

Digitalization in HRM – Possible Decisions

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Abstract. *Digitalization in various areas of business processes is underway. It changes traditional models of how organizational activities are carried out, including rearranging the way people are managed in modern companies. Undoubtedly, new digital solutions significantly facilitate work in HRM, but also pose a number of challenges. Due to the exceptional dynamics in the field, research on digitalization in HRM activities is also dynamic and accumulates new and new findings and recommendations for improvement. Two primary research questions guide the study: first: what significant changes are occurring in HRM as a result of digitalization, and second, what challenges do companies face in the process of digitally transforming HRM activities in Bulgaria? Possible solutions in HRM through digital tools are increasing, and in this article, using quantitative and qualitative research methods, the parameters of readiness for this major change in Bulgaria are sought. Using official statistical sources by National Statistical Institute and Eurostat data is outlined “demand-employment-digitalization” relation in Bulgaria. A study on digital readiness of HR managers and specialists In Bulgaria is used to give the national context of the study. There are analysed some of the AI solutions for HRM developed by Bulgarian companies covering the main elements of the HRM system. The findings show that while significant challenges remain, there is an encouraging trend in the digital transformation of HRM activities in the country's large and internationally present companies. The study shows the presence of innovative solutions in the HRM field, solved through AI by Bulgarian developers, which with their implementation will have a beneficial effect on the optimization of these activities in companies.*

Keywords: human resource management, digitalization, digital transformation, AI in HRM, AI personnel recruitment.

Introduction

Human Resource Management (HRM) has traditionally been viewed as a complex system encompassing a rich set of tools through which human resources are attracted, formed and used to reach organizational goals. It is one of the core functions of management and the overall performance of the individual entity, groups of entities and the company depends to a significant extent on the quality of the implementation of its various activities. In the last few years, especially after the COVID-19 pandemic, various digital solutions that efficiently process large databases in the field have started to take an increased part as a tool in this system. In today's business environment, where rapidly evolving technologies are forcing the pace and trend of development, digitization of HRM has become a significant factor for the successful functioning of any

organization. Technological innovations provide a new world of opportunities that bring efficiency, agility and competitiveness but at the same time challenge traditional HRM practices and models. This paper aims to explore the significance, challenges and opportunities associated with the implementation of digital tools and technologies in HRM in Bulgaria, and to conduct analysis on the successful transformation of part of the key elements in this system through the use of artificial intelligence (AI) based solutions. To achieve this, the authors search for answers to the following research questions:

1. What significant changes are occurring in HRM as a result of digitalization?
2. What challenges do companies face in the process of digitally transforming HRM activities in Bulgaria?

Literature review

Human Resource Management (HRM) is a core function of any organization's management. It is a continuous and purposeful process of attracting and selecting the most suitable people for the relevant positions, training, motivating, developing and fully utilizing them to achieve the organization's goals. Adequate HRM aims to provide the organisation with human resources with the skills and motivation to support its competitive positioning in the market. It is the meaning and the core of any organization's management, as people are the most valuable resource and the decisive factor for the success of its overall activities.

The roots of people management can be traced far back in antiquity, as far back as ancient Egypt, ancient China and in the story of Moses (Damyanov et al., 2008, p. 11). Over the years, this field has developed dynamically and started to integrate various key concepts such as motivation, employee satisfaction, training and human resource development. The historical development of HRM includes the change in the attitude towards employees from traditional subordination to a modern, supportive corporate culture that encourages personal development. In a modern context, HRM is defined as a strategic and consistent approach to managing an organization's most valuable assets - the people who work there and individually and collectively contribute to its goals. Different authors have viewed HRM from diverse angles: Storey (1989) believes that HRM can be seen as a set of interrelated policies with ideological and philosophical underpinnings and suggests four aspects that constitute HRM: a set of beliefs and assumptions; a strategic focus to inform people management decisions; central involvement of line managers; and reliance on a set of levers to model employee relations (Armstrong, 2006, p. 27). Other authors such as Torrington et al. (2008, p. 6) seek the reasons for the difficulty in defining the term in the ways in which it is used, and they believe that it has been interpreted from two positions: as a body for managing personnel activities and, on the other hand, to denote a particular approach to people management, a philosophy towards the implementation of people-oriented organizational activities serving contemporary organizations to achieve their identified goals.

