

Study of Impact of Artificial Intelligence on Employee Retention and Job Stability

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Abstract

Technological development underpinned by artificial intelligence (AI) is fundamentally transforming organisational structures, work processes, and labour relations. While AI adoption offers significant gains in productivity, operational efficiency, and decision-making accuracy, it has simultaneously intensified employee concerns regarding job security, skill relevance, and long-term career sustainability. These concerns have important implications for employee retention and job stability in technology-driven organisations. This paper presents a conceptual review of interdisciplinary literature to examine the impact of AI on employee retention and job stability. Anchored in Maslow's Hierarchy of Needs, Job Insecurity Theory, and the Job Demands–Resources (JD–R) model, the study integrates insights from economics, organisational behaviour, and human resource management research. The review highlights the dual role of AI in contemporary workplaces. On one hand, AI functions as a job demand by increasing work intensification, performance surveillance, and uncertainty related to skill obsolescence and employment continuity. On the other hand, AI serves as a job resource by enabling job enrichment, personalised learning pathways, improved decision support, and flexible work arrangements. The analysis reveals that employee responses to AI adoption are contingent upon leadership approaches, organisational support systems, transparency in technology deployment, and access to reskilling and up skilling opportunities. The paper concludes by emphasising the importance of ethical governance frameworks, human-centric AI strategies, and continuous workforce development in mitigating job insecurity and fostering sustainable employee retention. By advancing a theoretically grounded understanding of AI–workforce dynamics, this study contributes to ongoing debates on managing technological change in organisations.

Keywords: Artificial Intelligence (AI), Employee Stability, Job Security, Employee Retention, Productivity

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1. Introduction

The rapid growth of artificial intelligence (AI), machine learning, and algorithmic decision-making systems has radically transformed the nature of human work and employment relationships. AI technologies are progressively embedded in organisational processes to automate routine tasks, improve operational efficiency, and aid to strategic decision-making across sectors such as manufacturing, logistics, finance, healthcare, and information technology (Brynjolfsson & McAfee, 2014; Autor, 2015; Acemoglu & Restrepo, 2020). These developments have warranted organisations to achieve cost efficiencies, enhance accuracy, and respond more effectively to market demands.

Despite of these advantages, the diffusion of AI has generated remarkable concerns regarding employee retention and also job stability. A growing body of literature imply that employees often associate AI adoption with increased performance pressure, job displacement, and loss of professional relevance, (Frey & Osborne, 2017; Brougham & Haar, 2018; Kellogg et al., 2020). Such perception of job insecurity has been established as a important, consistent predictor of adverse psychological effects, including stress, anxiety, decreased job satisfaction, and increased voluntary turnover .(De Witte, 2005; Sverke et al., 2002; Shoss, 2017).

At the same time, scholars also argue that AI does not necessarily lead to job loss but rather it reshapes job roles by altering task composition and skill requirements (Autor, 2015; Acemoglu & Restrepo, 2020). When it is accompanied by organisational investments in reskilling, career development, and also supportive leadership, AI can increase employee engagement, employability, and retention (Cascio & Montealegre, 2016; Ployhart et al., 2020). This dual nature of AI—as both opportunities and threats makes it imperative to

evaluate its implications for workforce stability in a refined and theoretically grounded manner.

In this context, the current study uses a conceptual and integrative literature review approach to conceptualise existing research on the effects of artificial intelligence on employee retention and job stability. Instead of reporting empirical results, this paper integrates theoretical and empirical knowledge to conceptualise employee reactions to AI-based workplace transformation.

2. Objective of study

In line with the conceptual nature of the study, the objectives of the current study are to:

1. Conduct a systematic review and conceptualisation of the existing literature on artificial intelligence and its effects on employee retention and job stability.
2. Examine the effects of AI-based changes in work design and task allocation on employee perceptions of job security.
3. Analyse the existing theoretical frameworks that explain employee psychological and behavioural reactions to AI adoption.
4. Identify and explore the organisational practices and human resource strategies discussed in the existing literature that can counter AI-based job insecurity.
5. Conceptualise the use of AI to improve employee engagement, employability, and retention.

3. Theoretical Framework

This study is anchored in a multi-theoretical framework integrating Maslow's Hierarchy of Needs, Job Insecurity Theory, and the Job Demands–Resources (JD–R) Model to systematically explain how artificial intelligence (AI) adoption influences employee retention and job stability. Together, these

theories provide complementary perspectives on motivational, psychological, and structural mechanisms through which AI-induced workplace transformation shapes employee attitudes and behavioural outcomes.

3.1 Maslow's Hierarchy of Needs

Maslow's Hierarchy of Needs is a theoretical framework that helps explain the employee response to AI-driven change in the workplace. Maslow (1943) argued that people are motivated to fulfill a series of needs, from basic physiological and safety needs to higher-order needs such as belongingness, esteem, and self-actualisation. In the workplace, job security, income security, and role security are key elements of employees' safety needs. The implementation of AI-driven automation in the workplace can challenge this sense of security, as it introduces uncertainty regarding job security, role redundancy, and long-term career utility. If employees feel threatened by AI technology in terms of job and skill redundancy, their safety needs will not be fulfilled, thereby limiting motivation and psychological well-being and halting progress towards fulfilling higher-level needs (Wahba & Bridwell, 1976). This can be exhibited through anxiety, technological resistance, and a lack of interest in organisational outcomes. There is empirical evidence to support this theoretical relationship, suggesting that technology-driven insecurity undermines employee engagement and organisational commitment, while also increasing turnover intentions (Brougham & Haar, 2018; Vander Elst et al., 2014). However, if the organisational message regarding AI technology is one of augmentation rather than replacement and if reskilling initiatives are implemented.

