

NEW PERSPECTIVE OF HUMAN RESOURCES MANAGEMENT: EXPLORING THE HUMAN-MACHINE WORKFORCE KNOWLEDGE AS ORGANIZATION'S CAPITAL FOR FUTURE DEVELOPMENT

Biljana Lukić Dorđević

Independent Researcher, Serbia, bil.hr@yahoo.com

ORCID ID: 0009-0009-8935-2101

Abstract: As organization's function focused, among other activities, on acquisition, development and care of employees, aiming to apply their skills and knowledge to fulfil organization's business goals, the Human Resources Management function is constantly evolving. With its evolution from previous "personnel management" to "human resources management" and, due to criticism of considering people as other organization's resources to modern term "people management", the Human Resources Management function in its essence is dedicated to working with people in an organization. Modern Human Resources Management has passed through significant challenges for the past several years, including the business operations under disruptions and social distancing during the pandemic crisis in 2020, technology development which introduced remote work and now rapid Artificial Intelligence development. The recent usage of the generative Artificial Intelligence, robots and agents by organizations in various industries started as tools for different repetitive tasks, fast data collection and analysis several years ago, and gradually they became agents capable of independent work, be it constant human-like communication with customers regardless of the language or time zone they work in, autonomous transportation vehicles, robots in production and construction processes, Artificial Intelligence agents trained to independently create documents, design, programming and many other works. The widespread application of the Artificial Intelligence caused employees' concerns for their own future jobs. There are experts and consultants in business development suggesting that, since some of the presently existing jobs will disappear and new ones will emerge in the following years, instead of losing their jobs due to the Artificial Intelligence, the future workforce will consist of people even closely working with Artificial Intelligence hence requiring organizations to reinvent their operational models and workflow in order to embrace the new hybrid human-machine workforce. The purpose and main interest of research and discussion in this paper is to review the related literature and research of experts considering that the next Human Resources Management perspective is relation between humans and the Artificial Intelligence agents as co-workers at the workplace, workflow reinvention, new work roles creation, and all of that impacting mutual knowledge development as organizations' capital for the future development. The qualitative methodology used in this paper is based on the research of surveys conducted by large business consulting companies, data collecting and analysis, with results and conclusions showing the positive impact of engaging the Artificial Intelligence in organizations from the business results point of view and its usage for employees knowledge development, but also its impact on number of people losing their jobs, and areas where exclusive usage of the Artificial Intelligence has its disadvantages, so the people performing certain works are still indispensable. As recommendation, future research may be conducted to explore the long-term benefits of usage of the Artificial Intelligence agents instead of people and together with them, as well as the risks related to young people having difficulties to be employed at junior positions greatly affected by the Artificial Intelligence and also examination of risks for organizations' security and data protection.

Keywords: human-machine workforce, knowledge development, workflow reinvention, Human Resources Management, Artificial Intelligence

1. INTRODUCTION

Human Resources Management function in organizations, as its name explains, is in charge of people at workplace. In relation to the importance of human capital for development (Mit Sloan Management Review, 2020), Armstrong points out innovation of organization and that "human capital consists of intellectual, social and organizational capital", then social capital is developed through the knowledge sharing and relationships of the organization's people, and "organizational capital is the institutionalized knowledge possessed by an organization" (Armstrong & Taylor, 2017, 10). It should be noted that the knowledge, learning and workflow processes of contemporary organizations might not be created only by their employees, but sometimes also by the Artificial Intelligence (AI) that they apply in daily work. Compared to the traditional models of managing workforce, such as personnel management, and evolving in the last twenty years of the 20th century (Armstrong & Taylor, 2017, 4), the modern Human Resources Management has gone through significant changes in recent years - from the impact of the COVID-19 pandemics, to the "Great Resignation" with millions of people resigning their jobs in search for better paid working conditions to recent "Big Stay" (Ellyatt, 2025), where the higher costs and business environment uncertainty slowed employees' resignations. Moreover, the need of contemporary organizations to have fast response to challenges caused by competition, customers' needs, data

