



Digital Transformation of Public Administration – A Comparative Analysis at European Union Countries

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ABSTRACT

As a pilon of European Digitalization Strategy, the digitalizing process of public administration, wants a better access for citizens, to goods and services in all Europe. By developing the potential of ICT technologies, this process will support sustainability, innovation, and economic growth. Achieving a model for open government and implementing digital technologies offers multiple possibilities for both a better organization of administrations and for the relations of citizens - administrations. The objective of our research is to analyze the digitalization degree of public administrations at the European Union level.

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1. Introduction

Technological transformations are currently reshaping the structure and strategies of public administrations. The scientific literature about digital governance has shown that the introduction of technology is far from a smooth process, as it is often associated with conflict and negative feedback (Yadav and Singh, 2012; Ylipulli and Luusua, 2020).

In every area of our lives, digital transformation has become a reality. Digital solutions are demanding by citizens when interacting with public entities and in their private lives. (Bannister and Connolly, 2012; Hatuka and Zur, 2020).

By digitalization, public entities can provide better-quality public services, cheaper and faster. E-government leads to improved efficiency at the level of public entities, contributing to the promotion of ethical practices and the reduction of corruption risks (Dawes, 2008). In order to meet citizens' needs, E-government requires a simplification of administrative activities across all services (Anthopoulos, 2017, Banerjee et al, 2016, Carrizales et al, 2011). The implementation of e-government is a central element of the European Union's Digitization Strategy. Once decision-making and supervisory bodies have been set up, EU Member States can define their digitalization strategies, architectures and frameworks and proceed with their implementation. High-quality public services for citizens, means that public administration is efficient and innovative. Efficient and innovative public administration implies new design for procedures and services in a digital perspective (Coe et al, 2001, Caragliu et al, 2011).

Mullick și Patnaik (2022) identifies the factors that shape the Smart Administration approach in the public administration, namely: the processes of integration in the EU and the change of the regional development approach, economic development in the spirit of sustainable development, the development of society knowledge and knowledge management, the existence of a pressure to improve the quality of life, human well-being, citizens' satisfaction.

2. The digital transformation of public administrations in the European Union

In recent years, economists, sociologists, urban planners, geographers have developed different concepts and approaches in the field of modernization of public administration as well as examples of good practice on the modernization of administrative entities (Calista and Melitski, 2007; Meijer, 2015). The modernization of public administration is also approached by institutions such as the Organization for Economic Cooperation and Development, the World Bank, the United Nations, the European Commission. Increasing the quality of life of their citizens is a common goal of governments. If we evaluate the success of the entire process of modernization of the public administration, we inevitably come to the conclusion that, in addition to streamlining the use of resources, increasing the performance at the level of public institutions, increasing the quality of life are the objectives permanently pursued in the strategies and policies of the

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European Union (*EU eGovernment Action Plan 2016-2020 Accelerating the digital transformation of government COM/2016/0179*).

The DESI (Digital Economy and Society Index) report is the tool through which the European Commission monitors annually the digital competitiveness of Member States since 2015. In 2021, Finland, Sweden, the Netherlands and Denmark achieved the highest score in the European rankings, becoming leaders of digitalization. Opposite, Bulgaria, Romania, Greece and Poland achieved the lowest score. (Figure No 1).