3.2 Job Insecurity Theory

Job Insecurity Theory provides a more specific insight into the psychological effects of perceived threats to job continuity on employees. According to De Witte (2005), job insecurity is a

subjective experience of powerlessness in the face of threats to job continuity or employment conditions. The role of AI in technological change heightens this subjective experience by creating uncertainty about task automation, algorithmic performance assessment, and future skill obsolescence. Researchers have identified a distinction between quantitative job insecurity, which is a fear of job loss, and qualitative job insecurity, which encompasses concerns about diminished job quality, lack of career advancement opportunities, or loss of professional identity (Shoss, 2017). AI change heightens both types of job insecurity, especially in occupations that involve routine or data processing tasks. There is substantial empirical support for the negative relationship between job insecurity and work-related outcomes, such as diminished organisational commitment, job satisfaction, emotional exhaustion, and withdrawal behaviours such as absenteeism and turnover intentions (Sverke et al., 2002; Cheng & Chan, 2008; Probst et al., 2017). In an AI-enabled setting, these consequences may be exacerbated by a lack of transparency in algorithmic decision-making or a sense of employee impotence in the face of technological threats, rather than technology itself, shape employee attitudes and behavioural intentions.

3.3 Job Demands–Resources (JD–R) Model

The Job Demands-Resources (JD-R) model provides a structural framework to explain how AI changes work characteristics and employee well-being. According to Demerouti et al. (2001) and Bakker & Demerouti (2007), employee outcomes are a function of the balance between job demands, such as physical, cognitive, and emotional efforts, and job resources that support employees in achieving work goals, reducing job demands, and promoting personal growth. The adoption of AI is likely to increase job demands, requiring continuous up skilling, increasing cognitive complexity,

increasing work intensity, and enabling constant performance monitoring using algorithmic systems (Moore, 2018; Kellogg et al., 2020). These increased demands, if not properly supported, can cause stress, burnout, and disengagement, thus threatening job stability and retention. On the other hand, AI has the potential to be a very strong job resource, automating repetitive tasks, improving decision-making accuracy, facilitating flexible work arrangements, and reducing manual labor (Cascio & Montealegre, 2016; Crawford et al., 2021). When combined with organisational resources such as training, leadership, and governance, AI can improve work meaningfulness and sustainable employability (Van der Heijden et al., 2016). Using the JD-R framework, employee retention in AI-enabled organisations is dependent on the ability of organisations to counterbalance increased job demands with sufficient job and personal resources, thereby preventing the emergence of strain and job insecurity.

3.4 Integrative Framework Implications

Taken together, these theories collectively explain the dual function of AI in determining employee retention and job stability. Maslow's theory focuses on the motivational roots, Job Insecurity Theory describes the psychological reactions to stress, and the JD-R model describes the work design dynamics. The combination of these theories provides a holistic explanation for why AI adoption can either undermine or improve employee retention.

4. Impact of Artificial Intelligence on Employee Retention and Job Stability

The literature clearly shows that the adoption of AI changes job roles rather than leading to mass unemployment in the short term, especially in knowledge-intensive and service-based industries (Autor, 2015; Acemoglu & Restrepo, 2020).

Nevertheless, the subjective experience of employees regarding AI adoption may vary from the objective consequences of AI adoption in the labour market. Research reveals that when employees view AI adoption as a threat to their employability, they experience increased job insecurity and decreased organisational commitment (Frey & Osborne, 2017; Nawaz et al., 2020). Job insecurity has been found to be a crucial mediating factor between AI adoption and turnover intentions (Nielsen & Abildgaard, 2012; Vander Elst et al., 2014). Employees who view AI adoption as an opportunity to improve their skills and enhance their career prospects demonstrate increased work engagement and retention intentions (Van der Heijden et al., 2016; Ployhart et al., 2020). On the other hand, algorithmic control, over-surveillance, and black-box decision-making systems may undermine trust and increase resistance to AI-based management practices (Kellogg et al., 2020; Moore, 2018). From the human resource management point of view, AI-based HR analytics has emerged as a promising approach for predicting turnover, tailoring learning interventions, and enhancing talent management outcomes (Tursunbayeva et al., 2018; Minbaeva, 2018). However, experts warn that ethical governance, transparency, and employee participation are critical to avoid unforeseen negative outcomes and ensure the trust of the workforce (Vrontis et al., 2022; Crawford et al., 2021).

5. Conclusion

Artificial intelligence has become a revolutionary paradigm in today's workplaces, transforming job design, skills, and employment relationships. While AI presents opportunities for improved productivity and innovation, it also reinforces the perception of job insecurity, which negatively impacts employee morale, engagement, and retention (Shoss, 2017; Sverke et al., 2002). This conceptual analysis clearly illustrates

that employee reactions to AI are not one-dimensional but depend on organisational context, leadership, and access to continuous learning.

The evidence in the literature clearly indicates that organisations adopting a human-centric strategy for AI, including reskilling, transparency, ethical governance, and leadership support, are better equipped to address job insecurity and achieve sustainable employee retention (Cascio & Montealegre, 2016; Ployhart et al., 2020; Vrontis et al., 2022). Integrating technological innovation and workforce development is critical to ensure long-term organisational resilience in the automated workplace.

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