



ORIGINAL PAPER

Unlocking Economic Growth: The Benefits of Digitalization for Public Institutions in Romania

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Abstract:

In recent years, the process of digitalization has transformed numerous aspects of society, including the way public institutions operate. In Romania, this shift towards a more digitalized approach has become increasingly important. The present article examines the impact of digitalization on public institutions in Romania, focusing on its economic implications. One of the key benefits of digitalization for public institutions is its potential to improve efficiency and reduce costs. By digitizing processes and services, public institutions can streamline their operations, leading to increased productivity and cost savings. In turn, can free up resources that can be allocated to other areas, ultimately enhancing the overall effectiveness of public services. Furthermore, digitalization can also help public institutions in Romania better meet the needs of their citizens. By offering digital services and tools, such as online portals and mobile applications, public institutions can provide more convenient and accessible services to the public. This can result in higher levels of citizen satisfaction and engagement, ultimately leading to a more responsive and citizen-centric government. From an economic perspective, digitalization can also have broader implications for the Romanian economy as a whole. By investing in digital technologies and infrastructure, public institutions can contribute to the development of a more competitive and innovative economy. This can attract foreign investment, stimulate entrepreneurship, and create new opportunities for growth and development. However, challenges remain in fully realizing the economic benefits of digitalization for public institutions in Romania. These include issues related to infrastructure, digital literacy, and data security. By embracing digital technologies and investing in digital infrastructure, public institutions can enhance their efficiency, effectiveness, and overall impact on the economy. It is essential for Romania to continue on this path of digital transformation to fully reap the economic benefits that digitalization can bring.

Keywords: *digitalization, public institutions, economic growth, Romania*

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Introduction

Digitalization has emerged as a critical driver of economic growth and efficiency across various sectors, including public administration. In the context of Romania, where the digital transformation journey is gaining momentum, exploring the economic implications of digitalization for public institutions becomes essential. This article delves into the economic perspective of digitalization, focusing on its impact, challenges, and opportunities within the Romanian context.

The COVID-19 pandemic has sparked significant changes in the global landscape, including in Romania. The pandemic has caused subtle shifts in various aspects of life, such as psychosocial, economic, and geopolitical changes, and taught us "that we can never be 100% sure of certain instances or events and we have the ability to quickly adapt to a new context" (Ghionea, 2022: 101). One noticeable change is the widespread adoption of virtual and digital workplaces, leading to an increase in cybernetic attacks and feelings of insecurity. Despite these challenges, the crisis presents an opportunity for digitalization and computerization which could pave the way for new scientific discoveries and innovations (Todorean et al., 2020:25), highlighting a concrete valorization of of all this process (Stuparu, 2023:105).

In the context of public administration, digitalization emerges as a transformative force and offers a wide range of benefits to both employees and citizens. In Romania's public institutions, it has the potential to streamline resource allocation and facilitate the creation of cutting-edge public services. Citizens, too, have become increasingly demanding, expecting simple, fast, and transparent interactions with public administration. Therefore, efficient digitalization must be an integrated process - one that not only streamlines administrative procedures but also prioritizes citizens' needs and clearly defines them. Trust in institutions is shaped not only by direct interactions but also by their reputation and confidence. Digitalization impacts employees and citizens alike, making activities more efficient and providing prompt answers to citizens' queries (Baesu, 2021:215).

As Romania navigates this digital transformation, strategic institutions and their managers play a crucial role. By embracing digitalization, public institutions can significantly improve their activity, optimize resource utilization, reduce costs, and drive technological and socio-economic progress. Moreover, digitalization creates opportunities to make public services more accessible and citizen-centric. The journey toward efficient digitalization requires a holistic approach - one that fosters transparency, accountability, and simplicity in administrative processes (Frățilă et al., 2023:75). As we explore the theoretical background and practical implications, it becomes evident that digitalization is not just a policy initiative; it is a catalyst for positive change, shaping the future of Romanian public institutions.