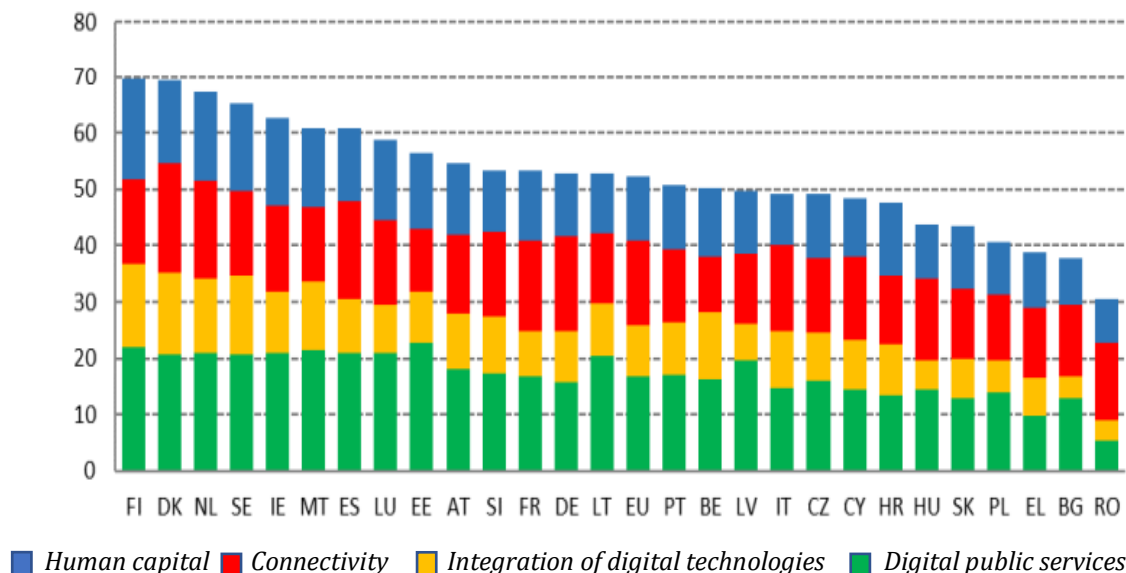


Figure no.1 Digital Economy and Society Index 2021

Source: <https://digital-strategy.ec.europa.eu/en/policies/desi>

In the context of the transition to a new digital world, a Europe ready for the digital age is one of the European Commission's priorities for the period 2019-2024. The solid transformation of society explains the degree of involvement of the European Union in supporting the digitalization strategy. Shaping Europe's digital future is the European Union's approach to this transformation.

On 19 April 2016, The European eGovernment Action Plan (2016-2020) was launched. As a part of the Digital Market Strategy, the aim of this action plan was to remove the existing barriers to the Digital Single Market and prevent further fragmentation in the modernization of public administrations.

In recent years, there has been a paradigm shift from eGovernment that has focused solely on efficiency and effectiveness to a digital government approach, whereby digital is an integral part of governments' modernization efforts. The open government approach contributes to facilitating the transformation of public administrations into a digital governance system by optimizing the flows of processes and activities, increasing the accessibility of information and services in the public sector. (Umbach și Tkalec, 2022).

The approach is based on the principles of collaboration, transparency, and participation, operating within an open governance framework. It is also about opening government processes and decisions to boost citizens' engagement and trust (Torres et al., 2006; Meijer, 2015; Rahman et al, 2016).

The year 2022 is the deadline for the European Commission to become a digitally transformed, user-oriented and data-driven administration. The European Commission's challenge in the IT field is twofold and involves the design, development, and implementation of the next generation of digital solutions essential for the mission, but also the modernization of its already existing systems. *Digital Europe* is a new funding program, at EU level for the period 2021-2027, to support the digital transformation of economies and European societies.

In the following we will present the current state of implementation of the programs that support the digitization of the public administration, the effects generated, and the results obtained at the level of the European Union. The following graphs present data for the most recent indicators of digital public administration in the European Union.