acquiring and processing, market changes, economic and various other challenges influences such broad digitalization and Artificial Intelligence adoption (Marchiotto, 2024) in everyday work processes. Considering the organizations' business strategy and work processes exposure to the Artificial Intelligence, its applications vary from usage as tools for faster data gathering to generative Artificial Intelligence trained to perform even some creative work by themselves, such as text, images, coding, designing, human-like communication etc. and AI agents planning and performing sets of works within workflow and self-optimizing systems. Human Resources Management departments in organizations are also applying the Artificial Intelligence within their processes, whether for creating learning courses materials (Cavalier, 2026), or scanning the job application documents, as platforms for communication with employees, on-boarding of new employees and providing company's procedures, instructions, for employees' performance data management etc., but also for mutual learning and knowledge sharing systems between people and the AI agents in organization. Such systems might gradually change the perspective of Human Resources Management about workforce since now it is not only people who are performing work activities, but also AI-based machines, which leads to new human-machine workforce, whose knowledge and performance need to be managed in order to allow organization's competitive advantage. The objective of this paper is to present the findings of the reviewed related literature and survey results on human-machine workforce knowledge, workflow change, creation of new roles, and the impact on employment of younger generations as well as on organizational performance and future development. Also, the paper's objective is to draw attention to potential risks for organizations' data protection and security concerns.

2. MATERIALS AND METHODS

The materials used in this paper are obtained from the published research results and the methods are surveys related to the topic of this paper conducted by global business consulting companies, with qualitative data collected and analysis performed herewith. The selected companies are: Boston Consulting Group (BCG) and McKinsey & Company. The reasons for selecting these global companies are their multi-decade experience in management consulting and also the fact that they regularly perform surveys on AI development and its application in organizations. Boston Consulting Group (BCG) performed its yearly survey titled "AI at Work: Strategy Matters More Than Tools" and published the 4th edition in June 2026 (Beauchene et al., 2026). It included the responses from 11,749 participants, out of which are 32% organization's leaders, 34% managers and 34% frontline employees. The participants work at companies from different industries in European countries, US, Australia, Japan, Brazil, India, South Africa and Middle East.

McKinsey & Company, from June to September 2025, conducted the 2nd edition of survey titled "The State of Organizations 2026: Three tectonic forces that are reshaping organizations" with 10,018 participants – senior executives from organizations in following countries: Netherlands, Spain, UK, Italy, France, Germany, Brazil, India, Canada, Australia, Japan, US, Mexico, China, South Africa and Saudi Arabia, throughout 16 industries and published it in February 2026 (Krivkovich et al., 2026).

3. RESULTS AND DISCUSSIONS

The results of Boston Consulting Group's survey showed 8,989 regular AI users out of all the 11,749 participants. More than 52% of them reported saving at least 1 working day (8 hours weekly) by using AI at work, mostly in marketing, IT, Human Resources and finance. There is obvious increase of using generative AI in their workflow in 2026 compared to 2025: 78% to 72% of regular AI usage, 57% to 50% for workflow reinvention and 42% to 22% respectively for innovative products and processes.

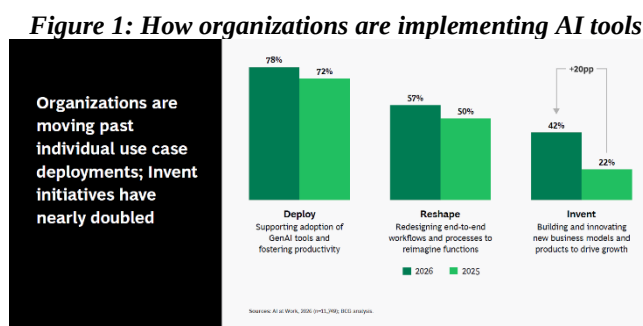
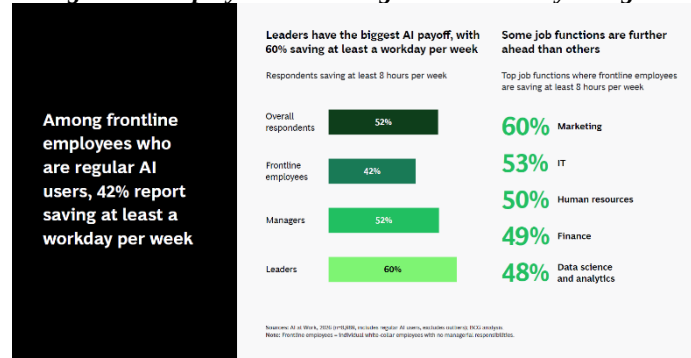