Legal requirements for the digitalization process

The digitization process of Romanian public institutions is guided by both European and national legislation. In Europe, the General Data Protection Regulation (GDPR) is one of the most important pieces of legislation that governs the processing and protection of personal data in the digital era. Additionally, the European eGovernment Action Plan aims to promote the use of digital technologies in public administration to improve efficiency and transparency. Also, The European Commission's Digital Single Market (DSM) strategy aims to create a seamless digital environment across the EU. While DSM focuses on areas such as e-governance,

interoperability, and cybersecurity, Romania have to align its digitization efforts with DSM principles to ensure harmonization within the EU. European Interoperability Framework (EIF) provides guidelines for achieving interoperability across European public services and emphasizes standards, data exchange, and seamless collaboration. Undoubtedly, Romania must adhere to EIF principles in its digitalization initiatives. Therefore, according to National strategy in the field of artificial intelligence 2024-2027, the key pillars of AI regulation at EU level are:

- The European AI Strategy from April 2018 (COM(2018)237);
- Artificial Intelligence for Europe (SWD(2018)137);
- The White Paper on Artificial Intelligence - A European approach to excellence and trust (2020);
- EC Communication on data, 2020 (COM (2020) 66);
- Coordinated Plan on Artificial Intelligence from April 2021;
- Action Plan for Digital Education 2021-2027 (COM(2020) 0624).

Romania must also comply with various legal requirements to ensure data protection, privacy, and the security of electronic transactions. The most important Romanian legislation and initiatives are:

- Law No. 242 of 20 July 2022: which aims to foster interconnectivity between IT systems of public administrations. It facilitates data exchange, transparency, and efficient resource utilization;
- Emergency Ordinance setting up the Government cloud no. 89/2022;
- National Recovery and Resilience Plan (PNRR): allocates funds for digital transformation and include e-governance, cybersecurity, and enhancing public services. PNRR aligns with European objectives for economic recovery and resilience;
- National strategy in the field of artificial intelligence 2024-2027: aims to provide strong support to the central public administration in efforts to standardize, operationalize, and regulate the development of AI. This will help enhance the positive impacts of AI while effectively managing associated risks. Additionally, the strategy will play a crucial role in showcasing and leveraging Romania's innovative potential in AI, and ensuring alignment with European strategic directions for implementing common rules for digital services;
- e-Government Strategy: Romania has been working on developing e-government services to streamline public administration processes and improve accessibility to government services online;
- Electronic Signature Law: Romania has legislation in place to regulate the use of electronic signatures, providing a legal framework for electronic transactions and document authentication;
- National Cybersecurity Strategy: Romania has been focusing on strengthening its cybersecurity capabilities to protect digital infrastructure and combat cyber threats etc.

In summary, the legal framework at both European and national levels underscores the importance of digitalization for efficient public administration. Romania's journey toward digital transformation requires strategic planning, capacity building, and alignment with European standards.

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Benefits of digitalization for economic growth

The digitalization process of Romanian public institutions has numerous benefits that can greatly enhance the efficiency, transparency, and accessibility of government services. One of the key advantages of digitalization is the streamlining of bureaucratic processes, which can reduce the time and resources needed to complete tasks such as applying for permits, licenses, or other government services. By moving these processes online, citizens and businesses can access services more quickly and conveniently, leading to increased satisfaction and improved public perceptions of government efficiency.

Furthermore, digitalization can also improve the transparency of public institutions by providing easy access to information and data. By making government operations more transparent, citizens can hold public officials accountable for their actions and decisions, ultimately leading to increased trust in government institutions. Additionally, digitalization can also facilitate better communication between government agencies and stakeholders, allowing for more effective collaboration and coordination on important issues.

Another important benefit of digitalization is the potential cost savings for public institutions. By moving to digital platforms, government agencies can reduce the need for paper-based processes, leading to lower operational costs and increased efficiency. This can free up resources that can be allocated to other priority areas, such as healthcare, education, or infrastructure development.

