

The Role of Digitalization in the Efficiency of Public Administration

Doina Mureșan

*University Professor, Vice-Rector, "Dimitrie Cantemir" Christian University, Bucharest, Romania
doina.muresan@ucdc.ro*

ABSTRACT: The use of technology has steadily increased over the years, however, there is wide variation between people of different ages, with skills higher among younger “digital natives” and lower among older people. The daily use of the Internet among the Romanian population has increased considerably since 2014, proving the increase in the population’s comfort and confidence in using digital technologies and the Internet. Unsurprisingly, the level of digitization among businesses and individuals in Romania differs between regions. The level of digitization is higher in cities than in rural areas and the highest rate is, as expected, in Bucharest, Cluj and the North of the country. Reducing the knowledge and capacity gap between the country's areas can be done through a digitalization plan for the economy, similar to those published by the governments of many other countries, and through the digitalization of the interaction between SMEs and government institutions. The Romanian government is currently going through a significant process of digitizing both its own internal operations and the way it interacts with people and the business environment, for example through electronic signatures and the online takeover of tax-related matters. However, the constraints on government institutions derived from the lack of information determine opportunities for tax avoidance and evasion and inevitably favor compromise. Digitization can help alleviate these constraints in two ways: by implementing more accurate methods to verify the true economic results of taxpayers by connecting information existing in different parts of the tax system or by implementing more sophisticated tax systems.

KEYWORDS: advanced technologies, digitization, data storage, communication networks, taxes

1. Introduction

Digitization is a highly relevant and impactful topic in contemporary society that essentially refers to the transformation of traditional processes, activities and services into digital formats, i.e., binary data (0 and 1) that can be processed and stored electronically, or the adoption of technologies digital to improve performance and efficiency.

Digitization starts by taking existing data and information in analog form (printed documents, images, sounds, or even manual processes) and converting them into digital format (Ex. documents can be scanned and turned into PDF files, and images can be converted into such as JPEG or PNG). Then they can be stored electronically, which allows easy, fast and efficient access to information and facilitates its management. Digital data can also be stored in different environments, such as servers, the cloud, or individual storage devices. The result is that this process facilitates data manipulation and processing in a much more flexible way than in the case of analog formats, software and algorithms can be used to analyze and interpret the data, which leads to better informed decisions, faster and at generating valuable information. Digital data can be easily transmitted and shared through communications networks, enabling remote collaboration, rapid information exchange, and real-time interaction between different people or systems. Digital data can be subjected to advanced analysis to extract meaningful information. For example, machine learning algorithms can identify patterns in data and provide predictions or recommendations based on those patterns.

2. Digitization elements in the Romanian economy and society

Digitization goes hand in hand with process automation. By converting traditional processes into digital formats and using IT technologies, repetitive activities can be automated, thus leading to increased efficiency and reduced human errors. Also, digitization enables the integration of advanced technologies such as artificial intelligence, virtual reality, block chain and others. These technologies can add value to processes and open new opportunities for innovation. Thus, digitalization does not only refer to the conversion of data into digital format, but also to its exploitation and transformation in order to improve processes and services in an increasingly digitally oriented world. It is a continuous and dynamic process that affects various aspects of our daily life and economic activities.

The impact on Romania's economic life is significant, bringing with it a series of changes and benefits that consist in particular in increasing efficiency and competitiveness obtained by optimizing internal processes, by automating repetitive activities and by using advanced technologies to increase operational efficiency. In this sense, Romania's digital economy could grow 3.5 times (to approximately 52 billion euros) in 2030 compared to 14.8 billion euros last year, the main growth factors being investments in IT&C and digital trade, according to the Digital Challengers on the Next Frontier report by McKinsey&Company (Filip, Kmen, and Tisler 2022).

We are also in the period of rapid and visible transformation of the way we trade. Digitization is the process that changed the way trade is carried out and the Romanian e-commerce sector reached the threshold of 6.3 billion euros at the end of 2022 (GPeC E-Commerce Romania Report 2022), the value being slightly above that recorded in 2021, with intense signs of growth for the year 2023 as well. If we look at the Digital Challengers on the next frontier: Perspective on Romania report, it follows that the so-called "Digital Challengers" block (Bulgaria, Croatia, Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia) still lag behind the other clusters in terms of digital commerce penetration (by 16%) compared to two other groups in Europe: "Digital Frontrunners" (Belgium, Denmark, Estonia, Finland, Ireland, Luxembourg, the Netherlands, Norway and Sweden) which saw growth of 23% and the "Big 5" economies (France, Germany, Italy, Spain and the United Kingdom) which showed a percentage of 21%, showing that there is potential additional growth spurt.

