Reshaping the labor market through Artificial Intelligence - impact on skills in public administration

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ABSTRACT
The complex transformations and challenges that the current digital age is facing are substantially changing the traditional dynamics of the labor market and, implicitly, have an impact on the work of public administration, the way it must adapt to respond to the new realities, as well as on the human resources and skills needed to carry out the work. As the work of the public sector is indispensable in every country, the reassessment and development of the skills of public sector employees to ensure access to public administration services are the objectives of this article, which explains how digital technology, automation and artificial intelligence affect the labor market, what the impact of these changes is on public administration and how employees' skills can be adapted to current market requirements. We started from issues related to the rethinking of the labor market with a focus on the effects on public administration, presenting key aspects of the impact of artificial intelligence and facilitating the understanding of these transformations and identifying solutions for the effective integration of measures in public administration and the skills of its own employees. In order to achieve the proposed objectives, the literature, as well as available legislation and statistical data, have been subjected to analysis for highlighting the impact of artificial intelligence on the labor market and the skills of public administration employees. As a result of the analysis, a number of recommendations are made regarding the acquisition of new skills needed by employees, including the need for continuous professional training, the identification of recommendations in the area of labor market rethinking, as well as new development trends in the public sector.

KEYWORDS: *public administration, artificial intelligence, digital skills, European Union, personal data protection.*

1. Introduction

Today's emerging technologies are driving inevitable changes in the labor market, with digitization, automation and artificial intelligence (AI) being the effects of these technologies, which may lead to the disappearance of traditional jobs or affect the way work is carried out, as well as the structure and dynamics of the labor market. Today, digital transformation is having a strong impact on the way the public sector operates, technological innovation is once again emphasizing that citizens are seen as the main beneficiaries of public authorities' work, with equal access to public resources and services, for ensuring more administrative efficiency and responsiveness of public services.

The digital transformation requires streamlined data collection processes for digitization, citizen-centric, personalized and proactive services. The use of AI for public administrations, in a responsible and strategic manner, can accelerate and improve efficiency and responsiveness to citizens's demands. For this reason, it is essential for the public sector to serve as an active user in order to improve internal processes in public administrations and the responsiveness to citizens' needs.

Therefore, the shift towards a smart government with AI implies a permanent, evolving relationship between AI and human lifelong learning, with effects on the labor market, so the need to provide professional digital competences as well as essential skills to solve the future challenges of public sector employees shows the multiple challenges that public administration is and will be facing, with the proper adaptation of employee skills becoming a key issue to meet the social and economic needs of users.

In this article, we will seek to provide answers to this particular challenge of how, if and in what ways digital transformation, automation and AI affect the labor market and we endeavour to point out that the need for reviewing the skills of public administration employees is also driven by the use of AI, which will influence the removal or replacement of some of the current skills of employees to perform their jobs adequately. The aim of this article is to analyze the impact of AI on the labor market, in particular on the public sector, to identify some of the changes generated by AI on the labor market and whether these changes contribute to the improvement of public administration work. We start from the assumption that digitization, automation and AI are significantly transforming the labor market and require the public sector to adapt quickly and efficiently to harness these changes for the benefit of the community.

2. Methodology

The article is developed by using qualitative methods, through literature research, statistical data provided by the World Economic Forum (IMF), the International Labor Organization (ILO), the Organization for Economic Cooperation and Development (OECD), the European Union (EU), some indicators used in this regard (e.g. DESI indicator), in order to underline both where Romania is positioned in the digital transformation process in relation to the European Union, and what are the forecasts for the competences and skills of employees on the labor market, in the public sector, by studying and interpreting the information collected on jobs, automation, digitization, skills, etc.

The entire documentation makes use of bibliographic resources from the literature as well as information available on the official websites of the IMF, ILO, OECD and the EU, which led to an assessment of the current situation in terms of the acquisition of new skills needed on the labor market, especially in the public sector, including the need for digital education and continuing vocational training and the identification of new trends in the development of public administration. The rethinking of the labor market, emphasizing the effects on the public sector through the impact of digital technology, automation and AI, facilitates the understanding of these transformations and helps to identify solutions for the effective integration of measures in public administration and the skills of its own employees.