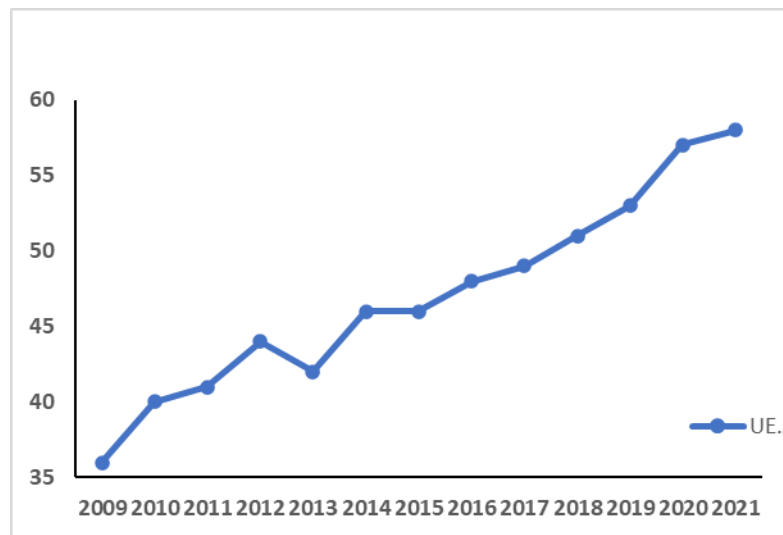


Figure no.2 Percentage of people using the internet to interact with public authorities in the EU

Source: <https://ec.europa.eu/eurostat/web/microdata/community-statistics-on-information-society>

We see in Figure 2 a considerable increase in the percentage of people who use the internet for interaction with public authorities in the EU, especially in the period 2019-2021. A justification for this growth may be the pandemic context, which has generated multiple challenges in all areas, directing a large part of the activities to the online environment.

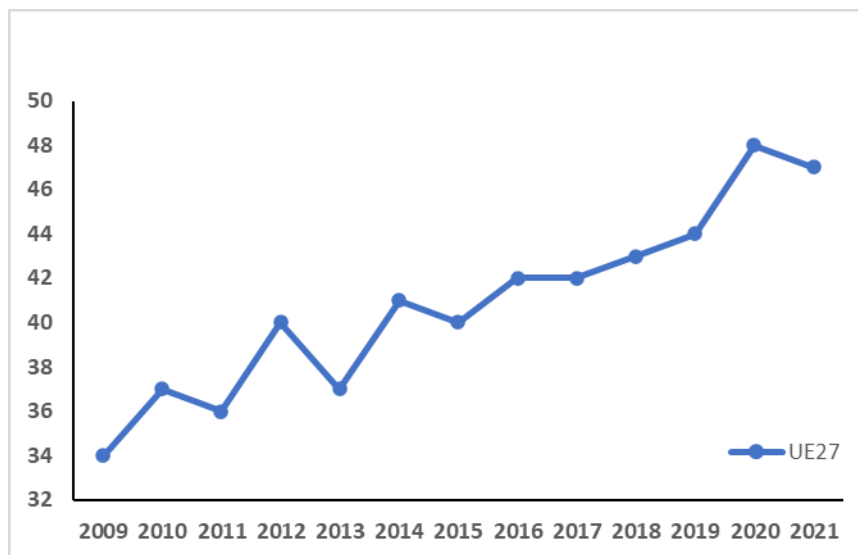


Figure no.3 Percentage of people using the internet to obtain information from public authorities in the EU

Source: <https://ec.europa.eu/eurostat/web/microdata/community-statistics-on-information-society>

The percentage of people who use the internet to obtain information from public authorities in the EU has experienced a fluctuating evolution, registering a significant increase in the period 2019-2020, during the lock down period, and a decrease in the period 2020-2021 (Figure no. 3). This highlights the fact that with the removal of restrictions, some citizens have given up using the Internet to obtain information from public authorities.

