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Article

Artificial intelligence in enterprises: How staff competencies requirements of business organisations are evolving through the integration of artificial intelligence

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As the use of Artificial Intelligence (AI) in business organizations advances, so do concerns arise about ensuring the necessary staff competencies of companies to effectively integrate human qualities with AI solutions.

Companies are increasingly adopting sophisticated AI systems in the hope that they will help increase productivity, accelerate innovation, and strengthen competitiveness. However, in many cases, the achievement of business objectives is faced with the challenge of aligning the competences of human resources in relation to new forms and content of work. The implications for the organization of companies and for ensuring the necessary human resources are not sufficiently known, especially in the context of the adoption of advanced AI systems capable of self-development.

AI is trained by humans to perform certain tasks and is inherently limited to what humans assume it should do. For this reason, businesses need personnel with a total understanding of AI's potential for a certain business and organizational scenario. At the same time, more advanced forms of AI differentiate themselves from automated systems by their capacity for autonomous learning, self-improvement, and self-development, meaning that people in companies must be able to accept and assimilate these advances induced by AI. In addition, companies' adoption of AI can generate new tensions, both within the organization and in its relationships with business partners. It would be useful if these tensions could be anticipated and prevented.

The effects of AI implementation on the replacement of personnel for certain activities are well documented. The use of AI is leading to the discharge of certain jobs and it is anticipated that in time it will even lead to the disappearance of some occupations. In spite of this, in direct connection with the use of AI-based systems, new jobs are created, which require new rare skills, for the training, maintenance or development of AI. When AI is used for tasks that cannot be performed by humans, like the analysis of large volumes of unstructured data or the performance of particularly complex calculations, specialists are needed to explain to human employees the meaning of the generated results or solutions. The topic of these new specialized skills needed in AI-enabled work environments, as well as the ways in which business organizations can acquire or develop such skills, is still insufficiently studied.

In this issue of our journal, we have included 10 articles on different topics of interest, as follows:

The paper **“Analysis of the adequacy of employees’ skills for the adoption of artificial intelligence in Central and Eastern European countries”** focuses on the way artificial

intelligence is reshaping the labor market by analysing the adapting potential of staff to AI, in companies in Central and Eastern European countries. To demonstrate this, four criteria and several analysis items are used and three different research methods are modelled to determine the importance of factors influencing AI adoption. The research results highlight the importance of professional training and retraining programs for the development of technical and transversal skills. It also emphasizes the under-average utilization of the human resources potential in fields related to AI, due to slow technological progress and brain drain. Based on the obtained results, the development of technological companies that attract specialized human resources is recommended.

The paper **“Leveraging neuroleadership and adopting AI to improve human capital development in IT&C business organisations”** explores the way IT&C companies in Romania implement neuroleadership principles to accelerate the implementation of artificial intelligence technologies with the purpose of developing human capital and securing sustainable competitive advantages. Having an explorative topic, in the paper are presented the results of a focus group, containing discussions held with 10 representatives of IT&C companies in Romania. The topic discussed within the focus group is about the implementation of neuro-leadership principles for the adoption of artificial intelligence technologies in the management of human capital. The research results reveal four major themes related to the importance of neuro-leadership for improving employee skills, overcoming the challenges associated with artificial intelligence, new perspectives on the complexity of technological changes brought by the implementation of AI, as well as the importance of promoting a culture of continuous learning and development induced by artificial intelligence adoption.

In the paper **“Insights on the relationship between artificial intelligence skills and national culture”** analyses the way in which national culture influences AI skills. Starting from the six cultural dimensions of Hofstede's model, the authors develop several regression models to identify the relationships between national culture and the development of skills for AI use. Research findings reveal a negative relationship between individualism and talent concentration in AI, as well as a positive relationship between long-term orientation and the concentration of AI skills and jobs. The results are important for the development of specific AI skills according to the national culture of each country and for the identification of factors that contribute to the appropriate AI specialization of employees.

The inclusion of artificial intelligence in most human activities is transforming the entire society in which we live. The skills that artificial intelligence offers can easily replace human activities, thus transforming the requirements of current jobs. This can have both benefits and risks for human employees. In the paper **“AI between threat and benefactor for the competencies of the human working force”** analyses the way artificial intelligence is perceived by human employees as a beneficial element or as a threat. The results of a quantitative research highlight both the negative and positive elements of the implementation of artificial intelligence. Among the negative elements are mentioned the risk of job loss, the dehumanization of work and the reduction of the intellectual capacities and skills of human employees, due to AI taking over tasks. These negative elements are balanced with certain positive aspects such as the speed of solving certain tasks and the reduction of physical and mental effort of employees. It is also highlighted that young people are more willing to use artificial intelligence to solve work tasks.

In the paper **“Intention to use ChatGPT in office work in Romania: between utility and hedonic motivation”** investigates the particular case of ChatGPT, which is specialized in

text generation and has an exponential development, being used in various fields such as consulting, banking system, healthcare, journalism and media, entertainment, education, remote technical assistance and industrial processes. In the proposed structural model, employees' perception of usefulness and hedonic motivation to use ChatGPT in office work is analysed. The results of the structural model highlight utility, hedonic motivation and ease of use as significant factors in Romanian employees' willingness to use ChatGPT in their work.