3. Rethinking the skills needed by public sector employees

Society is aware that digital transformation is a unique opportunity to improve the performance and quality of the public sector, because the transition to digital government can help public authorities and institutions to be more credible, efficient, inclusive and innovative, but it is equally aware that it needs to pay attention to institutional risks in an appropriate way. The digital transformation - a complex process - which requires harmonization, integration and adaptation through clear strategies and proper implementation, also requires adequate opportunity and training for public sector employees. This opportunity imposes the need for legislative regulation of the digital framework (digital literacy, digital security, data protection and privacy, etc.) in order to maintain public confidence in digital governance, with the consequence of raising citizens' expectations regarding the quality of services, transparency and responsiveness of public authorities and institutions.

In a study by the International Labor Organization[1] it is stated that "technology is more likely to increase jobs than to automate them", an idea also supported by the literature[2] which states that 'globally, only about 2.5% of jobs are potentially exposed to the effects of AI automation', noting that "technology has more of an augmentation effect - i.e. it automates some tasks but still requires a person to perform the overall work", and referring to the 2010s, when "technological developments have complemented rather than replaced jobs, at least in Europe, in the more technology-intensive occupations and increased the share of jobs". At the same time, work flexibility has taken on even greater importance, with changing ways of working reshaping traditional employment structures, paving the way for a shift towards a work culture characterized by adaptability and collaboration. Flexible working brings multiple benefits for employees, including a more positive attitude at work[3] and "better management of challenges in their personal lives, and there is even evidence that it can justify extra pay for them[4]".

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[1] International Labor Organization, *Global Employment Trends for Youth, 2024, Decent work, brighter futures*, p.38, https://www.ilo.org/sites/default/files/2024-11/GET_2024_EN_web4.pdf, accessed on December, 3, 2024.

[2] Gmyrek, Pawel, Janine Berg and David Bescond. 2023. "*Generative AI and Jobs: A Global Analysis of Potential Effects on Job Quantity and Quality"*, ILO Working Paper No. 96; Albanesi, Stefania, António Dias da Silva, Juan F. Jimeno, Ana Lamo and Alena Wabitsch. 2023. *"New Technologies and Jobs in Europe*", European Central Bank Working Paper Serie No. 2831 in International Labor Organization, *Global Employment Trends for Youth, 2024, Decent work, brighter futures*, p. 38, https://www.ilo.org/sites/default/files/2024-11/GET_2024_EN_web4.pdf, accessed on December, 3, 2024.

[3] Baltes, Boris B., Thomas E. Briggs, Joseph W. Huff, Julie A. Wright, and George A. Neuman. 1999. "*Flexible and Compressed Workweek Schedules: A Meta-Analysis of Their Effects on Work-Related Criteria".* Journal of Applied Psychology 84 (4): 496–513 in Cappelli, P., Rogovsky, N. 2023. *Artificial intelligence in human resource management: a challenge for the human-centered agenda?,* ILO Working Paper 95 (Geneva, ILO). https://doi.org/10.54394/OHVV438, p. 9, accessed on December, 3, 2024.

[4] Kelley, Maryellen R. 1996. *"Participative Bureaucracy and Productivity in the Machined Products Sector".* Industrial Relations: A Journal of Economy and Society 35 (3): 374–399 in in Cappelli, P., Rogovsky, N. 2023. *Artificial intelligence in human resource management: a challenge for the human-centered agenda?,* ILO Working Paper 95 (Geneva, ILO). https://doi.org/10.54394/OHVV438, p. 9, accessed on December, 3, 2024.

According to a recent OECD report[5], on average, in OECD countries, the occupations most at risk of automation account for around 28% of all jobs, making evident the need to adapt employment and training policies to meet the challenges of automation. On the other hand, automation also has the potential to create a significant number of jobs globally, offsetting the losses caused by its implementation, which underlines the need for continuous education and training and adaptation of employees to take advantage of new employment opportunities that require alignment with the automation process.

The digital transformation of society cannot be done without the involvement of the public sector and its employees, with the specification that AI can complement and enhance human tasks. In the public sector sphere, AI is transforming the way authorities do their work, creating unique opportunities to deliver more effective public services, the efficiency in the public sector and support transparency[6].