Also, digitalization plays a pivotal role in driving economic growth, contributing to prosperity and innovation:

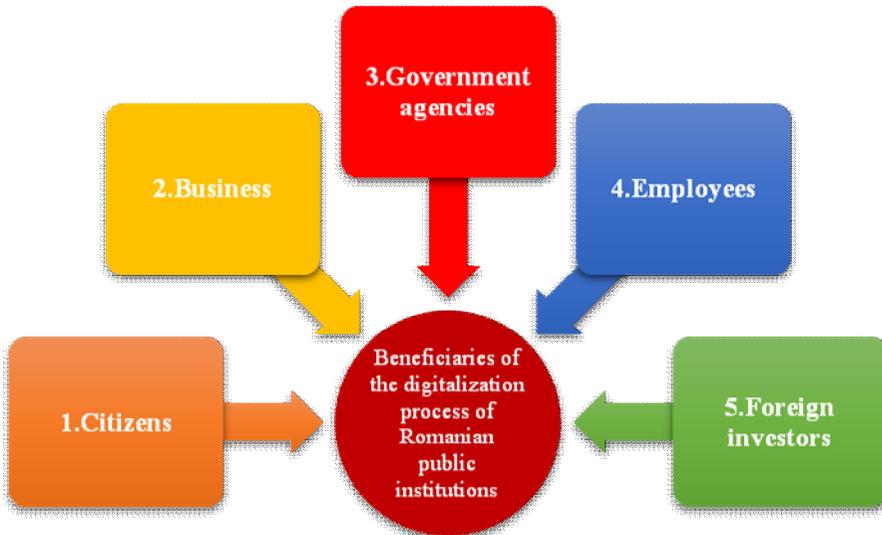
- boosting productivity, because digitalization streamlines processes, automates tasks, and reduces manual work, increasing efficiency translates to higher productivity across sectors;
- creating new opportunities: digital markets emerge, connecting businesses and consumers globally. E-commerce, digital services, and online platforms can open up new revenue streams;
- digital technologies foster innovation, enable creativity, and disrupt traditional models;
- digitalization generates jobs in technology, data analytics, cybersecurity, and digital marketing, supporting economic diversification;
- digital services improve healthcare, education, and public services. Smart cities enhance citizens' well-being through efficient infrastructure;
- digitalization bridges geographical gaps, connecting businesses and consumers worldwide and the export opportunities expand, contributing to economic growth;
- resource optimization: data-driven decision-making optimizes resource utilization. Sustainable practices emerge, benefiting both the economy and the environment.

Moreover, digitalization can also enhance the overall quality of government services by providing citizens with access to more personalized and tailored services. By leveraging technology, public institutions can better understand the needs and preferences of citizens, leading to the development of more user-friendly and responsive services. This can ultimately improve citizen satisfaction and trust in government institutions.

Beneficiaries of the digitization process of Romanian public institutions

Several groups can benefit from the digitalization of Romanian public institutions, including: citizens, business, government agencies, employees, foreign investors (Figure 1).

Figure 1. Beneficiaries of the digitization process of Romanian public institution