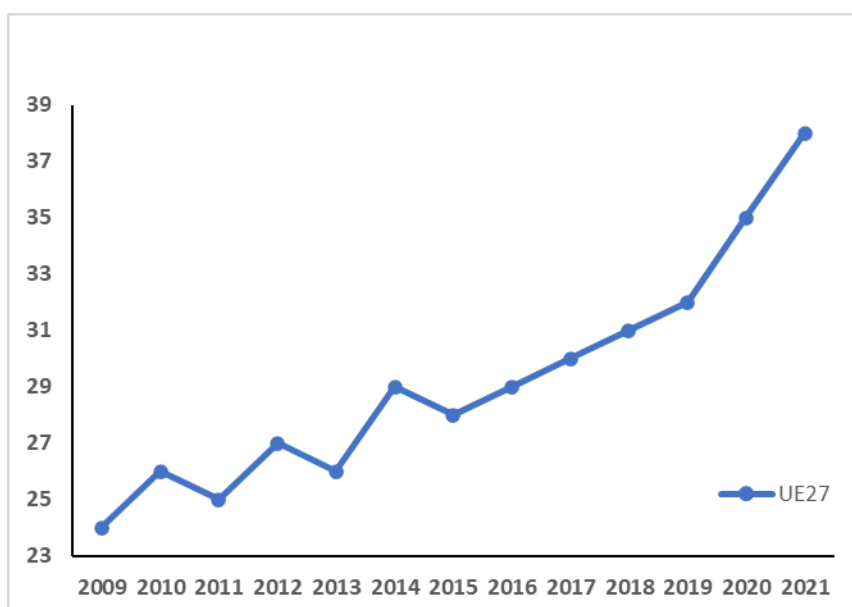


Figure no.4 Percentage of people using the internet to download official forms of public authorities in the EU

Source: <https://ec.europa.eu/eurostat/web/microdata/community-statistics-on-information-society>

Indicators presented in Figure 4 and Figure 5, have experienced a steady upward trend, with a significant increase in the period 2019-2021.

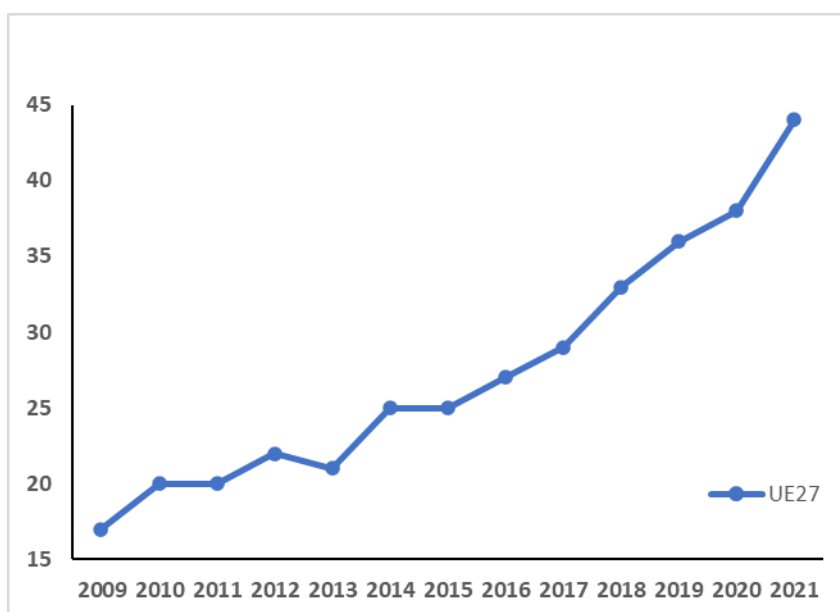


Figure nr.5 Percentage of people using the internet to submit completed forms to public authorities in the EU

Source: <https://ec.europa.eu/eurostat/web/microdata/community-statistics-on-information-society>

The COVID-19 pandemic brought not only limitations, reducing direct interaction with the citizens, but has improved the digitalization of the society and economy. Research reflect that the COVID-19 pandemic has stimulate the digitalization of public services by accelerating the digitalization. The performance of public institutions is directly connected with digital technology and digital infrastructure. The COVID-19 pandemic has highlighted how important digital technology and infrastructure is, and especially the degree of their accessibility. At European Union level, there are multiple concerns about increasing digitalization in all areas, and especially in public administration.

The Digital Europe Program has a planned budget of €7.5 billion and aims at accelerating economic recovery and shaping the digital transformation of European society and economy. This program will provide strategic funding to address these challenges, supporting projects in key areas: artificial intelligence, advanced digital skills, cybersecurity and adopt digital technologies across the economy and society.