The digitization of public administration also contributes to efficient management, considering that administrative efficiency obtained by automating processes has led to a reduction in manual workload, better efficiency in resource and time management, access to information and procedures at any time and place. It also reveals accessibility provided to all those who access public sector services, better transparency in public administration, facilitating access to information, optimization of resources and cost reduction in public administration through the use of digital technologies.

However, this process must be accompanied by appropriate training to ensure access to the benefits of digitization, in order to guarantee citizens the right to fair and transparent administration, especially as increasing digital literacy, skills and inclusion and the benefits of ICT for society are not foreign objectives to the European Union and the Member States[7]. Education to ensure access to the benefits of digitization involves both the category of employees and the category of users (citizens, private sector, public institutions etc.) and, of course, the establishment of an appropriate legal regulatory framework. An example in this regard is the European Declaration on Digital Rights and Principles for the Digital Decade[8], "builds notably on the EU Charter of Fundamental Rights and recalls most relevant rights in the digital transformation, such as the freedom of expression and information, data protection, and privacy. The digital rights and principles are also grounded in EU legislation and policies, making them very real and tangible for citizens", specifying the right to high-quality connectivity and digital public services and digital

[5] Lassébie, J. and G. Quintini (2022), "What skills and abilities can automation technologies replicate and what does it mean for workers?: New evidence", OECD Social, Employment and Migration Working Papers, No. 282, OECD Publishing, Paris, https://doi.org/10.1787/646aad77-en.

[6] OECD/UNESCO (2024), *G7 Toolkit for Artificial Intelligence in the Public Sector*, OECD Publishing, Paris, https://doi.org/10.1787/421c1244-en, p. 3, accessed on December, 3, 2024.

[7] For more details, see the Digital Agenda for Europe (https://www.europarl.europa.eu/factsheets/ro/sheet/64/digital-agenda-for-europe), which refers to the First Digital Agenda for Europe: 2010-2020 and the Second Digital Agenda for Europe: 2020-2030, the latter focusing on e-government and cross-border cooperation in the public sector, but also on digital education through the Digital Education Action Plan 2021-2027, which prioritizes the creation of a strong digital education ecosystem and the strengthening of skills for digital transformation.

[8] European Declaration on Digital Rights and Principles for the Digital Decade 2023/C 23/01 PUB/2023/89 *OJ C 23, 23.1.2023, pp. 1–7.*

skills. "Putting people at the heart of the digital transformation" is the title of Chapter I of the European Digital Bill of Rights, which states that "technology should serve and benefit all people living in the EU and empower them to pursue their aspirations, in full security and respect for their fundamental rights". The Declaration complements the European Commission's 2021 initiative on the digital transformation of Europe by 2030, where digital technology can serve the public sector and its users to ensure optimal connectivity, easy access to the public and a safe and fair digital space, the Declaration ensuring "the gathering and standardization of common political intentions of citizens, public administrations, the private sector, but also political leaders and, not least, their guidance on new technologies"[9].

We support the statement that "2023 and 2024 were particularly important years for the EU's leadership in the digital age and for its role as a promoter of bolder regulations worldwide"[10], the new EU-level rules contributing to the objectives of the digital decade, strengthening the protection of individuals (in this regard, we recall some of the normative acts adopted at the European Union level with an impact in this area: Regulation on artificial intelligence[11], which regulates the use of AI based on the level of potential risk, the Data Governance Regulation[12], Data Regulation[13] and the Interoperable Europe Regulation[14] etc.).

Since the European Commission has been monitoring the digital progress of Member States through the Digital Economy and Society Index (DESI) since 2014, and since 2023 the DESI has been integrated into the digital state, the chart below, in the category of digital public services for citizens, shows the evolution of these services from 2018 to date for Romania, compared to the European Union. In the area of digital public services, as shown in the report, the availability of digital public services for citizens (52.18% in 2023) is below the EU average (79.44%).

[9] Marinică, Claudia Elena, *Spre o Cartă Europeană a drepturilor digitale – obiectiv al Uniunii Europene*, Pandectele Române, București, nr.2/2022, pp. 112-119.