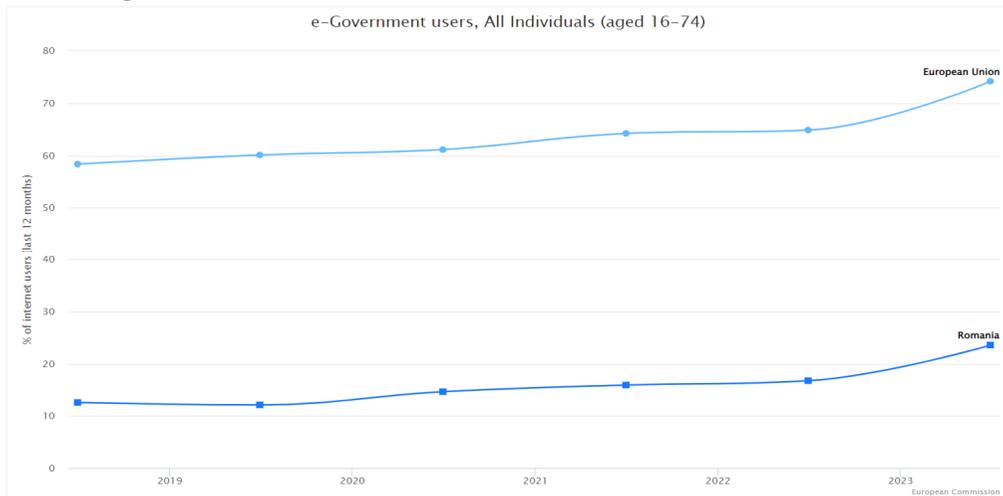


Source: Author's own compilation

1. Citizens: digitalization can enhance the accessibility and efficiency of public services, making it easier for citizens to access information, apply for different documents, pay taxes, and interact with government agencies. Firstly, by making services more accessible online, citizens no longer have to physically go to government offices to access important services and information. This can save time and money for individuals who would otherwise have to take time off work or travel long distances to access these services. For example, individuals can now apply for various documents online, reducing the need for in-person visits to government offices. In Romania, the share of e-Government users has been steadily increasing. As of 2022, approximately 24% of the population actively engages with e-Government services, compared with the European Union average standing at 74%. This marks a positive growth compared to the previous years (Figure 2).

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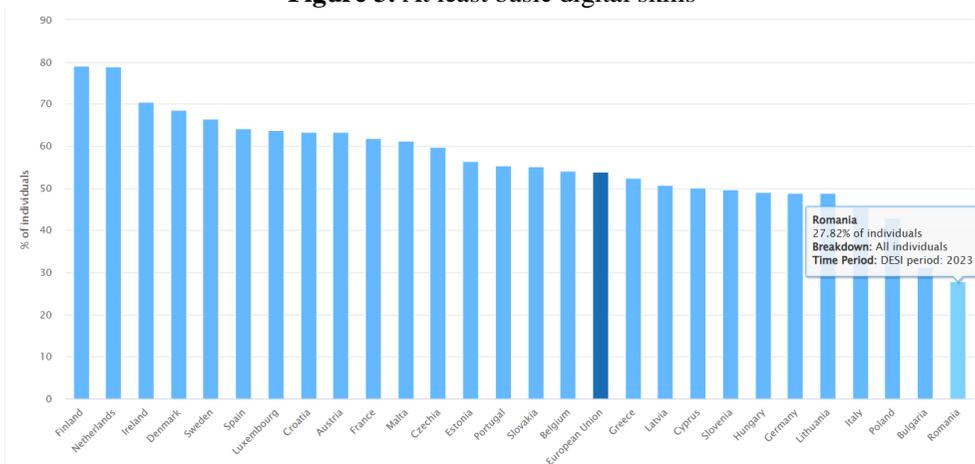
Figure 2. E-Government users between 2019-2023 (last data from 2022)



Source: <https://digital-decade-desi.digital-strategy.ec.europa.eu/datasets/desi/charts>

Furthermore, the digitalization of public institutions in Romania can also lead to more transparency and accountability and citizens can easily access important data and information about government activities and decision-making processes. This increased transparency can help to build trust between citizens and the government.

Figure 3. At least basic digital skills



Source: <https://digital-decade-desi.digital-strategy.ec.europa.eu/datasets/desi/charts>

However, as can be seen from the figure below, Romania ranks last in the EU in terms of Digital Economy and Society Index (DESI) indicator "at least basic digital skills" (Figure 3). Only a quarter of the population possesses basic digital skills (aprox. 28%), significantly lower than both the EU average of 54% and the EU's goal of reaching 80%. This information suggests that Romania has some work to do in

improving its population's basic digital skills. This could be a result of factors such as limited access to digital tools and resources, lack of digital literacy programs, or inadequate education and training opportunities in the country. Addressing this issue is important in order to ensure that Romanian citizens are able to fully participate in the digital economy and society, as digital skills have become increasingly essential in today's world. It may require investments in education, training, and digital infrastructure to bridge this gap and improve Romania's overall digital competitiveness.

2. Businesses: digitalization can simplify administrative procedures, reduce bureaucratic red tape, and streamline processes for businesses, thus improving the overall business environment and fostering economic growth. By streamlining processes and making information more readily available, businesses can experience improved productivity, reduced costs, and increased competitiveness in the market. The most requested digital public services were information extracts in the cadastral field, registration in the land register, information from the Trade Register, obtaining court records of natural persons, documents and procedures regarding vehicle registration, registration numbers.