HRM can also be defined as the art of selecting, developing and maintaining a competent workforce to achieve the organisation's objectives in an effective and efficient manner. In the complex system that constitutes HRM, the key elements are: recruitment; training and development of personnel; appraisal; and rewards, benefits, and compensation. In addition to these elements, the HRM system encompasses the equally important human resource planning, job analysis and design, equal opportunities, occupational health and safety, employee relations management, etc. These are integrated into a holistic system that aims to support and optimise the performance of staff in the organisation. Recent years have proven the need for "long-term human resource management, which is the basis of the adopted business model in the organization, determining its

behaviour in the business environment, including its relevance to the degree of fulfilment of the set goals and objectives, and without being able to be copied by competitors for the simple reason that human resources are unique” (Minchev, 2020a, p. 75).

In the digital era, HRM is experiencing a number of challenges related to adapting to rapidly evolving technology, digital innovation and changing working practices. HR managers have to deal with issues such as adopting new software tools, skills for working in virtual teams, hybrid employment of part of the staff and managing diverse talent from different locations. In addition, they must also deal with cybersecurity and data protection challenges, which are becoming a growing concern for modern organizations. We are already talking about digitizing HRM and quite a few authors are focusing their research in this direction.

With the development of technology, digitalization is rapidly entering HRM and digital tools are becoming increasingly important. In a system like HRM, where mistakes, errors and missteps in any of its elements reflect on overall competitiveness of organization, more and more IT companies are focusing on developing AI decisions to the most important element of this system – recruitment. It is currently “carried out on the basis of forecasting the quantitative and qualitative needs of the organization for employees in the future and the assessment of the possibilities to meet these needs” (Minchev, 2020b, p. 196), but with AI penetration, the ethical parameters of the entire process will increasingly matter.

The understandings of digitalization and digital transformation of HRM need conceptual clarity in order to be better understood and used effectively in practice (Strohmeier, 2020, p. 346). These concepts represent an evolutionary development of previous technology-based approaches in HRM, but it should be borne in mind that digitalization affects the entire organization, including HRM, which implies tracking trends in the overall digitalization of organizational areas (Strohmeier, 2020, p. 347). Digital technologies undoubtedly transform traditional HRM processes, but they lead to structural and functional changes and ultimately modify them. They seem to allow finding answers to all the questions that the rapidly changing environment has posed, especially after the COVID-19 crisis (Zavyalova et al., 2022, p. 43). Companies that were faster to adopt new digital tools in HRM such as bots, software for checking and sorting documents, tracking candidates, employee results, etc. reported multiple effects such as: reducing the risk of human errors, saved time, higher productivity, better personnel solutions, predicting employee overheating, discovering untapped potential of employees, etc. (Zahariev et al., 2022, p. 262).

Over the past few years, researchers’ focus to various issues related to the digital transformation of HRM has been increasing significantly, reflecting the rapid advances in technology and the growing need for companies to adapt to an intensifying competitive environment. Ni (2022, p. 11) highlights the need for companies to accelerate their digital transformation in HRM as a response to increased market competition by offering a Deep Neural Network Model for Digital HRM to Match People and Jobs. He argues that effective HRM transformation positively impacts persons and their overall performance as lays the foundation for understanding how digital tools can align workforce capabilities with organizational needs (Ni, 2022). Cioppi et al. (2023, p. 211) conduct a systematic review of the relationship between digital transformation and marketing, noting a shift in focus towards customer processes that has occurred since the COVID-19 pandemic. Based on the analysis, two themes are identified: macro and micro, with theoretical and managerial implications of digital transformation in companies being derived in the micro perspective. Processes that could better benefit from digitalization are outlined, thus driving the overall transition of firms towards digital transformation. Improving talent management decision-making based on AI-processed data is the focus of a study by Qin et al. (2023, p. 3). They

