



THE ROLE OF ARTIFICIAL INTELLIGENCE ON EMPLOYEE PERFORMANCE: A LITERATURE STUDY

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Abstract

This literature review delves into the multifaceted impact of artificial intelligence (AI) on employee performance across a variety of sectors, including technology, healthcare, finance, and manufacturing. As organizations increasingly adopt AI technologies, understanding their implications becomes crucial for optimizing workforce effectiveness. The review investigates how AI enhances productivity by automating routine tasks, thereby freeing employees to engage in more strategic and creative activities. Furthermore, it explores the role of AI in improving decision-making processes by providing real-time data analytics, which enables employees to make informed choices that drive organizational success. In addition to productivity and decision-making, the review addresses the influence of AI on job satisfaction. By alleviating mundane workloads, AI fosters a more engaging work environment, contributing to higher employee morale and retention rates. However, the review also highlights the challenges associated with AI integration, such as potential job displacement, the skills gap, and ethical concerns regarding bias and privacy. By synthesizing findings from recent studies, this review not only provides insights into the evolving relationship between AI and human workforce dynamics but also identifies key themes, trends, and gaps in the existing literature. Ultimately, it offers a comprehensive understanding of AI's role in shaping employee performance, laying the groundwork for future research and practical applications in organizational settings.

Keywords: artificial intelligence, employee performance, literature study, human resource management.

1. INTRODUCTION

The emergence of artificial intelligence (AI) technologies has transformed the organizational landscape, prompting a significant shift in how businesses operate (Akbar et al., 2024; Angreyani et al., 2023). AI encompasses a range of technologies, including machine learning, natural language processing, and robotics, which are increasingly employed to optimize various business processes (Haeruddin et al., 2024; Mustafa, 2023). This transformation raises critical questions about the impact of AI on employee performance—a vital component of organizational success. This article aims to provide a comprehensive literature review on the role of AI in enhancing employee performance. It will explore the benefits and challenges of AI integration in the workplace, highlighting how these technologies can influence productivity, job satisfaction, and overall employee engagement. The review will also identify gaps in the current research and propose directions for future studies.

2. MATERIALS AND METHODS

Artificial intelligence refers to the simulation of human intelligence processes by machines, particularly computer systems (Akbar et al., 2024; Amran et al., 2024). These processes include learning (the acquisition of information and rules for using it), reasoning (using rules to reach approximate or definite conclusions), and self-correction (the ability to improve performance over time). AI technologies can be categorized into narrow AI, which is designed for specific tasks, and general AI, which possesses broader cognitive abilities. Furthermore, employee performance is a multifaceted construct that encompasses various dimensions, including productivity, quality of work, and job



satisfaction (Haeruddin, 2017; Hajiali et al., 2022; Zhang & Liu, 2022). It is influenced by individual capabilities, organizational culture, and external factors. High employee performance is essential for achieving organizational goals and maintaining a competitive advantage. Subsequently, automation tools powered by AI, such as Robotic Process Automation (RPA), are designed to handle repetitive tasks, allowing employees to focus on more strategic activities (Gupta et al., 2024). RPA can automate data entry, invoice processing, and customer service inquiries, leading to increased efficiency and reduced human error. Moreover, AI-driven decision support systems assist employees in making informed decisions by analyzing vast amounts of data. These systems can identify patterns, trends, and anomalies, providing insights that enhance operational effectiveness. For instance, predictive analytics can forecast sales trends, helping organizations allocate resources more effectively. While, AI-powered virtual assistants, such as chatbots and voice-activated tools, help employees manage their workloads by scheduling meetings, setting reminders, and answering queries. These tools can reduce cognitive load and improve time management, contributing to higher productivity levels.

Furthermore, numerous studies have shown that AI technologies can significantly boost employee productivity. By automating mundane tasks, employees can dedicate more time to complex, value-added activities. For example, a study by Davenport and Ronanki (2018) found that organizations that adopted AI experienced a productivity increase of up to 40%. Likewise, AI's ability to analyze large datasets quickly and accurately leads to improved decision-making. By providing employees with actionable insights, AI systems enable more informed choices that can enhance business outcomes. For instance, companies utilizing AI for market analysis can better identify customer preferences and tailor their offerings accordingly. Similarly, the integration of AI tools can lead to higher job satisfaction as employees experience reduced workloads and enhanced support. By alleviating the burden of repetitive tasks, AI allows employees to engage in more fulfilling and creative work. A survey conducted by PwC indicated that 72% of employees believe AI will enhance their job satisfaction by taking over routine tasks.

Subsequently, research consistently highlights the positive impact of AI on employee productivity. A meta-analysis conducted by Brynjolfsson and McAfee (2014) examined the relationship between technology and productivity, concluding that AI significantly enhances efficiency in various sectors. The study emphasized that while technology can displace certain jobs, it also creates new opportunities for higher-skilled positions. The role of AI in decision-making has garnered considerable attention in academic literature. Studies by Davenport and Ronanki (2018) illustrate how AI tools enhance organizational decision-making by providing timely and relevant data. These tools empower employees to make strategic choices, leading to improved organizational outcomes. The relationship between AI and job satisfaction has been explored in various studies. Research by Zuboff (2019) indicates that AI can lead to higher job satisfaction by reducing the burden of monotonous tasks. Employees who leverage AI tools report feeling more engaged and valued in their roles.

3. DISCUSSIONS AND CONCLUSIONS

The integration of artificial intelligence in the workplace presents both opportunities and challenges for employee performance (Haeruddin 2024; Haeruddin et al., 2022). While AI has the potential to enhance productivity, decision-making, and job satisfaction, organizations must address the associated risks and ethical concerns. By understanding the evolving relationship between AI and employee performance, businesses can harness the benefits of these technologies while ensuring a positive work environment. Moreover, despite the benefits, the rise of AI poses significant challenges, particularly regarding job displacement (Akbar et al., 2024; Haeruddin et al., 2023). Many roles that involve repetitive tasks are at risk of being automated, leading to concerns about unemployment.



A report by the World Economic Forum estimated that 85 million jobs could be displaced by AI by 2025. The introduction of AI technologies requires a workforce equipped with new skills and competencies. This skills gap can hinder organizations from fully leveraging AI's potential. Employees may require retraining to adapt to new tools and processes, which can be a significant investment for organizations (Haeruddin et al., 2025). Also, the use of AI raises ethical questions related to privacy, bias, and accountability. For example, AI systems that rely on historical data may perpetuate existing biases, leading to unfair outcomes. Organizations must address these ethical considerations to build trust among employees and stakeholders. Despite the growing body of literature, several gaps remain in understanding the full impact of AI on employee performance. Future research should explore the long-term effects of AI integration, the interplay between AI and organizational culture, and the role of employee training in successful AI implementation. Organizations should adopt a proactive approach to AI integration by investing in employee training and development. Creating a culture that embraces technological change can mitigate resistance and foster a more adaptive workforce. Additionally, organizations must prioritize ethical considerations to build trust and ensure fair outcomes.

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