[10] Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions State Of The Digital Decade 2024, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52024DC0260, accessed on December, 3, 2024.

[11] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Regulation) (Text with EEA relevance), OJ L, 2024/1689, 12.7.2024, available at https://eur-lex.europa.eu/legal-content/RO/TXT/?uri=OJ%3AL_202401689.

[12] Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Regulation), OJ L 152, 3.6.2022, p. 1, http://data.europa.eu/eli/reg/2022/868/oj.

[13] Regulation (EU) 2023/2854 of the European Parliament and of the Council of 13 December 2023 on harmonised rules for fair access to and proper use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (Data Regulation), OJ L, 2023/2854, 22.12.2023, http://data.europa.eu/eli/reg/2023/2854/oj.

[14] Regulation (EU) 2024/903 of the European Parliament and of the Council of 13 March 2024 laying down measures for a high level of public sector interoperability across the Union (Interoperable Europe Regulation), OJ L, 2024/903, 22.3.2024, https://eur-lex.europa.eu/legal-content/RO/TXT/?uri=CELEX%3A32024R0903.

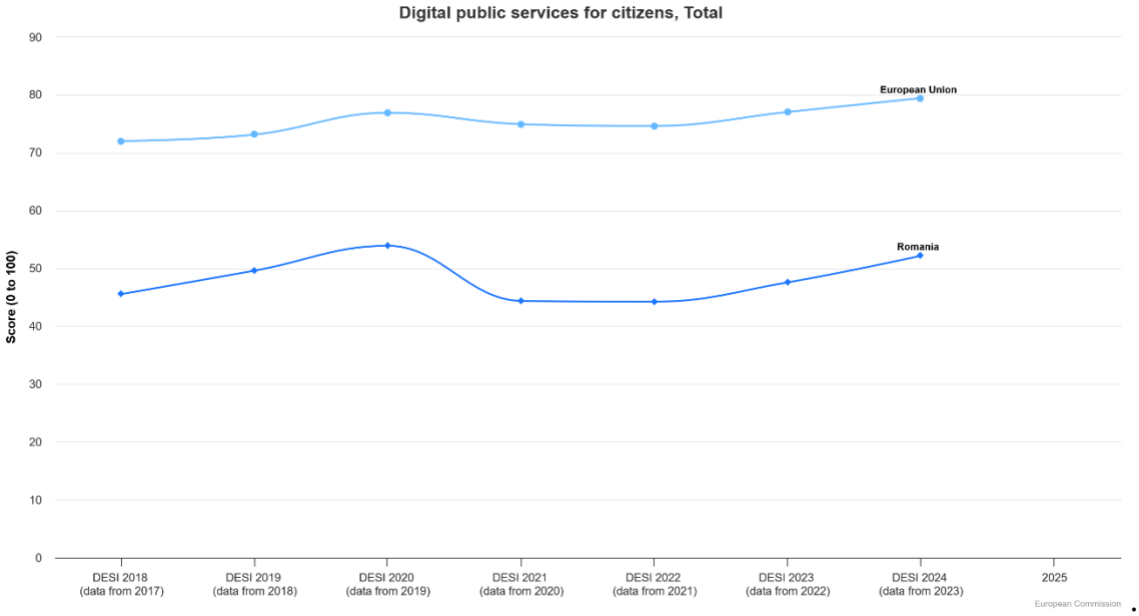

Chart no. 1. Digital public services in Romania - compared to the European Union in 2023.
Source: https://digital-decade-desi.digital-strategy.ec.europa.eu/datasets/desi/charts/compare-countries-progress?indicator=desi_dps_cit&breakdown=total&unit=egov_score&country=EU,RO, accessed on 02.12.2024.

We believe that, in Romania, there is still a significant gap between the public sector and technological advancement, requiring the integration of technological advancement in order to determine the growth of digital skills.

Regarding the skills needed in the public sector, it is considered that there is a growing demand for specialized technical skills for the development and implementation of AI, as well as digital skills and literacy in the field of AI, which in turn will determine the growth of AI-related occupations[15]. Whereas "the widespread adoption of AI is significantly reshaping skills requirements across the economy, transforming job tasks and the distribution of occupations[16]" public sectors are no exception, therefore "a wide range of expertise is essential to ensure that AI initiatives are well-rounded, ethically sound, and effectively integrated into the public sector, ultimately leading to more comprehensive and successful outcomes"[17].