highlight the importance of leveraging big data for strategic HRM applications, such as employee recruitment and retention. This perspective on analytics is in line with the growing trend of integrating AI into HR practices to improve organizational performance. This discourse is further explored by Maghsoudi et al. (2023), whose study highlights the transformative potential of AI to enhance employee engagement and operational effectiveness, while emphasising the need for a deeper understanding of its role in HRM practices. This study reflects the growing attention to the challenges posed by the implementation of AI in HRM, but also the opportunities presented by it. Singh & Pandey (2024 , p. 2) underline that “digital transformation in an organization is not merely the adoption of a new set of digital technologies” and explore the drivers and barriers to AI adoption within HR ecosystems. The study provides important guidance to HR leaders, highlighting the importance of balancing technology integration with ethical considerations and the human element of HRM. The view advocated is that there should be closer collaboration between HR professionals and digital experts to address the complexities of AI adoption in HRM (Singh & Pandey, 2024).

In recent years, challenges have emerged as a result of the changes brought about by Industry 4.0 and 5.0, for the operation of which knowledge, skills and attitudes of people should be significantly modified. According to Gartner (2025) and Rockwood (2025) the following can be identified as key trends in HRM development in 2025:

- Group of trends with a focus on HR managers:
 - overwhelmed leaders and inadequately equipped managers to to effectively develop midlevel leaders;
 - unsuccessful imposition of the desired vision for culture among employees;
 - human resource planning only in an operational, but not in a strategic aspect;
 - poor preparation of managers in terms of change management, accompanied by accumulated fatigue among employees from constant changes;
- Groups of trends related to people in organizations:
 - hiring based on skills instead of selection based on education or work experience;
 - continuous need for updating skills in the workplace, caused by the accelerating pace of innovation and AI;
 - promoting long-term loyalty of employees through analysis of people with a view to strengthening their commitment and labour and financial well-being;
 - communication asymmetries caused by lack of empathy, generational differences and generally decreasing tolerance, including in the workplace;
- Groups of trends related to the implementation of AI-based solutions:
 - irrelevance of current technological solutions in the field of HRM with current and future business needs;
 - increasing use in 2023 and 2024 of AI to support tasks related to human resources, as most organizations have not yet touched the huge number of potential applications of AI.

Summarizing, the dynamic nature of digital transformation in HRM has yet to bring new and novel changes to the field. The integration of advanced technologies, the importance of data-driven decision making and the increasing need for ethical considerations in technology adoption are the most significant changes we are witnessing. The potential benefits are undeniable, but the challenges companies face as they navigate this transformative journey are not few, highlighting the critical role of HRM in fostering a successful digital transition.

Methodology

Analysing the digital transformation of the various activities in the scope of HRM with a focus on Bulgaria involves the application of both quantitative and qualitative research methods. Post-2014 data is covered due to the significant dynamics in the field. The object of the research is the processes of digital transformation of HRM activities in enterprises by assessing the macro-frame in which they take place in order to derive its specificities. The stages of this analysis include:

- Trends in population growth/decline, employment, unemployment and discouraged persons, and the structure of job seekers - enterprises. The macro picture in this direction sets the general framework of the labour market both in the present and predetermines a significant part of the processes in the future period. The availability, the specificity of the distribution of the working age population are an unavoidable factor and argument for the successful transformation towards digitalization. On the other side are the specificities of businesses, which are outlined through the prism of the distribution of enterprises according to their size and the trends that exist in these groups of enterprises in terms of employment.
- Digital skills of individuals. Digital transformation in HRM activities is not feasible without adequate digital skills of employees. Data for the EU average level and Bulgaria show the levels of these skills among the population in cities, small towns, villages and in general, thus outlining the state of capabilities for successful digital transformation of business processes and in particular those in HRM.
- Practices of implementing Bulgarian digital solutions with AI in HRM. The exploration of digital transformation processes can be traced through surveys of HRM specialists and managers, as well as through analysis of emerging new business solutions in the field offered by companies. As digitalization is a broad-spectrum process, this study uses survey data on the penetration of digital tools in HRM activities, and reviews some of the new business solutions offered in this direction in order to outline the trend towards implementing the next step in digitalization - that of using AI in HRM.

