organizational culture and low level of digital adoption among the population and digitalization cannot be approached exclusively as a technological project, but must be integrated into a process of institutional and social transformation, in which technology is a facilitator, not an end in itself. Achieving a high level of digital maturity would require a systemic vision, coordinated actions and the assumption of digital leadership at all levels of administration because in the absence of corrective measures and a real political commitment, Romania risks perpetuating a formal digitalization, based on isolated projects and lacking systemic impact. Instead, capitalizing on current opportunities — especially those related to European funds and digital convergence pressures — can transform public administration into a central pillar of transparent, efficient, and sustainable governance.

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