[15] Milanez, A. (2023), "The impact of AI on the workplace: Evidence from OECD case studies of AI implementation", *OECD Social, Employment and Migration Working Papers*, No. 289, OECD Publishing, Paris, https://doi.org/10.1787/2247ce58-en, p. 11, accessed on December, 3, 2024.
[16] OECD (2023), *The impact of AI on the workplace: Evidence from OECD case studies of AI implementation* in CD/UNESCO (2024), *G7 Toolkit for Artificial Intelligence in the Public Sector*, OECD Publishing, Paris, https://doi.org/10.1787/421c1244-en., p. 53.
[17] Berryhill, J. et al. (2019), "Hello, World: Artificial intelligence and its use in the public sector", *OECD Working Papers on Public Governance*, No. 36, OECD Publishing, Paris, https://doi.org/10.1787/726fd39d-en in CD/UNESCO (2024), *G7 Toolkit for Artificial Intelligence in the Public Sector*, OECD Publishing, Paris, https://doi.org/10.1787/421c1244-en., p. 53.

The public sector is finding it difficult to maintain a skilled workforce capable of using AI effectively, the growing need for new skills in order to work effectively with AI systems and the high risk of automation through generative AI is increasingly, which is why retraining, acquiring new skills are essential to stay in the labor market[18]. There is therefore a need to improve the skills of public sector employees through training and development programs that address both core and specialized skills, creating the conditions for employees to adapt to the evolving requirements of their roles[19], including acquiring the skills needed to use AI effectively.

In order to have employees who are aligned with the future needs of the public sector and users, an appropriate selection and management policy is necessary, but not sufficient; their skills and abilities should be maintained and, where possible, enhanced through continuous training and the most objective assessment of their performance. Human resource management in the public sector is therefore also directly involved in the changes on the labor market that are taking shape, also driven by the significant acceleration following the COVID-19 pandemic, changes which, together with digital technology and the impact of AI, will reshape the labor market. The training of public sector employees must be seen as a continuous process, starting with the entry process and then maintaining their ability to guarantee the quality, transparency, efficiency and effectiveness of public administration.

As AI has the potential to profoundly reshape the labor market, it is clear that the public sector is not left unaffected by its impact either, and the jobs and skills needed by public sector employees are being influenced by AI and automation solutions. At present, a relatively small part of the tasks that public sector employees perform have been automated, but in the near future, at least globally (it remains to be seen whether this is also the case in Romania), a good part of them will be automated in the medium term, which will require a new configuration that will call for, in addition to their basic knowledge, digital competences and essential job skills (critical and analytical thinking, creativity, initiative, empathy, teamwork, resilience and adjustment to change), including towards users.

Digital competences enable employees to be aware of and use the potential of technology and AI to facilitate and process work and at the same time give users access to quality services, and soft skills complement their professional knowledge and competences, creating a digitally anchored environment. The Recommendation 2006/962/EC on key competences for lifelong learning provides a definition of e-skills as "digital competence involves the confident and critical use of Information Society Technology (IST) for work, leisure and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet. Essential knowledge, skills and attitudes related to this competence"[20].

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[18] CD/UNESCO (2024), *G7 Toolkit for Artificial Intelligence in the Public Sector*, OECD Publishing, Paris, https://doi.org/10.1787/421c1244-en., p. 54.

[19] For more details: Nicolescu, C. E., Bițoiu, T. I., & Marinică, C. E. (2023). *Service based learning-a bespoke tool to turn prospective students into better employees*. *Cross-Cultural Management Journal*, *25*(2).

