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Article

The Contribution of the National Recovery and Resilience Plan to the Development of Digital Skills in Romanian Public Administration

Abstract: *The goal of the European Union to consolidate the digital sovereignty of the region by 2030, within the framework of the Digital Decade of Europe policy program, imposes the responsibility of Member States to contribute through the development of technical and human e-governance infrastructure, being necessary to prepare the body of public servants in public administration to support and use new technologies, both in front-office and back-office relationships. Considering the essential role that human capital plays in national digital development and the achievement of the union's objectives, this research aims to explore the impact of Romanian National Recovery and Resilience Plan (NRRP) on the development of digital skills among public servants through the Advanced Digital Skills Training Program for 30,000 executive public servants and 2,500 managerial public servants. This program is managed by the National Agency for Civil Servants (NACS), a central public administration institution responsible for the management of the public service and public servants in Romania. National Agency for Public Servants is also the beneficiary and responsible for the implementation of the specific investment from the NRRP. The study aims to investigate the types of training used to identify and propose blended approaches of formal and informal digital education that enhance the initial training, testing, and certification services offered by the NACS program.*

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1. Introduction

As an integral part of the European Union, Romania currently plays an important role in the implementation of the most important regional strategy of the European Commission – strengthening electronic sovereignty and preparing the Union for the digital era, a goal set for 2030 through the *Digital Decade of Europe* policy program. This ini-

tiative aims for the full digitalization of essential public services, the creation of sustainable and secure specific infrastructures, the training of a workforce of 20 million specialists in the information and communication technology (ICT), gender convergence, the development of basic digital skills for at least 80% of citizens, as well as the digitalization of businesses by at least 75%, in accordance with the implementation plan of policy *Digital Compass 2030: Europe's blueprint for the digital decade, adopted on March 09, 2021* (European Commission, 2021a).

Through the established targets, the *Digital Decade* policy is conceptually identified with e-governance, a global trend of government systems in transition to digital governance based on innovation, efficiency, and inclusion.

Primarily synthesized as a process of automating socio-governmental relations in order to streamline governance by improving government processes, connecting citizens with public services, and digitally building external interactions (Heeks, 2001), the e-gov field has constantly acquired new dimensions, with the dynamics of continuous development constantly complementing the qualities of the concept and certifying the use of ICT as a tool for better governance (OECD, 2003), better provision of government services, and more efficient government management (Bhatnagar and Deane, 2004).

Characterized post-Covid as a panacea for governmental deficiencies or inefficiencies, digital governance is "an integral and fully integrated aspect of the physical functioning of public institutions and service delivery" (UN, 2022: 25), its legitimacy being fully proven during the pandemic period when the entire world, in order to remain functional, relied on information and communication technology, which further focused the attention of the world's states on the integration of ICT into the current lifestyle and produced massive and unprecedented changes (Guitton, 2020), through the creation of digital government tools whose development can help mankind overcome any global crises, including climate crises, and prepare for future risks (UN, 2022).

At the European Union level, Covid-19 has highlighted not only the efficiency of technology in such crises, but also the region's dependence on non-European platforms. 17 of the most active public cloud computing providers in Europe, generating 83% of the industry's revenues, come from outside the union (Nouveau, 2020).

Thus, the union realized that it needs technological sovereignty to face the future autonomously (Kagermann and Wilhelm, 2020), and in order to ensure it, in 2021 the European Commission, the executive body of the union, transformed the period of health crisis and the years to come into the „*digital decade*“ of Europe.

The creation of a sovereign digital European Union by 2030 requires major financial support, possibly through multinational projects that involve a financial coalition of the EU budget and Member States' own contributions.

The Recovery and Resilience Mechanism (RRM), operational from February 2021 until the end of 2026, represents the main financial instrument for supporting digital transformation at the EU level, with a budget of 672.5 billion euros, in loans and grants, granted to and used by Member States within their own national recovery and resilience plans for the development of sustainable, more resilient economies and societies, better prepared for the digital and green transition (EC, 2021b).

The Digital Transformation pillar of the National Recovery and Resilience Plan aims to support reforms and investments that promote the creation of high-capacity networks, digital-

ization of public services and government processes, as well as the implementation of advanced technologies and the development of digital skills for human resources in public administration and citizens (The European Parliament and The Council of the European Union, 2021).