The analysis uses official statistical sources such as data from the National Institute of Statistics and Eurostat. The data are presented using graphical methods (tables, charts and graphs), which allows for a synthesis under the headings: digital solutions in HRM and the demand-employment-digitalisation nexus. The findings and conclusions are the work of the authors who use the information from the research presented in this paper.

Results and discussions

Digital business transformation is underway. The digitisation of companies is a new feature that explains the extent to which digital solutions are being adopted and implemented. Digitalization processes in companies are significantly influenced by general trends in employment, unemployment, the type of enterprises depending on their size, business and location, etc. In order to outline the parameters of national specificity in the employment sphere, it is necessary to look at the population trends, since the available human resources that will, are or have been realized in a specific country depend on it. Bulgaria is in depopulation and for the period 2014-2023 we had a decrease of more than 777000 people (Fig. 1). Against this background of a serious decline, the employed seem to be increasing as a share of the total structure at the expense of a decrease and even the shares of unemployed and discouraged persons are significantly shrinking (Fig. 2). In fact, the apparently very positive trend in the structure of employment and unemployment, combined with the trends in the total population, signals strong emigration processes and the realisation of

Bulgarians of working age outside the country, rather than an increase in employment in our native companies. This is confirmed by the data in Figure 1, 2 and 3. Bulgaria's labour market, as a consequence of the open market within the EU, has started to stagnate strongly and in 2024-2025 falls into surplus conditions with businesses and the state alerting to the need for over 260000 people to be employed (Employment Agency, 2024).

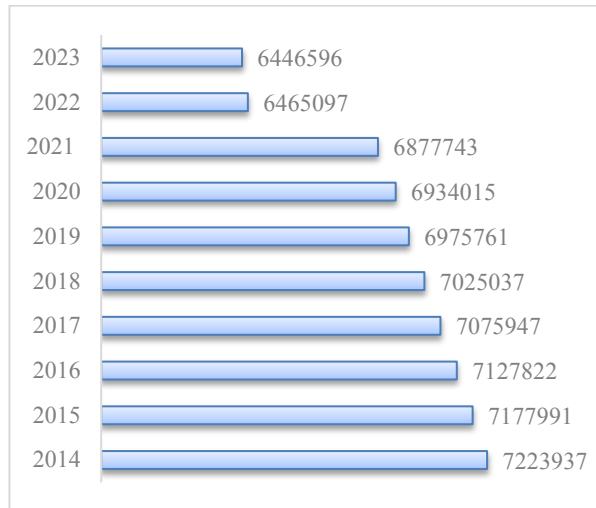


Figure 1. Total population in Bulgaria for the period 2014-2023

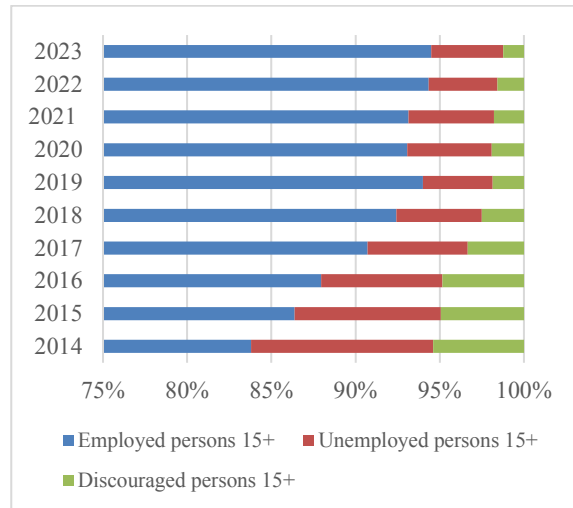


Figure 2. Percentage of employed, unemployed and discouraged persons over 15 years of age for the period 201-2023

Source: National Statistical Institute, www.nsi.bg.