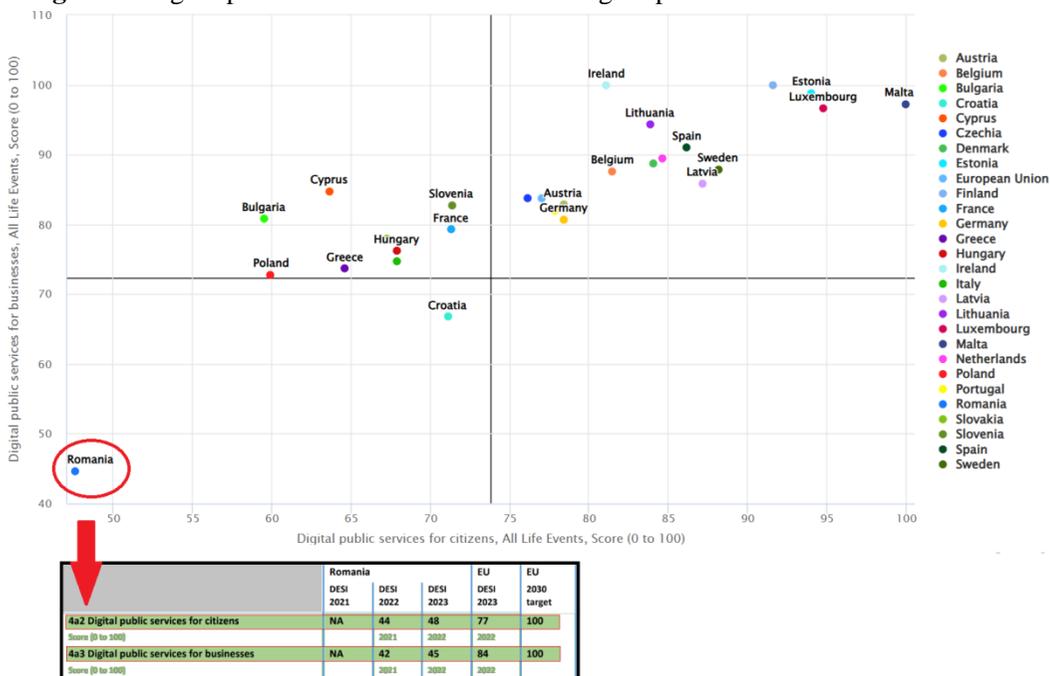
Regarding non-digital services, the most accessed services were single payment requests at Payments and Intervention Agency for Agriculture (a.k.a. APIA), medical consultation programs and various medical services, assistance regarding National Trade Register Office (a.k.a. ONRC) registration formalities, services regarding sports activities and events. (Voinea, 2023:275). One significant benefit of the digitalization process is the enhanced efficiency of government services. Digital platforms enable businesses to interact with public institutions more quickly and easily, reducing the time and resources required to complete administrative tasks. For example, electronic filing systems can streamline the process of submitting applications for permits, licenses, and other regulatory approvals, saving businesses valuable time and reducing bureaucratic red tape. Moreover, digitalization enhances the transparency of public institutions, making it easier for businesses to access information and track the progress of their interactions with government agencies.

By providing real-time updates on the status of applications and requests, digital platforms enable businesses to stay informed and make more informed decisions about their operations. This increased transparency also helps to build trust between businesses and government institutions, creating a more favorable environment for investment and economic growth. Also, digitalization improves the accessibility of government services, particularly for businesses operating in remote or underserved areas.

Online portals and digital communication channels make it easier for businesses to access information and services without the need for physical presence, reducing barriers to entry and facilitating business development in regions where access to government resources may be limited.

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Figure 4. Digital public services for citizens vs. Digital public services for business



Source: Author's processing after the data from DESI 2023 - Compare two indicators - Digital Decade DESI visualisation tool (europa.eu)

Romania's digital public service scores for citizens and businesses are significantly lower than the EU averages (Figure 4). Specifically, Romania scores 48 for citizens (compared to the EU average of 77) and 45 for businesses (compared to the EU average of 84). While there is progress in catching up with the EU average for businesses, overall, Romania's scores in dimensions such as user support, mobile friendliness, transparency of service delivery, design, personal data, and pre-filled forms remain consistently low.