[20] Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning *JO L 394, 30.12.2006, pp. 10–18* available at *https://eur-lex.europa.eu/legal-content/RO/TXT/?uri=celex%3A32006H0962 accessed on 10.12.2024.*

In addition to digital competences, we should also mention emotional intelligence[21], which is essential for the work of the public sector and public administration, as it facilitates the effective management of constant interactions with citizens, other public sector employees and other institutional or private actors; social, self-regulation and empathy skills are also essential in managing one's own reactions, interpersonal relationships and decision-making, in order to create an optimal collaborative working environment, solve potential conflicts and respond effectively to users' needs. The possession of this competency by employees reveals a strong organizational culture based on open communication and transparency, which ensures good management and good governance, including building public trust. In fact, one idea that is already discussed in the literature is that success in public administration is not only based on technical and digital skills, but also on interpersonal and emotional skills, including empathy and the ability to collaborate effectively[22]; better governance, achieved through efficient administration and by promoting the use of AI and, implicitly, digitization in public administration, is not limited to having digital skills and providing digital services, but involves the implementation of innovative measures at the level of public authorities and institutions, which involve a reconfiguration of them, of the roles, attributions and objectives they pursue[23].

Skills such as the ability to adapt to change and resilience are also equally important in the work of the public sector and its employees, due to the constantly dynamic context where both public administrations and employees need to demonstrate resilience; adjustment to change, promoting flexible leadership and the ability to learn from past experiences are key issues for the public sector to consider.

Moreover, the IMF's 'Future Jobs Report' also[24] shows the evolution of skills for the period 2023-2027 over the next five years, showing that a significant number of employees will need to significantly improve their work skills to adapt to the demands of the labor market and that "cognitive skills are growing in importance fastest, reflecting the increasing importance of complex problem solving in the workplace." In 2023, analytical thinking and creative thinking are thought to remain the most valuable skills for employees, with socio-emotional attitudes on the rise represented by curiosity and lifelong learning, resilience, flexibility and agility, motivation and self-awareness; all of which "emphasize the importance of resilient and reflective workers who embrace a culture of lifelong learning as their skills life cycle declines". The importance of

[21] Wonda, T. A. (2024). *Does emotional intelligence have a contribution to employee performance enhancement?* Empirical evidence from the public sectors. Cogent Business & Management, 11(1). https://doi.org/10.1080/23311975.2024.2415525.

[22] Denhardt Janet V., Robert B. Denhardt, *The new public service: serving not steering*, Public Administration Review. November/December 2000, Vol. 60, No. 6, pp. 549-559, https://www.csus.edu/indiv/s/shulockn/executive%20fellows%20pdf%20readings/par-denhardt%20new%20public%20service.pdf.

[23] Marinică, C.E. (2020), *Digitalization – the key for adapting good administration to a better governance*, Academic Journal of Law and Governance nr.8.2/2020, pp. 111-123.

[24] The World Economic Forum, *Future of Jobs Report 2023. Insight Report May 2023*, pp. 37-39, available at https://www.weforum.org/reports/the-future-ofjobs- report-2023/ accessed on 10.12.2024.

cognitive skills of employees in the 'Government and Public Sector' segment[25] is represented by a share of 67%.

With reference to the competences and skills outlined above, linking the use of AI to the work of the public sector in general, with the obvious aim of improving the productivity and responsiveness of the public sector and its own employees, it is evident that the rethinking of the labor market is necessary, as well as the need for an ethical and responsible use of generative AI tools to improve the way of working. In a recent report, the OECD states that the responsible use of AI can improve the functioning of government by increasing productivity as a result of more effective internal operations and public policies, by designing and delivering more inclusive public policies and services tailored to the needs of citizens and communities, and by strengthening the accountability of governments[26].

Since with the help of AI relevant information can be identified in a fast and efficient manner, the accessibility of information for institutions is considerably improved, considering that AI can process large volumes of data; AI also enables the public sector to interact with its users in a personalized way, to get and analyze their feedback and, consequently, to react quickly, sometimes in a personalized manner, to their needs and concerns, thus improving the public services offered.

The use of both digitization and AI in the public sector entails the integration of automated solutions and AI for repetitive tasks, thus contributing to the streamlining of administrative processes and the modernization of public services for citizens, which may entail, on the one hand, reducing the number of public sector employees and/or the need to retrain them to meet the new digital requirements; retraining implies access to continuous lifelong learning, more specifically training and further training and, of course, the possession of competences and skills in the spirit of the above. On the other hand, skills shortages are a significant barrier to the effective uptake of AI-enabled technologies, which is why incentivizing the public sector to invest in training employees as well as in providing formal education adapted to the needs of the labor market is becoming essential.