The paper **“Effects of artificial intelligence-based technologies implementation on the skills needed in the automotive industry - a bibliometric analysis”** analyses another particular case, namely the development of emerging technologies and artificial intelligence in the automotive industry. It is analysed how the development of these technologies influences the automation of economic processes with a direct effect on the skills of employees and design of work tasks. To accomplish this, an extensive bibliometric analysis is performed to map the specialized literature and identify the main trends affecting this industry. The research results reveal the practical solutions determined by the implementation of artificial intelligence in correlation with the design of work tasks. The way to evaluate the skills of employees in the context of the automation of production processes and the effects they have on the decision makers in the field is highlighted.

With the development and increased use of intelligent systems for automated tasks, the concept of artificial intelligence and the way it affects jobs is being brought to the public's attention. The article **“Adapting the competences of the employed personnel in the context of the integration of artificial intelligence in organizations”** aims to identify the main trends in the evolution of employee skills in the context of the integration of artificial intelligence in companies. Based on a quantitative explorative research, the attitudes of employees regarding the acquisition of new skills are analysed, as well as the identification of the main opportunities and risks in the use of artificial intelligence depending on the demographic characteristics of employees. The results reveal that 75% of the respondents are interested in acquiring new skills for the use of artificial intelligence, highlighting the fact that employees are aware of the importance of this phenomenon. The main risks identified in the research refer to alteration of interpersonal communication and the restructuring of jobs, while the main advantage is the reduction of time allocated to repetitive tasks and the efficiency of activities.

The article **“Artificial intelligence integration in business: study of employee competences in relation to organizational needs”** makes a critical analysis of the types of skills that are necessary for the use of artificial intelligence according to the level of authority in an organization. The technological complexity and wide range of applicability of artificial intelligence are highlighted, as well as the role it plays in creating a company's competitive advantage. The paper focuses on how to implement artificial intelligence in companies by highlighting the key competencies and by facilitating the coexistence between human employees and artificial intelligence. The article emphasizes the multitude of skills needed to use artificial intelligence, but also the importance of differentiating them according to the workplace and the level of authority in the organization.

The paper **“Adoption of artificial intelligence in small and medium-sized enterprises in Spain: the role of competences and skills”** explores the driving factors of the adoption of AI in small and medium-sized enterprises. The results of the quantitative research carried out on a sample of small and medium-sized enterprises in Spain reveal the importance of education and professional training in the adoption of artificial intelligence. Owners or managers of small and medium enterprises, who hold university degrees or have a high

level of training as well as employees with IT knowledge are more likely to implement artificial intelligence in their companies. The same is determined by the existence of resource planning systems (ERP) or marketing analysis tools, but also by the existence of cooperation with universities or research centres. The results of this study highlight the fact that investment in training programs and initiatives targeting the skills of employees and managers can contribute to the effective use of artificial intelligence in companies.

The impact of the development of artificial intelligence on jobs and hiring decision is studied in the article **“The Impact of Artificial Intelligence on the Labour Market: Evidence from China”**. This article examines the way artificial intelligence contributes to hiring decisions in Chinese stock exchange listed companies, providing a new perspective on this relationship. The research results show a positive influence of the use of artificial intelligence on the number of employees, explained by the increased sales revenues and the mitigation of financial constraints. The article highlights a new perspective on the implementation of artificial intelligence in companies, whereby human jobs are not necessarily replaced, but preserved due to the increased efficiency of processes determined by the use of artificial intelligence.

The articles presented in this issue reveal the diversity of perspectives related to the way tasks and jobs will be changed in the future in the context of the implementation of artificial intelligence in companies. Both general models related to the suitability of employee skills or the use of neuroleadership for the use of artificial intelligence are presented, but also specific models such as the use of ChatGPT or AI applications in the automotive industry. There are different perspectives on the way in which the topics are approached. On one hand, the factors favouring the implementation of artificial intelligence in companies are analysed, such as the dimensions of national culture or the role of the education level of managers. On the other hand, the perspective of employees is presented, who are aware of the benefits brought by artificial intelligence such as process efficiency, better time management or even the hedonic pleasure of using AI, but at the same time they have in mind the risks related to dehumanization or transformation and loss of jobs. An interesting perspective is given in the last article which reveals a situation where jobs and employee well-being are preserved due to the increased efficiency of AI. However, employees are aware of the need to develop new skills and abilities in order to have better working relations between human staff and artificial intelligence. One of the articles highlights the need for a differentiated approach in the implementation of artificial intelligence depending on the specific tasks or the level of authority in the organization.

Through the articles presented in this issue, one can see the multitude of perspectives and the complexity of implementing artificial intelligence in companies. Definitely, artificial intelligence will bring many changes in the business environment and society and for this reason it is important that these developments are studied in order to optimize the implementation of AI. At the same time, it is important that both company management and employees are aware of the upcoming changes in order to implement them at the right time and in the right way, before they become a threat to the existence of the company. This issue of the *Amfiteatru Economic* journal, through the published articles, aims to be a starting point for the theoretical and practical approach related to the implementation of artificial intelligence in companies and society and for the development of the skills needed to use AI.

**Associate Editor,
Corina Pelău**