3. The current state of public services digitalization in Romania

Achievements at national level in the field of digitalization of public administration are few. Ghiseul.ro is a good example of interoperability, being the first digital platform of the state to register over a million users. Also, the electronic public procurement system has been improved, functioning as an open electronic market that gives the necessary flexibility to institutions and society. There are partnerships, agreements at the level of the Authority for the Digitization of Romania, which will allow collaboration with companies willing to offer free of charge, digital solutions according to the requirements of public institutions.

The use of digital technologies is a prerequisite for the implementation of the Open Government Partnership (OGP) and for the promotion of reforms in the field of open government. Access to digital technologies is fundamentally changing the way public administration works, transforming the citizen from passive beneficiary into an active participant, helping to identify solutions to governance challenges. Romania, as a member state of the Open Government Partnership since 2011, is in the process of implementing the National Action Plan (2020-2022), a result of the consultation and communication of the central administration with the citizens.

The issue of digitization of electronic public services (G2C – Government to Citizen) at national level, both from the perspective of the citizen – user of these services, and from the perspective of the heads of the public administration institutions, is extremely current, being an intensely debated topic, with significant contribution in the design of the digitalization strategy at national level.

Major areas of action established at national level are foreseen in the Digital Agenda for Romania 2020, have as finality a sustainable economic growth and increased competitiveness. The first area of action relates to eGovernment and involves increasing efficiency and reducing costs in the public sector in Romania through public administration reform. The second area of action concerns ICT in Education, Health, Culture and *eInclusion*. The third area of action concerns eCommerce, Research, Development, and Innovation in ICT and sustains sustainable economic growth. The fourth area of action concerns Broadband and Digital Services Infrastructure – this area forms the basis for the implementation of previous areas of action. Access to technologies facilitates social inclusion, improved digital skills, and increased digital literacy.

In Figure no. 6 we can see that the index of the digital economy and society in Romania, has experienced a slightly increasing trend, being far exceeded by the index of the digital economy and society at the level of the European Union, which in the period 2020-2021 recorded an obvious increase.

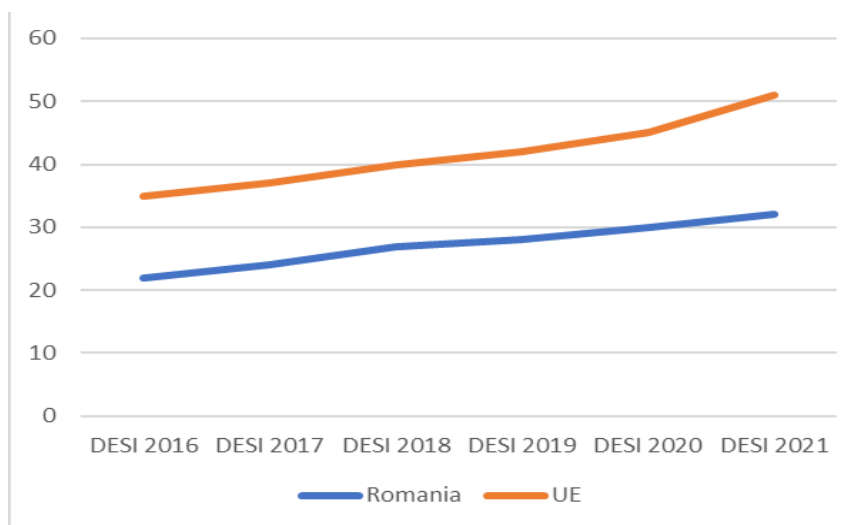


Figure no. 6 The evolution of DESI, Romania compared to the EU27

Source: <https://www.adr.gov.ro/wp-content/uploads/2022/08/Raportul-Digitalizarii-Q1-2022.pdf>

In Romania, compared to the situation at EU level, there are gaps in the development of the four component dimensions of the digital economy and society index. The macro-level adoption of digital solutions will contribute to increasing the transparency of the activity of public institutions and to reducing bureaucracy, also contributing to supporting the Sustainable Development Goals and minimizing the risk of corruption.