Digitization has had a profound impact on the financial sector. The bank of the future will be digital, the bank will operate in such a way as to provide speed, flexibility, agility and interaction with customers, at any time and in any situation. The main trends in the bank of the future are being formed (Gaciu 2023) and among them we identify a few: banking operations will become mostly digital and employees will have to think and act digitally, because tomorrow's customers will be 100 digital %; the number of bank branches will decrease with the intensification of digitalization; banks will grant loans completely digitally; banks will enter into partnerships with more and more fintechs, non-banking companies that provide financial services; smarter and more "human" robots and chatbots will be promoted in the bank of the future and security will become increasingly important and new identification and authentication methods based on personal characteristics will be widely used, so that IT companies will become increasingly present in partnerships with banking institutions.

Moreover, the responsibility of these providers will take on new proportions, given the technological progress and the expectations of customers - increasingly digital - as well as the expectations of banks - digital transformation, migration of services to the cloud, mobility, attracting customers, increasing bank financing, etc. We thus realize that considerable investment has been made in building an extensive portfolio of IT solutions for digitization,

multi-channel communication and increasing the efficiency of processes specific to the banking industry.

Technology start-ups and digital innovations have gained ground and the *promotion of digital entrepreneurship* has developed significantly in recent years. Romanian SMEs have access to a growing innovation ecosystem to support their digitization efforts that include business associations, digital innovation hubs and other players, other stakeholder groups participating in the digitization ecosystem in different modes (e.g. industrial clusters, large corporations and universities).

In addition, the Romanian government has introduced several initiatives aimed at improving digitization throughout the country, including within SMEs. These include the *Competitiveness and Operational Human Capital Programs*, the *StartUp Nation program* (launched for the third time in July 2022) and the establishment in 2020 of the *Authority for the Digitization of Romania* (ADR), whose main task is to lead the digitization of governmental and non-governmental services. From the press (Cârlugea 2023) we learn that ADR has several important projects underway with a view to implementing digitization, especially in the area of public activity:

- *Computer System for Clinical Records of A.T.I. departments*. with the objective of increasing the use of ICT in direct communication between the Ministry of Health (MOH) and the most important 18 adult and pediatric hospitals in Romania;
- *Ministry of Labor and Social Protection (MMPS) services HUB*, which aims to create the specific infrastructure so that the citizen's interaction with the MMPS directly but also with the institutions subordinated/under the authority/coordination of the MMPS, can be carried out in the online environment through a single point of contact;
- *Information System for Health Registers* which has as its final objective the creation of an information system for health registers;
- *Strategic framework for the adoption and use of innovative technologies in public administration 2021 – 2027* with the general objective of carrying out a national analysis correlated with international strategies for the use of innovative technologies with the aim of making institutional activity more efficient in relation to citizens.
- *The Centralized Software Platform for Digital Identification with the objective of establishing the National Electronic Register of Electronic Identities* in which the Electronic Identities of all consumers of electronic eGovernment services will be found, as well as the interconnection with the unified and secure access portal;
- *National Informatics System for Adoption* - implementation of the 4th level of sophistication for electronic services aimed at the “Adoption” life event;
- *Integrated IT System for Issuing Civil Status Acts* aimed at reducing the time needed to process civil status information and the costs of storing information for local and central administrations regarding 5 services for primary life events: birth, marriage, divorce, death
- *National Disability Management System* which aims to develop and implement a centralized national platform for the collection, storage and distribution of information related to the cases of persons with disabilities;
- *System of technological interoperability with the EU member states* that implements the System of Technological Interoperability with the EU Member States (SITUE) and will interconnect it with the eIDAS nodes of the other member states and with the providers of identity and electronic services in Romania.

Digitization initiatives are also a key feature of Romania's Recovery and Resilience Plan, both through the seventh component, "Digital Transformation", for which the allocated budget is EUR 1.8 billion and covers digital public services, digital connectivity, cyber security, digital skills, human capital, internet usage and more. There are opinions that the digitization of public services and the level of digital human capital are the areas in which Romania does not perform well in the EU27.