The Bulgarian economy is relatively small within the EU and this is evident from the profile of firms functioning on its territory (Table 1). Over the period analysed, there has been an apparent increase in the number of actively operating companies by around 17%, with a predominant increase in micro-enterprises employing between 0 and 9 people. A slight overall increase in the number of small enterprises can also be noted, while in the medium and large enterprises sector over a 10-year time period, changes are insignificant from this position.

Table 1. Non-financial enterprises in the country by groups of employees for the period 2014-2023

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total	383905	393460	404937	406310	413535	419681	411564	412878	449481	462752
0 - 9	354988	363905	375123	375754	383134	388980	383013	383592	420011	432699
10 - 49	23656	24264	24500	25211	24982	25204	23489	24096	24178	24800
50 - 249	4509	4552	4586	4 601	4666	4738	4344	4436	4529	4483
250 +	752	739	728	744	753	759	718	754	763	770

Source: National Statistical Institute, www.nsi.bg.

Of particular interest is the contribution of the different groups of enterprises to the total employment in the country, as by 31.12.2023 it is noteworthy that almost all groups of enterprises employ people approximately equally. This is an interesting fact from the point of view of the position of different market users of human resources in Bulgarian labour market. Micro enterprises look like being the most serious employer, employing 1/3 of the country's employees, followed by

large enterprises, which provide 1/4 of employment. The employment in small enterprises is 22% and in medium enterprises - 20%.



Figure 3. Number of employees in an average micro, small, medium-sized and big enterprise in Bulgaria for 2014-2023

Source: National Statistical Institute, www.nsi.bg.

This leads to tracking employment trends in each of the enterprise groups using the indicator of average number of employees in an average-sized enterprise. Although this indicator is very conditional, it gives an idea of how many people are employed in a company and over the 10-year period analysed allows certain general trends to be traced. It can be seen from Figure 3 that over the period 2014-2023 microenterprises are shrinking from an average of 1,799 employees in 2014 to 1,687 in 2023. This clearly shows that Bulgarian microenterprises tend to be predominantly self-employed and at most have one employee, suggesting very limited opportunities for investment, including in AI solutions. The trend in the average number of employees in small enterprises is also not positive and the decrease in employment in 2014 from 19,869 people to 19,548 people in 2023. While this decline is not very significant it still suggests a trend of maintaining the size of small businesses with employment of around 20 people, again not indicating a trend towards expansion in employment in this group of businesses. Medium sized businesses are an interesting “litmus test” in the economy and the data points to a trend, albeit with some fluctuations, of a retention in both the number and employment of individuals over the period - they averaged around 99 people, i.e. our medium sized businesses tend to remain slightly larger than small businesses but not enough to be considered as aspiring to become large ones. The large enterprises have similar trends and show stability in average employment, which rises slightly at the beginning of the analysis period and remains relatively flat after 2018, averaging 730-740 people per enterprise.

Table 2. Digital skills of individuals, EU and Bulgaria, percentages

BG	EU27_2020			
50,70	68,35	2021	All individuals	Individuals with above basic information and data literacy skills
55,73	68,52	2023		
61,51	73,79	2021	Individuals living in cities	
62,32	73,61	2023		
48,47	66,29	2021	Individuals living in towns and suburbs	
51,68	66,40	2023		
38,05	62,45	2021	Individuals living in rural areas	
45,10	63,26	2023		
65,51	77,48	2021	All individuals	Individuals with above basic communication and collaboration skills
71,75	81,09	2023		
73,39	81,82	2021	Individuals living in cities	
79,62	85,13	2023		
65,11	77,25	2021	Individuals living in towns and suburbs	
64,98	80,39	2023		
55,38	70,92	2021	Individuals living in rural areas	
61,27	75,55	2023		
22,43	45,23	2021	All individuals	Individuals with above basic digital content creation skills
24,82	46,18	2023		
33,15	52,79	2021	Individuals living in cities	
33,44	53,63	2023		
19,47	42,37	2021	Individuals living in towns and suburbs	
17,20	43,82	2023		
10,45	37,08	2021	Individuals living in rural areas	
13,61	37,45	2023		
7,82	26,46	2021	All individuals	Individuals with above basic overall digital skills
7,73	27,32	2023		
12,81	32,73	2021	Individuals living in cities	
10,96	33,76	2023		
5,47	23,93	2021	Individuals living in towns and suburbs	
4,44	24,89	2023		
2,98	19,90	2021	Individuals living in rural areas	
4,04	20,34	2023		