In this architecture, public servants play a crucial role, as efficient digitalization cannot exist without content creators, digital public service providers, and users with digital skills who can interconnect the four types of relationships universally recognized in the literature as the foundation of the e-governance concept: government-citizens (G2C); government-business environment (G2B); government-government (G2G); and government– employees (G2E).

In this context, the present research focuses on studying the development of digital skills among 32,500 public servants in the Romanian administration through a large-scale program funded by Romanian National Recovery and Resilience Plan, with the aim of training a digital human capital capable of contributing to the success of national public service digitalization measures, in line with EU policies.

2. The role of the National Recovery and Resilience Plan in Creating Digital Public Servants

The G2E relationship is essential in the structure of e-governance as it represents: „empowering employees to help citizens in the fastest and most appropriate way, to accelerate administrative processes and optimize government solutions. Before we can expect citizens to go online, government employees must go online“ (Rao, 2011: 214).

Adequate digital skills of employees in the public sector contribute to the successful implementation of e-governance, requiring hybrid human capacities: technological, commercial, and management, manifested in skills for installation, maintenance, design, and implementation of ICT infrastructure, as well as skills for usage and management of processes and functions (Ndou, 2004), the progress of public administration depending on technological, organizational, but especially human changes, with the speed of ICT development requiring an increase in knowledge management (Matei and Săvulescu, 2016).

For Romania, the implementation of the *Recovery and Resilience Mechanism* through the National Recovery and Resilience Plan, approved by the European Commission on September 27, 2021, represents a unique opportunity for development in all areas of EU digital policy monitored annually by the European Commission through the Digital Economy and Society Index (DESI): connectivity, human capital, digital public services, digital enterprises, an index in which Romania consistently ranks last, including in recent years, for example in the DESI 2021 and DESI 2022 reports (European Commission, 2021c; European Commission, 2022a), where it ranked 27th out of 27 member states in terms of all analysed indicators, while the development of digital human capital and the number of ICT specialists placed the country in 26th and 27th place, respectively.

Although Romania does not have a strategy regarding digital skills, 20 million euros out of the 1817 million euros allocated to the *Digital Transformation Pillar* within the *National Recovery and Resilience Plan* are used for the development of advanced digital skills for 30,000 executive public servants and personnel with responsibilities in the ICT field, as well as 2,500 managerial public servants participating in leadership and talent management training courses in the context of public administration digitalization (European Commission, 2022a).

National Agency for Civil Servants (NACS [ANFP in Romanian]), a public institution responsible for the record-keeping and management of the civil service at the national level, coordinator of reform and investments, and beneficiary within the National Recovery and Resilience Plan, is responsible for implementing *Investment 16 – Advanced Digital Skills Training Program for Civil Servants, an investment related to Component 7. Digital transformation, target no. 185*

– *Public servants who have completed a digital training course.*

The initial schedule of the program announced the start of it by the end of 2023, through the development of digital skills for the first 8000 public servants (ANFP, 2023b). However, the agency revised the phased approach in March 2024, with a new course structure that plans to training of 30,000 public servants in general and specific digital competencies from 2024 to 2026, through 1,200 training sessions. 80% of these sessions will be conducted online, while 20% will be conducted in physical format in rooms with a minimum of 25 participants, located in each county seat, as well as in at least two mobile centres per County to facilitate access for participants from locations more than 50 km away from the capital city (ANFP, 2024a).

The courses follow the guidelines of The European Digital Competence Framework for Citizens (DigComp), a program of the European Commission that represents a conceptual framework of digital competence based on five digital skills: information and data literacy – identifying data and digital content and their sources; communication and collaboration through digital technologies; creating digital content; data security skills; problem-solving – identifying and using digital solutions for societal problems and needs, using digital tools to innovate processes and products (European Commission, 2022b; European Commission, 2024a).

Regarding the courses for senior public servants, they will take place in the period 2024-2025, in two stages, with 1,400 participants in the first stage and 1,100 participants in the second stage, lasting 40 hours and being organized in fully physical format for 500 participants – in centres located in each county seat, as well as in two mobile centres to facilitate the participation of people from more remote locations from the County „capitals“ – and hybrid format for 2,000 of them.

Based primarily on the development of traditional leadership skills adapted to the digital transformation of public administration, the courses also aim to address change management, confident use of data and technology, and data-driven governance (ANFP, 2024b).

According to the data available on the agency’s website, 100 institutions and public authorities have positively responded to the participation call for the training program, collaboration protocols have been concluded, a small number taking into account that at the national level there are 4,344 public bodies registered with NACS.