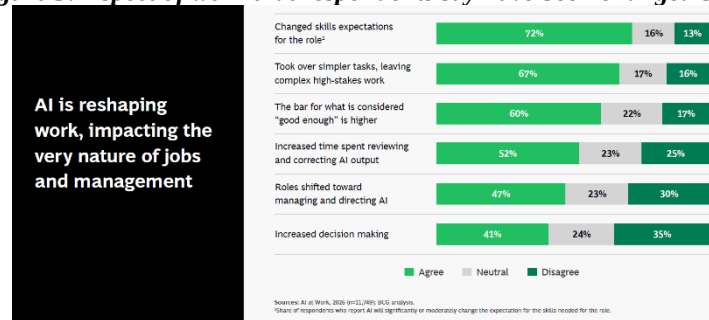
Figure 2: Employees are saving time at work by using AI



Source: Boston Consulting Group

Regarding the changes that using AI brought to their work, the respondents replied that 72% of them were expected to re-skill for their work, from 67% of them AI took over simpler tasks and 52% of them spent more time on reviewing and amending the AI's work results. Also, 47% of participants had increase of work in managing and directing AI work and 41% of them had more decision-making work to do.

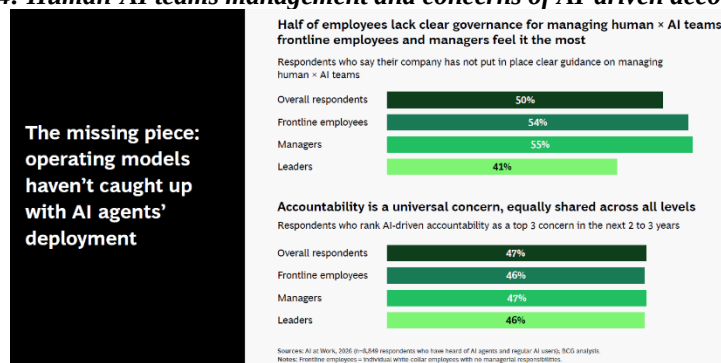
Figure 3: Aspect of work that respondents say have been changed by AI



Source: Boston Consulting Group

In relation to specified management and guidance of human-machine workforce, 50% of all participants stated that their companies didn't have it and that was more applicable to frontline employees (54%) and managers (55%), than to leaders (41%). Of all respondents, 47% had concerns regarding responsibility for future AI-related results.

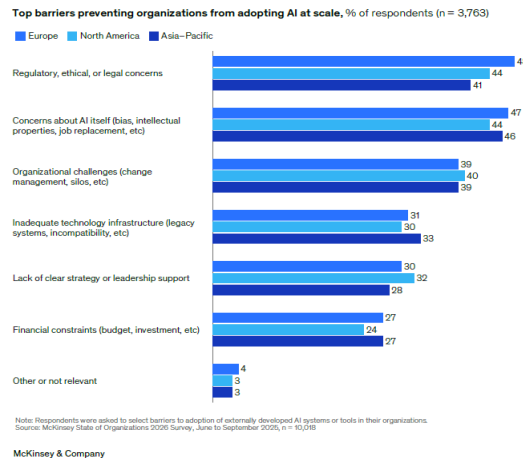
Figure 4: Human-AI teams management and concerns of AI-driven accountability



Source: Boston Consulting Group

The McKinsey & Company survey results showed that 48% of European companies executives, compared to 44% of North American and 41% of Asian-Pacific ones had concerns regarding AI's ethical or legal matters, but also high on the list of concerns were matters of AI bias, intellectual properties and people losing jobs: 47% of European leaders, compared to 44% of North American and 46% of Asian-Pacific executives were concerned about those matters. Among others, there were concerns about organizational changes, technical and financial constraints etc.

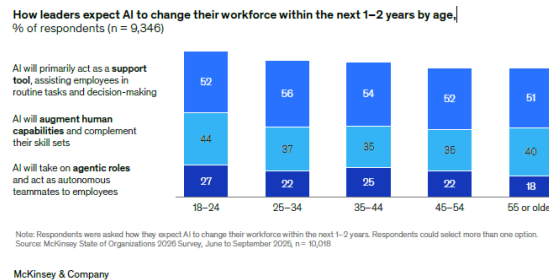
Figure 5: Top barriers to adopting AI
Survey respondents cited concerns about AI, ethical concerns, and organizational challenges as top barriers to adopting AI.



Source: McKinsey & Company

In response to the question of AI's near future role: more than 51% in all age groups expected AI to be support tool of employees at workplace, but 27% of participants in the youngest 18-24 age group expected AI agents to be autonomous part of future human-machine workforce, compared to only 18% of older participants of over 55 years.