3. Government agencies: digitalization can increase the efficiency and transparency of government operations, leading to cost savings, improved decision-making, and better service delivery to citizens. By digitizing services, such as online applications, payments, and information access, citizens can interact with government agencies more easily and conveniently. This can lead to higher levels of citizen satisfaction and engagement with the government, as well as increased transparency and accountability. Furthermore, by implementing secure digital systems and protocols, the risk of data breaches and cyberattacks can be minimized. This can help protect sensitive information and ensure compliance with data protection regulations. Digitalization can also promote innovation and collaboration within government agencies by using digital tools and technology. "By analyzing and comparing different approaches to e-democracy, we can learn and adapt strategies that have proven effective in different

contexts” (Voican, 2023:394). This can lead to improved decision-making and policy development within government agencies. Also, digitalization can lead to greater sustainability and environmental benefits for government agencies by reducing the need for paper-based processes and physical infrastructure, in order to reduce carbon footprint and adopt more eco-friendly practices.

4. Employees: digitalization can enhance the productivity and job satisfaction of government employees by automating routine tasks, reducing paperwork, and enabling remote work capabilities. As Romania continues its digital journey, employees who adapt and leverage technology will thrive, contributing to economic growth and efficient public services. Key advantages can be:

- efficient resource management: digital tools streamline processes, optimizing resource allocation and reducing costs;
- enhanced productivity: faster data processing and seamless collaboration lead to increased productivity;
- improved service delivery: accessible online services enhance citizen satisfaction and trust;
- transparency and accountability: digital systems ensure transparency and compliance;
- skill development: exposure to technology enhances technical competencies;
- remote work flexibility: digitalization enables remote work, balancing personal and professional life;
- reduced administrative burden: automation minimizes paperwork, freeing time for strategic tasks;
- career advancement: proficiency in digital skills opens up better career prospects;
- innovation and job satisfaction: employees contribute to positive changes through digital initiatives.

5. Foreign investors: a more efficient and transparent public sector can increase investor confidence in Romania, attract more foreign investment, and help stimulate economic development. Foreign investors can benefit from the Romanian digitalization process in the public sector by tapping into new business opportunities, collaborating with local partners, improving efficiency and cost savings, enhancing reputation and credibility, and contributing to knowledge transfer and skills development. Therefore, the following should be considered:

- access to new business opportunities: the digitalization of the public sector in Romania can create new opportunities for foreign investors to offer their technology solutions and services. This includes providing tools for e-government services, digital identity management, cybersecurity, data analytics, and automation;
- collaboration with local partners: foreign investors can collaborate with local companies or startups that are already involved in the digitalization process. This can help them understand the local market better and navigate the regulatory environment more effectively;
- improved efficiency and cost savings: digitalization of the public sector can lead to increased efficiency, reduced bureaucracy, and cost savings. Foreign investors

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can benefit from these improvements by offering innovative solutions that help streamline government processes and improve service delivery;

- enhanced reputation and credibility: by participating in the digitalization process of the Romanian public sector, foreign investors can enhance their reputation and credibility as technology leaders. This can help them attract more customers and partners both in Romania and internationally;
- knowledge transfer and skills development: foreign investors can contribute to the digitalization process by transferring knowledge, expertise, and best practices to local stakeholders. In this way it can be build the skills and capabilities of the local workforce, leading to long-term sustainable growth in the digital economy.

Conclusions

In the 21st century, the digitization of public administration has emerged as a top priority for the European Commission. With concrete strategies in place, the goal is to transform administrative processes, enhance citizen services, and drive economic growth. Romania, however, faces a paradox: despite leading in internet speed and coverage, it lags behind in implementing digitalization within its public institutions.

In conclusion, the digitalization process of Romanian public institutions offers a wide range of benefits that can greatly improve the efficiency, transparency, and accessibility of government services. By embracing digital technologies, public institutions can streamline processes, enhance transparency, and deliver more personalized services to citizens. Ultimately, these benefits can lead to a more efficient and effective government that meets the needs and expectations of its citizens.

Overall, unlocking economic growth through digitalization can bring numerous advantages to public institutions in Romania, benefiting both the government and its citizens. By embracing innovation and technology, Romania can position itself as a leader in the digital economy and pave the way for a brighter future.

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