At the end of 2023, the public institution officially announced the implementation, in the near future, of a new project: *Development of General Digital Competence Framework for Public Servants in Romania*, a project selected by the European Commission for technical support through the European Union program, *Technical Support Instrument*, which provides technical expertise tailored to the requesting state to implement reforms, including within the framework of national recovery and resilience plans, without the need for co-financing.

The project, in its early stages, will be carried out in partnership with the National Institute of Administration and the Authority for the Digitalization of Romania (ANFP, 2024b).

3. The current level of e-skills of Romanian public servants

Currently, there is no clear situation regarding digital skills in the Romanian public sector, but only scattered studies conducted under certain research circumstances, which, however, highlight a pronounced lack of digital skills, both advanced and basic, among Romanian public servants.

In order to assess the types of digital training and certification required to be implemented within the *Advanced Digital Skills Training Program for public servants* funded through the National Recovery and Resilience Plan (NRRP), NACS conducted a structured study between April and May 2022, based on 3,264 questionnaires administered to 768 institutions and authorities at the central, regional, and local levels of public administration. The study revealed that 62.8% of respondents have never participated in completed courses resulting in obtaining an ECDL certificate – an international standard for digital skills. Meanwhile, out of the 37.2% who have participated in such courses, only 3.6% have obtained an advanced-level certificate.

The sample on which the questionnaire was applied represents the equivalent of 10.04% of the target group of 32,500 public servants targeted by the training program and is considered relevant for assessing digital skills of the entire human resources body that will undergo the training program (ANFP, 2022).

At the level of central public administration, a study conducted by the Authority for the Digitalization of Romania in 2023, on a sample of 10,754 people, including 1,893 from the management staff, revealed that 80.7%, or 8,681 of them, do not possess any digital skills, while 15.7% have basic digital skills and only 3.5% have advanced digital skills (Autoritatea pentru Digitalizarea României, 2023).

The level of digital preparation of human resources in the public sector can undoubtedly be correlated with the low interest of authorities and public institutions in the professional development of their own employees, a fact proven beyond doubt by recent official data.

According to the reporting in 2023 by the main credit managers in the public sector to NACS, regarding the estimation of the need for professional development courses at the level of subordinate public entities, the field of information and communication technology holds a modest overall share: 1.3% of the allocation coefficient for training domains within the category of senior public servants, 8.2% among senior public servants, and 11.3% for executive public servants, while the proposals for the professional development of servants holding specific public positions account for 6.3% of the allocation for training domains.

This fact confirms, once again, that although important in the process of digitalization of public administration, this type of employees do not benefit from specialized training programs that develop a minimum set of technical and management skills necessary for the implementation of complex and strategic IT systems, lacking, at the national level, human resource strategies that aim to consolidate the necessary knowledge in the field of e-governance. (Autoritatea pentru Digitalizarea României, Secretariatul General al Guvernului, 2021).

The situation is similar in local public authorities. According to a study conducted by the Central Regional Development Agency in 2021, in 414 municipalities in the Counties of the Central Region: Braşov, Covasna, Sibiu, Harghita, Alba, and Mureş, in 146 of the responding administrative-territorial units, employees do not benefit from any form of digital skills training, while in other 156 cases, employees receive informal training from colleagues or superiors.

In 46 City Halls, 13% of those included in the study, professional training courses are held with the support of ICT experts, external or within the institution, but in 21 of them the courses are held less frequently than once every two years.

Although there is a shortage of specialists in the workforce, paradoxically Romania ranks among the top countries in terms of ICT graduates, ranking 4th in the EU. In terms of the number of specialist females, the country ranks second among Member States, thus meeting the EC's condition for ensuring gender convergence (European Commission, 2022a).

In the current context, a significant change in Romania's pace of digital skills training is essential for the EU to achieve the objectives of the *Digital Decade* (European Commission, 2022a) and meet the target set by implementing the *Advanced Digital Skills Training Program for Public Servants* funded through the National Recovery and Resilience Plan (NRRP), especially since the program has started one year later than initially planned, in 2023.

4. Romania needs to diversify its methods of digital education

According to the Report on the Management of Public Positions and Public Servants of the National Agency for Civil Servants for 2022, at the level of the 4,344 public authorities and institutions in Romania, there were 176,471 public positions, of which 135,510 were occupied, 3,894 were temporarily occupied, and the rest were temporarily vacant and vacant.

