

First National Congress on Organizational Development

with Emphasis on Psychological Dimensions

May 2024



Artificial Intelligence and Organizational Development: Psychological Perspectives on the Restructuring of Organizational Structures, Processes, and Functions

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Abstract

This study investigates the potential impact of Artificial Intelligence (AI) on Human Resource (HR) practices and how businesses perceive these changes. The widespread adoption of AI is transforming organizational structures, processes, and performance. Opinions regarding AI's impact diverge, with some viewing it as a threat that could replace human activities, while others see it as an opportunity to improve efficiency and decision-making. This research examines how AI will impact core HR processes like recruitment, training, and performance management. Employing a descriptive research approach, this study analyzed peer-reviewed scientific papers and conducted a survey of organizational development professionals. The analysis reveals several areas where AI can influence HR practices, including decision-making, talent development, and performance management. The results of this research present these areas, detailing how AI impacts them and outlining the perceptions of these changes among businesses. The research warrants further investigation into the ethical considerations surrounding AI in HR, potential biases in algorithms, and job displacement. It also suggests future research avenues like thematic analysis of survey data and case studies of successful AI implementation in HR. This study sheds light on the potential transformation of HR practices by AI and provides valuable insights for organizations navigating the AI-driven era.

Keywords: *Artificial Intelligence (AI), Organizational Development (OD), Digital transformation, Digital human resource management*

Introduction

Digital technologies have profoundly transformed the way companies operate (Saarikko, Westergren, & Blomquist, 2020). The extent of this transformation has led some to label it as a new industrial revolution (e.g., Soh & Connolly, 2021; Popkova & Gooletskaya, 2022). Artificial intelligence (AI) has been at the forefront of this change, owing to the increased

availability of big data and the feasibility of implementing complex algorithms (Davenport & Ronanki, 2018).

Relying on future-oriented research and well-supported hypotheses that suggest potential impacts is likely the most effective way for organizations to avoid disruptive shocks from widespread AI adoption in business. The full extent of AI's impact on organizational structures, processes, and performance, as well as the specific mechanisms through which these changes will be realized, remain subjects of ongoing research. Nevertheless, based on the capabilities and functionalities of AI and its associated AI-powered HR technologies, organizations can proactively prepare for the impending transformations. Despite the ambiguity surrounding the impact of AI on organizational development, leading organizations across various industries are actively adopting and adapting AI systems to their organizational change initiatives (Wamba-Taguimdje, Fosso Wamba, Kala Kamdjoug, & Tchatchouang Wanko, 2020).

Bughin, J., Hazan, E., Ramaswamy, S., DC, & Chu (2017) stated that Large Companies Spend 300% More on AI Than Small Companies. The talent acquisition system of Unilever and Netflix's decision-making regarding movie story, director, and actors (Mar, 2019) are just a few examples of AI utilization. This supports the claim made by some researchers that AI can replace human activities and organizational processes (Agrawal, Gans, & Goldfarb, 2019; Bughin, Hazan, Sreekanth, & Chui, 2017); however, this claim is not without its vehement critics (e.g., Khatri, Pandey, Penkar, & Ramani, 2020). The increasing availability of big data, the decreasing cost of high-performance graphics processing units (GPUs), and the growing sophistication of computational models are all key factors driving the growth of AI in businesses (PWC, 2019).

Building on the assertion by Heinlein and Kaplan (2019) that AI has the potential to replicate human behavior while retaining its cognitive, emotional, and social aspects, the impact of AI on organizational development warrants further investigation. A substantial body of research examines the impact of AI on specific aspects of organizational transformation. However, a growing body of literature investigates the multifaceted influence of AI on organizational change across various dimensions. For instance, a recent study by Deloitte (2020) found that AI adoption in organizations prioritizes operational efficiency (28%), product/service improvement (25% each), followed by decision-making (21%), cost reduction (20%), and headcount reduction (11%). These findings highlight the potentially transformative nature of AI, suggesting that its impact extends far beyond the aforementioned cases.

Given the significant role of AI in reshaping the landscape of work within organizations undergoing digital transformation, this research aims to identify how AI will transform HR practices and the potential perception of this impact as a threat or opportunity by businesses.

The research focuses on the following key questions:

- 1- How will AI transform core HR functions such as recruitment, training, or performance management?
- 2- How will these transformations manifest in the practical application of HR practices?
- 3- Will businesses perceive these AI-driven changes in HR as threats or opportunities?

By exploring these questions, this study seeks to shed light on the potential impact of AI on HR practices and provide valuable insights for organizations seeking to adapt and thrive in the AI-driven era.

Method

This study adopts a descriptive research approach, employing a library-based method for data collection. Papers relevant to the research topic were identified and reviewed through a comprehensive search of databases such as Web of Science (WoS), Scopus, ProQuest One

Business, Business Source Complete (Ebsco), Science Direct, and Wiley. Only peer-reviewed, English-language papers from scientific journals were included in this review to ensure the highest quality and most recent research. This excluded book chapters, reports, and conference proceedings. Following an analysis of the selected papers, codes were identified and assigned based on their thematic content. Codes appearing with the highest frequency were then considered to represent the most dominant probable changes in the structures, processes, and functions of organizations due to the widespread adoption of AI in businesses.