Source: Eurostat, <https://ec.europa.eu/eurostat/databrowse> [isoc_sk_dskl_i21__custom_15449631] and [isoc_sk_dskl_i21__custom_15449631]

The introduction of AI in HRM is an ongoing and obvious trend. However, successful digitalisation requires people with the necessary digital skills to adequately and reliably manage the complex changes in business processes that digitalisation brings. Table 2 shows data on the level of digital skills in Bulgaria and the EU for the two periods in which this has started to be observed - 2021 and 2023 (Table 2).

Individuals with above basic information and data literacy skills, Individuals with above basic communication and collaboration skills, Individuals with above basic digital content creation skills and Individuals with above basic overall digital skills Bulgaria's levels are below the EU average for all four indicators monitored. Particularly worrying are the levels of digital skills in rural areas in Bulgaria, as for all four indicators they are at least 27% lower for basic information and data literacy skills, but reach 5 times lower levels for basic overall digital skills! The country's overall performance, despite its low starting point, shows an increase in all four indicators, with those living in large cities much closer to the European average than the indicators for small towns. This implies a long-term policy of digital skills training in small towns and especially in rural areas in order to achieve higher literacy and increase the opportunities for applying digital solutions in businesses located in these settlements.

Summarising, we can say that the available human resources in working age in Bulgaria are generally decreasing, but so are the unemployed and those who fall into the category of discouraged persons. Approximately 60% of employed work either in micro-enterprises or in large enterprises. In terms of digital skills, which are considered to be the skills of the future, Bulgaria ranks among the last positions in the EU ranking, although for the years 2021 and 2023 we show an improvement in all indicators concerning digital skills.

In this environment, it is evident that HRM in Bulgaria is beginning to take shape on at least three tracks: HRM in microenterprises, HRM in SMEs and in large enterprises. In part of the first track, where microenterprises employ 33% of the working age Bulgarians and employment is declining, a separate HRM function can hardly be spoken of. This is not to say that digitalization of business processes in these enterprises is not possible, but the digital transformation of HRM activities is very limited, where they exist. Regarding HRM in SMEs and large enterprises, a study by Conica Minolta Bulgaria and Eurotrust (2024), based on a survey of 143 HR managers and specialists from different industries and organizations in Bulgaria, highlights the challenges in terms of the degree of digitalization in HR processes and the readiness to implement new technologies. Key priorities and at the same time challenges similar to those globally are employee retention, employee engagement, and talent acquisition. Lack of enough management support and limited budgets for HR technology (probably in smaller companies) are also a serious issue and a significant barrier to the adoption of new practices and technologies (Conica Minolta Bulgaria and Eurotrust, 2024, p. 4). In the companies surveyed, HR professionals are actively exploring ways to increase the efficiency of their processes by implementing digital technologies. The most commonly used solutions include payroll, time and attendance and HRM systems. According to the survey, more than 70% of participants are already implementing some type of systems, and interest in automating administrative activities continues to grow. There has been significant progress in the integration of digital tools, highlighting the need to modernise HR processes. In future initiatives, specialists plan to introduce electronic employment records, digital leave requests and HRIS systems in the next financial year (figure 4). From the data, the readiness of HR professionals to introduce AI solutions in the field is more evident in large and internationally represented enterprises in the country, despite the limited budgets. Significantly lower support from

management is observed in smaller companies, which also find it more difficult to transform their HRM activities.