Figure 6: How leaders expect AI to change their workforce within the next 1–2 years by age



Source: McKinsey & Company

Responses showed that people and performance (P&P) organizations' human capital improved organizations' resilience and overall financial performance 4.3 times more than companies focused primarily on performance results.

Figure 7: Human capital impact on financial performance



Source: McKinsey & Company

Results of these surveys showed that leaders of many organizations are still hesitant of broad AI adoption in the whole system. The reasons for such barriers are various: financial, regulatory, legal, technical, organizational change (Dhar et al., 2026), employee losing jobs, trust, etc. The research showed that the employees using AI daily often don't have enough skills or guidance for working with AI within organization. Also, there was the question of accountability and responsibility for the work that AI performs in organization. As considered in the McKinsey & Company report, it may be discussed that there are differences between companies which are interested mainly in higher productivity results and the ones focused on people and performance (P&P organizations). The latter cared about employees' health and development, that enhanced organizational culture (Bratton, 2021,387), motivated the employees, increased their job satisfaction, improved organizations'

resilience and overall sustainable financial performance 4.3 times more than other companies, which then led to higher returns on human and organizational capital investment - about 30% higher revenue growth per invested 1 USD (Krivkovich et al., 2026).

As further discussion related to human-machine knowledge development (Marchegiani, 2021,51) , there are opinions (Elk, 2026), that in order to achieve a long-term comparative advantage and enhance their organizational capital, organizations should strive for creation of such transformational learning system in which the workflow is reinvented so that AI agents learn from people in organization, then do certain work, perform immediate review and feedback on that performance, accumulate the knowledge obtained from that process and automatically perform the improvements of themselves and the whole system on a weekly basis. Such knowledge and performance results are then through shared memory exchanged with other agents and employees, who may immediately learn from it and use it for their own work situations. That type of transformational learning system is possible only with new work roles created, reinvented workflow and comprehensive assessment of employees' and AI agents' performance within human-machine workforce system implemented into organizations' operations.

4. CONCLUSIONS

As a conclusion, and in relation to the above stated Armstrong's definition of organizational capital i.e. that it is its institutionalized knowledge, the recent development of generative AI agents and their autonomous work within organizations' workflow should be noted, having in mind the work scope of Human Resources Management and leaders, as well as employees in organization for workforce training and knowledge development (Na, 2024). People learn in various ways and work-based learning (WBL) (Fergusson, 2022) includes empathy, lectures and applied learning, but also social relations and environment are very important. On the other hand, there are authors who argue that using company's AI agents instead of people for a faster, automated performing of activities within the workflow requires the reinvention of the workflow around the AI agents' roles (Sukharevsky et al., 2025). The systems of mutual human-machine learning accelerating learning and knowledge sharing processes between people and AI agents in organization, allow AI agents to save employees' time, do the automatic work, share the knowledge with other AI agents and employees and leave the people in organization the time to do the work they need to do: review the workflow, access necessary skills and make strategic decisions. That is a new way of specific knowledge sharing and developing of organizational capital that impacts the organization's competitive advantage and its future development. Applying AI in new product development increases efficiency, reduces time and costs of the process, and now "two people can do something that five years ago needed 50 people" (Mitrović, 2026), which lead to massive lay-offs in some IT and production companies and also less job opportunities for first-time employment of young people (Brynjolfsson et al., 2025). There are now cases where, eager to use new technology, organizations prematurely laid-off their employees, only to re-hire them when it became clear that exclusive usage of the AI caused mistakes, and the experienced people performing their works are still indispensable (McMahon, 2026). Since investing in AI agents on the whole organization's processes level is expensive, leaders are often opting for separate AI agents, which, experts believe doesn't produce the best results. AI should be introduced into organization strategically, considering the benefits like time-saving and automation of some work processes but concerns as well, such as: implementation costs, lay-offs, accountability for AI's work, guidance, ethical, legal, bias concerns etc. There are potential problems with organizations' security due to exposure to the usage of AI and its potential autonomous activities, such as cyber-attack on organization itself (Cress, 2026). It is interesting that younger generations who have less employment opportunities due to AI usage are the ones who believe that AI will become even more autonomous in its work in the near future. This fact should be important to Human Resources Managers, since younger generations are future employees and leaders in organizations. As recommendation, future research may explore the long-term results of human - machine workforce knowledge sharing, the possibilities for young graduates finding first junior position due to the AI usage and potential security and data protection concerns.

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