The National Recovery and Resilience Plan (NRRP) is aimed at developing an integrated and coherent digital infrastructure of Romanian public administration that assures high quality digital services to both citizens and companies. Based on implementing of digital technologies in public institutions, the NRRP will determine an increasing number of opportunities offered by digitalization.

In terms of digital skills, in Romania, only 28% of the population (aged 18-74) have basic digital skills (Digital Economy and Society Index (DESI) 2021- Human Capital). This percentage places Romania on the last

place in the ranking of European Union countries regarding the basic digital skills of the population. Finland and the Netherlands have the most qualified EU citizens in terms of digital skills: 79% of their populations (aged 18-74) have basic digital skills.

Based on C7 component, NRRP will support the digital transformation by developing digital skills, increasing the digital connectivity, and investing in improvement of digital public services.

Table no. 1 Budget of National Recovery and Resilience Plan 2021-2026

Name of Reforms/Investments	Amount (million euro)	Of which: contribution to the green transition (million euro)	Of which: contribution to the digital transition (million euro)	Of which: non-reimbursable financing (million euro)	Of which: loans (million euro)
C1 - Water Management	1,462.00	238.82	114.11	0.00	1,462.00
C2 - Forests And Biodiversity Protection	1,173.00	926.80	7.16	781.00	392.00
C3 - Waste Management	1,239.01	448.55	118.74	0.00	1,239.01
C4 - Sustainable Transport	7,620.00	4,134.60	864.00	3,906.00	3,714.00
C5 - Renovation Wave	2,200.00	2,185.72	5.00	0.00	2,200.00
C6 - Energy	1,620.00	1,039.00	32.00	460.00	1,160.00
C7 Digital Transformation	1,884.96	163.89	1,817.09	1,827.06	57.90
C8 - Tax Reform And Pension Reform	456.93	0.00	386.75	456.93	0.00
C9 - Support To The Private Sector, Research, Development And Innovation	2,558.63	100.00	1,064.00	0.00	2,558.63
C10 - Local Fund	2,100.00	1,613.00	317.50	1,200.00	900.00
C11 - Tourism And Culture	449.01	253.68	19.26	0.00	449.01
C12 - Health	2,450.01	239.68	70.00	2,450.01	0.00
C13 - Social Reforms	196.74	1.86	4.03	107.69	89.05
C14 - Good Governance	165.60	22.09	27.33	165.60	0.00
C15 - Education	3,605.97	601.93	1,129.50	2,885.40	720.57
TOTAL NRRP	29,182.00	11,970.00	5,976.00	14,240.00	14,942.00

Source: <https://mfe.gov.ro/pnrr/>

Digitalization is a priority at national and European level, the budget allocated to digital transformation being of EUR 1,884.96 million and representing 6.45% of the total PNRR budget. The budget of component 7 – Digital transformation - will be prioritized towards investments for digital transformation and uptake of new technologies in public administration, ensuring cyber protection for public ICT infrastructures, creating the eHealth system, electronic identity card and qualified digital signature. Advanced digital skills training programs will also be developed, which will benefit civil servants. Intelligent management is based on the balancing and harmonization of human resources, the processes through which activities are implemented and the technologies used (Jiang, 2021).

4. Conclusions

In order to digitize public services and make them accessible to all citizens, investments are extremely necessary. Coordination and standardization in all systems are essential preconditions for becoming a provider of performant digital public services. The digital transformation fundamentally affects the way public administration works from administrative procedures. Adopting the technological change is a new challenge, that contributes to the improvement of transparent digital practices, and to increasing efficiency of public services. An efficient and citizen-oriented administration means to build trust in digitalization, to gather the benefits of digitalization in public services. An important obstacle for digital transformation of the public entities is the shortage of specialized skills.

The digitalization of public administration is a great challenge, which aims to make the relationship with citizens more efficient by reducing bureaucracy. Despite the evident benefits of digitalization, the public entities have so far failed to obtain the entire potential of digital transformation.

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