Chapter 6
Human–Machine Collaboration:
How Do Employees Interact With Artificial Intelligence?

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ABSTRACT

This chapter examines the conceptual framework of artificial intelligence (AI) systems in the organisational context in terms of human-machine collaboration in three dimensions: supportive, collaborative, and autonomous AI models. A literature review integrates theoretical approaches on employee perceptions, acceptance and resistance processes, and the role of organisational culture in adaptation, establishing connections between performance, motivation, and psychosocial effects. Ethical dimensions are evaluated in the context of autonomy, privacy, and fairness, and the potential consequences of AI on work-life balance and role ambiguity are revealed. The findings point to a lack of empirical research despite conceptual richness and suggest the development of measurement tools with both descriptive and experimental designs. The chapter provides a roadmap for future applied research while emphasising the importance of clarifying strategic decision-making processes related to AI adaptation in an organisational context.

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1. INTRODUCTION

The core organizational dynamics are transformed because of Artificial Intelligence (AI) and technological developments that drive fundamental changes in business life. AI systems provide business processes with speed, efficiency, and accuracy while surpassing traditional automation to deliver systems that simulate human Intelligence and collaborate with human workers (Anica-Popa et al., 2023; Prasanth et al., 2023). Organizations now depend heavily on AI technologies to operate daily, as these systems provide key support to decision-making, workflow management, and employee performance assessment (Yaşar, 2024).

Businesses should view AI system integration as a complex human-machine collaboration beyond technological changes (Risso et al., 2022). The research topic of primary interest in this process focuses on employee–AI interactions alongside their reactions to AI systems. The sustainable competitive advantage of organizations depends on employee system perception and resulting performance outcomes when AI applications aim to enhance performance (Park & Yang, 2023; Wijayati et al., 2022). In today's business world, decision-makers consider direct and indirect interactions between employee attitudes and motivations and performance in AI technology adoption as one of their essential concerns (He et al., 2024).

The growing use of AI in business operations has revealed multiple ethical, social, and psychological difficulties. Implementing AI algorithms in performance assessments, hiring assessments, and surveillance operations creates biases that negatively impact how employees view organizational fairness (Harris, 2024; Monica et al., 2024). These factors create enduring adverse effects that impact workforce members directly and influence organizational integrity and long-term operational sustainability. AI-based workplace monitoring and evaluation and direction systems create serious ethical and psychological problems through employee psychological stress and job insecurity (Sharma et al., 2024).

Social and ethical concerns stemming from AI system integration into business operations need simultaneous human involvement and technological solutions to address them effectively. Business processes achieve better sustainability, increasing employee performance, while motivation improves by implementing a human-focused AI system (Shin & Shin, 2023). Organizations must correctly identify employee perceptions and attitudes before integrating AI systems because this knowledge helps minimize performance and motivational impacts.

This chapter elaborates on these critical elements in integrating AI systems into business life. The key questions to be discussed throughout the chapter are how and under what conditions employees can effectively interact with AI systems, how AI affects employee performance and motivation, and the ethical, social, and psychological impacts of these technologies in the work environment. The answers to these

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