Regarding digital public services for business, Romania obtained a very low score (of 49/100) compared to the EU average which is 84. This is a key factor because if government services are not digitized and the Government does not serve as a model for digital operations, citizens and private companies have less incentive to go digital.

In terms of human capital, one of the main factors behind Romania's low score is the low digital skills evidenced by only 31% of the population having at least basic digital skills, compared to the EU average of 56%. Romania also has a noticeable shortage of ICT specialists, with only 2.4% of the workforce being ICT specialists, compared to an EU average of 4.3%. This suggests that Romanian ICT graduates are either leaving Romania in a “brain drain” or are not employed in ICT roles.

Regarding the digitization of businesses, the picture presented by Romania is roughly the same: it ranks 25 out of 27, with only 23.8, compared to the EU average of 37.6. It found that 33% of Romanian SMEs have at least a basic level of digital intensity (compared to the EU average of 60%) and are also lagging behind in terms of digital tools such as the use of electronics, information sharing, social media, big data and cloud computing. Romanian companies also lag significantly behind the EU average in terms of employee ICT training: only 6% of Romanian companies offer this, compared to the EU average of 20%.

But let's also analyze the impact of digitization on education and human resources. Overall, digitization has brought significant changes to Romania's economic life, stimulating innovation, improving efficiency and contributing to adaptation to the demands of a global digital economy. Digitization has also changed the way learning and professional development processes take place. In terms of human resources, there has been a process of adapting the workforce to the new requirements of the digital economy, which has generated an increased need for digital skills.

3. Conclusions

I believe that the main directions of digital transformation in the Romanian public administration are determined more and more clearly, with constant efforts to improve public services and the efficiency of institutions. Thus, we start with the development of online platforms and government portals to offer citizens and economic agents simplified access to public services (obtaining certificates, filing tax returns or access to administrative information) to which we add the implementation of e-government solutions that facilitate electronic interaction between citizens, businesses and public institutions in this context, interoperability between the various systems and databases of public institutions is essential to ensure the efficient exchange of information.

Another directive in which important steps have been taken is the introduction of electronic signature and digital identity to increase security and authenticity in online interactions, a crucial aspect to facilitate administrative processes that require authentication and signature to which is added the implementation of IT solutions to optimize and simplify internal administrative processes, thus reducing bureaucracy and the time needed to provide public services. Moreover, this extensive process is the horse that allows us to encourage the development of smart cities through the implementation of IoT (Internet of Things) technologies, the publication of government data in an open format, easily accessible and useful for citizens, the business environment and developers, and the promotion of digital education in among civil servants to ensure the necessary skills to manage and implement digital solutions within the administration. Of course, these digitization directions aim to improve efficiency, transparency and accessibility in public administration, thus contributing to a more modern government adapted to the demands of the digital society.

In determining these data, we used an effective research method that consists in the collection and analysis of relevant statistical data on the use of digital technologies in the economy and society. This may involve assessing the rate of internet penetration, the use of

mobile devices, access to online services and the degree of digitization of the business sector. By examining these indicators we have identified trends and assessed the impact of digitization on various aspects of social and economic life.

References

- Cârlugea, Simona. 2023. “Digitization of Romania.” Romania.europalibera.org. Available at <https://romania.europalibera.org/a/digitalizarea-romaniei>, accessed on November 20, 2023.
- Filip, Alexandru, Madalina Kmen, and Ovidiu Tisler. 2022. “Digital Challengers on the next frontier: Perspective on Romania.” *McKinsey*. Available at <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/digital-challengers-on-the-next-frontier-perspective-on-romania>, accessed on November 24, 2023.
- Gaciu, Leo. 2023. “Marketing & Communication Manager.” Available at <https://star-storage.ro/bancile-viitorului-sunt-deja-aici-cum-percep-clientii-revolutia-bancara-si-ce-rol-joaca-digitalizarea-in-transformarea-banking-ului/>, accessed on November 20, 2023.
- Raport GPeC E-Commerce România 2022*, <https://www.gpec.ro/blog/raport-gpec-e-commerce-romania-2022-cumparaturi-online-de-63-miliarde-de-euro>, accessed on November 24, 2023.