The use of AI-based technologies in the absence of such skills and abilities creates major risks for the public sector, and ensuring cybersecurity, personal data protection, data privacy are essential for public administration. Because of the value of this information, which includes users' personal data, cyber-criminals are interested in data held by public authorities at various levels. To prevent intrusion, a cybersecurity strategy or the development of cybersecurity plans is needed to implement security measures to deal with cybernetic incidents, as well as training and awareness of public sector employees in cybersecurity. Their training and education provide the necessary tools to detect early or preparatory signs of potential threats and to take preventive measures to prevent cyber attacks.

In addition to the risk posed by inadequate cybersecurity safety, it should be noted that AI can also generate erroneous or inaccurate information, known as "hallucinations", which can lead to confusion or wrong decisions - again, this is where the continuous training and education of

[25] *Ibidem*, p. 41.
[26] OECD (2024), "Governing with Artificial Intelligence: Are governments ready?", *OECD Artificial Intelligence Papers*, No. 20, OECD Publishing, Paris, https://doi.org/10.1787/26324bc2-en, p.3, accessed on 10.12.2024.

employees to identify and recognize such situations comes in; at the same time, the public sector needs to respond in a fair and effective way to avoid bias and discrimination based on the data used, privacy risks, especially when personal data is shared or analyzed, which requires employees trained to ensure responsible and ethical use of AI technologies[27].

In Romania, the Romanian Digitalization Authority (ADR) is competent to deal with the development of digital skills in the public sector, in collaboration with other competent authorities (e.g. the National Agency for Civil Servants - ANFP). However, in a recent OECD study[28] It is noted that there is limited coordination between the RDAs and the ANFP to adopt a comprehensive framework for skills, including digital skills in the public sector, with Romania lacking a clear strategic approach to skills development in the public sector, despite that many institutions consider this a very important priority for digital transformation. Romania could develop a government-wide measurement tool to assess skills needs in the public sector and would include key competences such as leadership, socio-emotional skills and user orientation[29]. Besides, OECD Framework for Digital Talent and Skills[30] identifies four types of skills needed to advance governments' digital maturity: digital government user skills [31], socio-emotional skills for digital governments[32], professional skills for digital governments[33], leadership skills for digital governments [34].

The National Plan for Recovery and Resilience (PNRR) ensures that the digitization of the economy and the transition to Industry 4.0 are supported, with the aim of aligning the labor market with the latest developments, with the allocated budget of EUR 20 million for the Advanced Digital Skills Training Program for Civil Servants, aiming that "by mid 2026, 30.000 civil servants will be trained in advanced digital skills and 2,500 senior civil servants will be trained in leadership and talent management"[35].

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[27] For more information: Moroianu Zlătescu, I., Marinică, C.E., 2020. *"Some Legal Perspectives On Artificial Intelligence And Human Rights*," Fiat Iustitia, Dimitrie Cantemir Faculty of Law Cluj Napoca, Romania, vol. 14(2), pages 37-47, October.

[28] OECD (2023), *Digital Government Review of Romania: Towards a Digitally Mature Government*, OECD Digital Government Studies, OECD Publishing, Paris, https://doi.org/10.1787/68361e0d-en, pp. 61-62, accessed on 10.12.2024.

[29] *Ibidem*, pp. 64-65.

[30] OECD (2021[26]), *Framework for Digital Talent and Skills in the Public Sector*, https://doi.org/10.1787/4e7c3f58-en in OECD (2023), *Digital Government Review of Romania: Towards a Digitally Mature Government*, OECD Digital Government Studies, OECD Publishing, Paris, https://doi.org/10.1787/68361e0d-en.p.65 accessed on 10.12.2024.

[31] E.g. recognizing the digital potential for transformation, understanding user needs, open collaboration, trusted use of data and technology, and data-driven governance.

[32] E.g. the balance between vision, analysis, diplomacy, agility and protection is essential for designing and delivering reliable and proactive, user-centric services.