According to the data managed by the National Agency for Civil Servants, Romania has an aging workforce of public servants, with an average age of 48 in 2022, in an upward trend over the past 9 years, which could make it difficult to adapt to a new way of working given that, in general, mentalities remain attached to old practices, and the average age of servants makes it difficult to accept new technologies (Vrabie, 2013).

Based on the information presented in the cited report, approximately 58.4% of public servants in Romania fall within the age range of 45-59 years, which is not expected to change significantly in the near future, according to NACS. This is due to the fact that the public sector's workforce is characterized by stability and low occupational mobility.

Taking into account the reluctance to change of the public servants' workforce and the low level of digital skills of human resources in the Romanian public sector, additional measures are necessary for the development of digital skills through the diversification of digital education methods.

For the training courses organized, the national agency promotes e-learning/blended learning training (ANFP, 2023a) by combining traditional classroom learning with online learning, both coordinated by trainers.

Although short online courses are low-cost and convenient for participants in their natural environment, public administrations around the world approach a combination of different types of learning activities in order to optimize training: non-formal education through courses, workshops, or guided training in the workplace; informal education through coaching, mentoring, experiential learning, communities of practice for digital professionals, learning resource centres or guidance, learning events such as lectures offered by experts, or job rotation programs, an effective method that allows training even in the employee's professional environment (Burtscher et al, 2024).

For example, in Germany, the development of digital skills in the public sector is supported through public-private partnerships within specific projects supported at the federal ministry level. Partnerships offer informal learning opportunities in the workplace for digital professionals and allow for the dissemination of knowledge through peer mentoring.

Also, government-initiated projects also benefit from support from a voluntary association of public servants, NexT, established in 2018, currently involving over 2000 individuals, 500

public institutions, and 100 volunteers, being part of the network and contributing to the digital improvement of personnel in government structures (Burtscher et al, 2024).

Before the implementation of diverse digital education, based on formal and informal methods successfully applied by other countries, it is necessary to create a strategy for the development of digital skills that is based on concrete data about the level of digital training of Romanian servants, in order to be adapted according to existing needs. An assessment of digital skills is possible through the annual evaluation of digital competences within the workforce of public servants, there being a legislative initiative in this regard that is currently unfinished, for now, in the legislative process.

5. Conclusions and proposals

By financing the *Advanced Digital Skills Training Program for public servants*, Romanian National Recovery and Resilience Plan makes a significant contribution to the development of digital skills in an important segment of the public sector. However, in order for the human resources in the system to support the construction of a successful national e-governance core, thus contributing to the achievement of EU digital sovereignty, additional measures are needed to increase digital literacy for all individuals appointed to public positions.

We believe that an effective solution in this regard is, first and foremost, the implementation of a mentoring solution among colleagues through financial incentives, such as salary bonuses, or professional advancement – promotion to a higher professional rank sooner than 3 years, by derogation from the mandatory condition provided by Emergency Government Ordinance no. 57/2019 on the Administrative Code – for public servants who have completed a course and obtained a certificate attesting their basic or advanced digital skills, or for newcomers to the workforce of public servants who already possess e-competences, so that they can share their knowledge in an organized manner within the institution or public authority where they carry out their activities (Guvernul României, 2019).

Another useful method could be digital self-improvement through the use of EPALE, a multilingual electronic platform for lifelong adult learning, provided at the EU level by the European Commission and funded through the Erasmus+ program.

According to the data presented on the official website, the platform represents an open community that offers free online training programs for professional development, including in the field of digital skills, facilitating connection between members and learning from people in Europe with the same concerns. With the support of specialized educators and trainers, EPALE organizes courses, conferences, webinars, workshops, and networking events (European Commission, 2024b).

According to the applicable legal framework, specifically Article 458 of the Administrative Code, public institutions and authorities in Romania are required to provide each public servant with the opportunity to participate, at least once every two years, in a professional development program funded by public funds.

Often, this obligation is not fulfilled due to financial considerations that do not allow for the funding of necessary courses. We believe that through special legislative provisions that recognize digital improvement through the EPALE platform as a fulfilment of the periodic professional improvement obligation, public bodies could be encouraged to motivate their own employees to become active members of the community and acquire the necessary skills

for a well-prepared staff in supporting the development of public services based on information and communication technology and their use in daily activities.

Conflicts of interest

The author declares no conflict of interest.

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