Results

Table 1 summarizes the key areas where AI has a substantial influence on reskilling needs based on a review of the research literature. The table further details how AI impacts each area and provides a selection of the reviewed papers for reference. To validate these findings, a survey of several organizational development professionals was conducted, gauging the percentage of companies that perceive each item as a threat or an opportunity. To delve deeper into the survey findings, a separate paper will be dedicated to their analysis and discussion.

Table 1. Areas of Artificial Intelligence Impact on Organizational Development

Area of Impact	AI Mechanism	Examples of Supporting Papers	Opportunity or Threat?
Decision-Making and Execution in Business	Combining Human and Artificial Intelligence	Mikalef, Framnes, Danielsen, Krogstie, & Olsen (2017)	Opportunity: 85 percent Threat: 15 percent
Aligning the organization with external changes	Increasing agility in organizational restructuring and operations and processes	Shafiabady, Hadjinicolaou, Din, Bhandari, Wu, & Vakilian (2023)	Opportunity: 87.5 percent Threat: 12.5 percent
loop learning process	Shifting from traditional learning organizations (linear, pattern-based, inflexible) to network learning organizations (circular, event-based, flexible)	Betancourt (2024)	Opportunity: 83 percent Threat: 17 percent
Organizational problem solving	Problem formulation specially for ill-defined problem	Von Krogh (2018)	Opportunity: 70 percent Threat: 30 percent
control mechanisms	algorithmic management	Duggan, J., Sherman, U., Carbery, R., & McDonnell, A. (2022) Galière (2020)	Opportunity: 80 percent Threat: 20 percent
Consumer to consumer relationship	Facilitate customer relationship and word of mouth promotion	De Boeck, Meyers, & Dries (2018)	Opportunity: 85 percent Threat: 15percent
redefine the purchasing function	Intelligent purchasing	Allal-Chérif, Simón-Moya, & Ballester (2021)	Opportunity: 75 percent Threat: 25 percent
Organizational structure	Job variety and richness	Rudko, I., Bashirpour Bonab, A., & Bellini, F. (2021)	Opportunity: 60 percent Threat: 40 percent
Job losses	Computerization and automation	Frey & Osborne (2017)	Opportunity: 40 percent

			Threat: 60 percent
productivity	business process reengineering	Jarrahi, 2018; Spencer, 2018	Opportunity: 90 percent Threat: 10 percent
innovative behavior	job characteristics and perceived substitution crisis	Verma & Singh, 2022	Opportunity: 65 percent Threat: 35 percent

Discussion

This study investigated the potential impact of Artificial Intelligence (AI) on HR practices and business perceptions of these changes. The findings, summarized in Table 1, reveal a complex landscape with AI influencing various aspects of HR, including decision-making, training, and performance management. Notably, the perception of these changes as threats or opportunities remains divided.

Opportunities and Challenges: A Balancing Act

The research highlights both the potential benefits and challenges associated with AI-driven HR. On the one hand, AI offers significant opportunities for increased efficiency, agility, and data-driven decision-making. For instance, AI can streamline recruitment by filtering candidates and identifying the best matches based on pre-defined criteria (Mikalef et al., 2017). Similarly, AI-powered training programs can personalize learning experiences and adapt to individual needs (Betancourt, 2024). However, these advancements raise concerns about potential job losses and deskilling due to automation. Concerns regarding algorithmic bias in decision-making processes also emerge (Frey & Osborne, 2017; Duggan et al., 2022). As the survey results in Table 1 indicate, a significant portion of organizations perceive both opportunities and threats associated with AI adoption in HR.

Moving Forward: Embracing a Human-Machine Partnership

The findings underscore the importance of adopting a strategic approach to AI implementation in HR. Organizations must prioritize the development of a human-machine partnership, where AI complements and enhances human capabilities. This necessitates investment in training HR professionals on leveraging AI tools effectively and fostering a culture of continuous learning within the organization. Furthermore, addressing ethical considerations surrounding AI use in HR is critical. Organizations should establish transparent selection criteria and actively mitigate potential biases in algorithms. Additionally, open communication with employees regarding AI adoption and its impact on roles can alleviate anxieties and promote trust.

Limitations and Future Directions

This study acknowledges limitations, such as the reliance on a literature review and the need for further empirical research. Future studies could benefit from employing a thematic analysis of survey data to gain a deeper understanding of perceived threats and opportunities. Additionally, conducting case studies of successful AI implementations in HR could provide valuable insights into best practices and lessons learned. Ultimately, a comprehensive exploration of the ethical considerations surrounding AI adoption in HR remains crucial.

Conclusion

The arrival of AI in HR represents a transformative era. By acknowledging both the opportunities and challenges associated with AI, organizations can develop a strategic approach for integrating these technologies while ensuring ethical and responsible implementation. By

embracing human-machine collaboration and fostering a culture of continuous learning, organizations can leverage AI to enhance HR practices, empower employees, and achieve a competitive advantage in the AI-driven future of work.

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