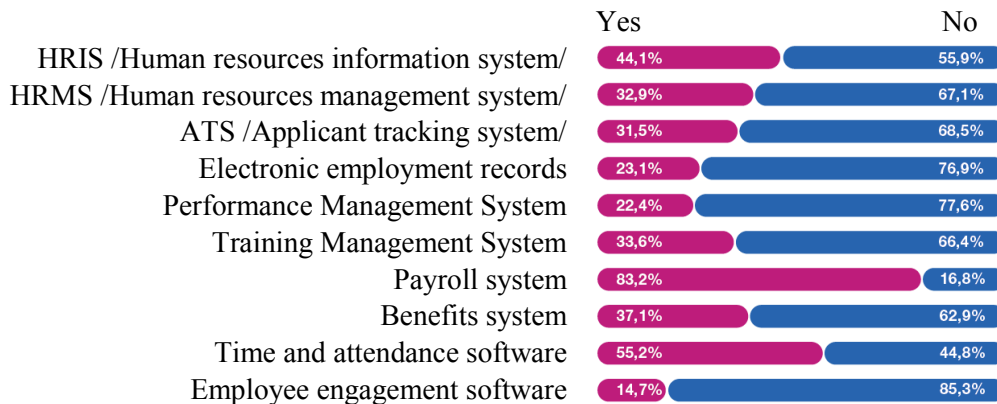


Figure 4. Most used HR systems and software in Bulgaria

Source: Digital HR - Trends and Technologies in Human Capital Management in Bulgaria, <https://www.konicaminolta.bg/bg-bg/on-demand-resource/digital-hr-2024>.

The last few years have been marked by increasing interest from Bulgarian ICT companies in developing new HRM solutions with AI. AI solutions in the field of job boards, talent management, coaching and ATS (Applicant tracking system) are widely used in Bulgarian practice but only a few of them are developed by Bulgarian companies. The latter solutions have the potential to significantly expand their presence among SMEs, as they offer good options at reasonable prices for these enterprises. Considering that small companies rarely have enough HR specialists, AI solutions could greatly support their activities in HRM. Our research found (without pretending to be exhaustive) that by the beginning of 2025 there are a few companies in Bulgaria developing HRM solutions with AI as follows:

- Job boards with AI

The undisputed leader of the job board market is jobs.bg, which for the last 9 years has published over 4 million job ads by 112102 companies (Jobs.bg, 2025). Jobs.bg is probably the oldest and most popular job search and offer site, launched in 2003. Applying for a job on jobs.bg is completely free for those applying for vacant positions. It is also possible for employers to post free ads, but the company offers various paid schemes for positioning ads so that they appear to candidates with priority. In recent months, jobs.bg has offered a new service to jobseekers by activating its own AI assistant, enabling jobseekers to be among the first employers see when they post job ads that match experience and skills, even before there are candidates on the ad.

Another Bulgarian company in the same market is nPloy, who provide AI-based solutions for both job seekers and job providers. It was founded in 2018 and the following year launched nPloy v1: a job finding app designed for young people. In 2023, nPloy was Startup of the Year according to Forbes and Job Platform of the Year recognized by Career Show. In 2024, it was an IBM Accelerator finalist and winner of the We Make Future Bulgaria Startup Competition (npjoy.net, 2025). Through an intelligent algorithm, nPloy provides job seekers with talent matching with companies based on their mutual expectations and requirements. On the employer side, they get access to a diverse database and a modern approach to researching and reaching talent, as well as employer branding campaigns as part of their subscription. Candidates benefit

from tailored features that can make their career journey enjoyable and fast. The company is not just a job board, but has matching functionality that makes it an innovative player in the labour supply and demand market. The platform even if the person is not actively looking for a job has a feature where companies apply for them. The mobile app is designed to suit the dynamic lifestyle.