[33] Digital transformation has disrupted existing professions and created new ones. Digital governance maturity is supported by multidisciplinary teams that integrate both digital and non-digital professions.

[34] The leadership needed to establish a digitalized state requires leaders to visibly model competencies for digital government users and create an environment that encourages digital transformation.

[35] European Commission, *Report - Digital Economy and Society Index (DESI) 2022* in Romania, available at https://digital-strategy.ec.europa.eu/en/policies/desi-romania, p.8, accessed on 10.12.2024.

According to the Civil Service and Civil Servants Management Report for 2023, during the period 2014-2023, the number of civil service positions increased almost year by year from 158,712 in 2014 to 178. 690, in 2023, noting that the evolution of the number of civil servants during this period was influenced by "the increase in the number of civil servants through the transformation of positions of a contractual nature involving activities with prerogatives of public authority, the identification of new community needs, especially at the level of institutions and local authorities, the emergence over time of new positions or structures within public institutions"[36]. At the same time, it should be noted that there is an Institutional Strategic Plan 2023-2027 of the Ministry of Development, Public Works and Administration[37], which addresses, through a strategic objective entitled "Adapting human resources policies and system to the objectives and requirements of a modern administration" (SO4), the management of the competences needed to deliver quality public services, professionalize human resources management and create a high-performing and attractive working environment in the civil service; this management entails the implementation of a unified competency framework across the administration for a clearer career path, the promotion of a culture of ethics and integrity through the introduction of performance management based on a civil service competency framework and a continuous training process based on performance orientation and data-driven training needs analysis, the development of digital competences of public administration employees and the provision of the human resources needed for the digital transformation process.

Therefore, public sector employees in Romania should show a better interest in re-evaluating their knowledge and developing their professional skills by participating in training courses, complemented by encouraging the integration of new employees and capitalizing on the experience of those about to retire, so that the knowledge and skills acquired by experienced employees are passed on to future generations, facilitating their adaptation to the specifics of the new public sector.

4. Conclusions

We appreciate that the future of the labor market in the era of digital transformation, in the context of the presence of automation and AI, is changing the way the public sector operates, generating within it and among its own employees the need to adapt to new technologies and develop the skills necessary to meet the demands of the labor market. Therefore, professional skills, especially digital skills accompanied by the ability to continuously learn and adapt, an open mindset towards change, critical and analytical thinking, creativity, adaptability and resilience will represent essential skills to excel in a digitalized work environment.

[36] Report on the management of public functions and civil servants for the year 2023, Coordination: Vasile-Felix Cozma - President of ANFP, Lavinia Niculescu - Secretary General of ANFP. Elaboration: Carmen Bălănescu, Victor Bădoiu, Paula Vitriuc and members of the working group designated by OPANFP no. 71/23.02.2024, with subsequent amendments, available at https://www.anfp.gov.ro/R/Doc/2024/Rapoarte/Raport%20privind%20managementul%20func%C8%9Biei%20%C8%99i%20func%C8%9Bionarilor%20publici%202023.pdf. accessed on 10.12.2024.

[37] Approved by Order of the Minister of Development, Public Works and Administration No. 1029 of May 30, 2023.

In this paper, we wanted to emphasize that digital transformation, automation and AI generate changes in the labor market, so digital transformation is advancing the requirement to simplify data collection processes for digitization, and the public sector must act as an active user to improve internal processes in public administrations. AI must be used in a responsible and strategic manner, requiring a review of the skills of public sector employees, in the sense of eliminating or replacing some current skills of employees to adequately perform their work.

We appreciate that all these contribute to preparing the public sector for the future, that the labor market is influenced by them, but in order for the benefits offered, especially the improvement of services for users and the efficiency of public administration to be offered and accessed safely, with responsibility on both sides, an adequate legislative framework, appropriate skills and abilities and the training of public sector employees are needed.

We conclude that it is necessary to create a balance between digital technology, automation and AI and their use on the labor market, including in the public sector as we have presented; it requires a balance that will depend to a very large extent on digital education, professional, digital skills and not only, on the skills of public sector employees, but also of users, exercised within an appropriate legislative framework and by an active public sector and employees willing to keep up with the evolution of society.

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