- ATS

One successful and promising project in this direction is Skillie.ai - a Bulgarian startup and a spin-off of Abilitics (a Bulgarian Software Company with more than 15 years of experience in IT). The company develops one of the most widely used Recruitment software in Bulgaria (Skillie.ai). It has been selected twice as the best “HR digital project” award for 2023 and 2024 for their project with Postbank – part of Eurobank group. Skillie is an AI-powered Recruitment Platform that provides: Applicant Tracking (ATS); Customizable recruitment pipelines; Anonymizable Candidate Profiles with Save to PDF CVs functionality; Pre-selection of candidates' CVs via AI/ChatGPT; Email automation and tracking; Jobboard functionality and AI tools and web-based Board Games for candidate engagement and employer branding tools. Platform usage for 2024: 350,000 applicant users; 50,000 users through access or 14.3% of the total usage and 300,000 users of the system for application only. The profile of employer companies is divided into 4 segments: financial institutions (banking and non-banking) - largest share; technology companies - growing market with high potential; recruiting companies - including the largest recruitment company in Bulgaria and manufacturing companies - least represented. The orientation of companies using AI for recruitment, by job groups, according to the data from the system is: managerial positions - least in demand and expert/specialists' positions - the most used system and AI for these positions. The ambition of the company's young team is to develop solutions with the application of AI for Bulgarian and foreign customers, concerning various processes in the field of human resources management. At the time of the study, they are developing and offering a successful AI solution related to personnel selection.

- AI coaching

COACHIEZ is an AI-powered coaching platform focused on employee personal and work performance. Through an interactive experience, the platform empowers individuals to achieve their goals by stimulating personal growth, which subsequently translates into organizational success. Through AI-driven coaching, employees increase productivity and performance, support skills development, build confidence and foster a culture of continuous improvement. The company was founded in 2024.

The selected examples are only part of the digital transformation that is happening in Bulgaria in the field of HRM. There is a growing interest of business in AI technologies and HRM activities in particular. However, challenges such as ethics, bias, legal issues are still significant to the faster adoption of AI technologies, but despite the undeniable benefits, it is important to note that the human factor remains the leading factor in HRM.

Conclusion

In March 2025, it was announced that Bulgaria would build one of the European Union's six new artificial intelligence factories after the country won a €90 million project in competition with leading European countries. The new AI centres in Europe will be in Austria, France, Germany, Poland and Slovenia in addition to Bulgaria, with "each factory to be a one-stop shop offering AI startups, SMEs and researchers comprehensive support to develop their datasets and access AI-optimised high-performance computing resources, training and technical expertise" (The

EuroHPC, 2025). This new perspective for Bulgaria will definitely dynamise the transformation of business processes towards AI and will inevitably have an impact on HRM digital transformation.

Contemporary HRM is a complex and dynamic process that requires strategic thinking, adaptability and innovation. Companies that successfully address the challenges of digitisation, talent management, motivation and cultural diversity will have a competitive advantage in attracting and retaining highly skilled professionals. In a world where people are the most valuable resource, a good HR strategy is the key to success. Today's HR managers and professionals face a number of challenges, significant among them those arising from digitalisation. The digital transformation in the HRM world is going full force in several areas: recruitment, onboarding with virtual reality, HR Q&A, talent development, coaching, burnout prevention, performance improvement, etc. In Bulgaria, however, the structure of the population and the economy imply current and future limits in terms of faster and more effective AI penetration for companies. HRM activities are already evolving along different trajectories in the country, with large and international companies having the most significant success in digital transformation. There is still much to be desired in transforming HRM activities with AI in SMEs. They are also likely to find it more difficult to adopt the next AI agents that have the potential to further improve their overall business performance. Undoubtedly, the wider penetration of AI in such a sensitive area as labour management is also linked to concerns about the still evolving regulatory framework at European and national level for the application of AI; the fear and apprehension of the unknown in much of society; the culture of the adult population; the problems in digital solutions themselves and the limitations in their use that are in the process of being overcome or resolved. There also remains the key challenge of how companies can integrate new technologies without losing the personal touch and human face in people management in the years ahead.

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