

## The Blade of AI: The Double-Edged Impact of AI on Employee Performance: A Systematic Literature Review

Rian Oktafiani<sup>1</sup>, Nur Wening<sup>2</sup>, Reinardus Dwi Prio C<sup>3</sup>, Agung Hartadi<sup>4</sup>

Department of Management Science, Graduate School, Universitas Teknologi Yogyakarta, Indonesia<sup>2,3</sup>  
Program Studi Sistem Informasi, Faculty of Science and Visual Communication, Universitas Cendikia Mitra Indonesia, Indonesia<sup>1</sup>

Department of Management, Akademi Manajemen Administrasi Yogyakarta, Indonesia<sup>4</sup>

Corresponding Author: Rian Oktafiani ([rian.oktafiani@unicimi.ac.id](mailto:rian.oktafiani@unicimi.ac.id))

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### ABSTRACT

Although the use of artificial intelligence (AI) in businesses has a complicated effect on worker performance, there are drawbacks as well, like technostress and concerns about AI replacing human labor. This study uses a systematic literature analysis of 14 publications that were acquired from the Scopus database in accordance with PRISMA criteria to determine the factors that affect the effect of AI on employee performance. Results indicate that while technostress and technology anxiety have a detrimental impact, factors like skill development, supportive leadership, and successful AI adoption have a favorable influence. This study offers fresh perspectives on managing the effects of AI in a balanced manner. Future research should investigate how psychological aspects interact with AI and examine moderating variables to improve more successful AI implementation tactics in various organizational environments.

Keywords: Artificial Intelligence; AI Impact Duality; Employee Performance; PRISMA SLR



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### INTRODUCTION

On the one hand, some businesses are effectively using AI to increase production and efficiency (Wamba et al., 2020). However, some are having significant difficulties, particularly with relation to staff acceptance and adaptation (Duan et al., 2019; Srivastava & Maity, 2023; Sutomo et al., 2024). This suggests that the success of AI implementation depends not only on the technology itself, but also on the readiness of human resources in the face of change (Chowdhury et al., 2023; Martínez-Plumed et al., 2021). The challenge is even more prominent because employee performance, as a key element in the successful implementation of AI technology, is often the main determinant of whether the adoption of the technology will bring benefits or create new problems (C. Chen, 2024). It's crucial to keep in mind that technology has social aspects, and staff members can influence how it is used and interacted with (Lawton, 2009; Sen et al., 2022). When confronted with AI technologies, employees exhibit various behavioral and psychological reactions such as embracing or accepting (Cugurullo & Acheampong, 2024; Dwivedi et al., 2021; Li et al., 2024; Prentice et al.,

2020), rejecting (Jarrahi, 2018; Longoni et al., 2019; Zhou et al., 2023), and avoiding (Kurochkina et al., 2023; Pillai et al., 2024), which may enhance or inhibit the efficient use of AI (Kong et al., 2023). The duality of AI's impact is apparent in this context. AI has great potential to increase productivity through automation of routine tasks (Tschang & Almirall, 2021), provision of data-driven insights (T. Chen et al. (2023)), and optimization of work processes (Johnson et al., 2021). However, on the other hand, AI can also present challenges such as job insecurity (He et al., 2024), pressure to constantly adapt (Dwivedi et al., 2021), and possible detrimental effects on workers' wellbeing and motivation (Nazareno & Schiff, 2021). This reality creates an urgent need to understand better how organizations can effectively manage this duality. Numerous earlier studies have looked at how AI affects enterprises (Huang & Rust, 2018; Jarrahi, 2018; Naamati-Schneider et al., 2024). Huang & Rust (2018) found that AI can improve customer service efficiency, but often reduces the personal relationship element, leading to decreased employee job satisfaction.

Jarrahi (2018) suggested that AI acts as a "cognitive partner" that helps solve complex tasks, although it often creates concerns about the role of humans being marginalized. Meanwhile, Naamati-Schneider et al. (2024) showed that while AI can increase productivity, poor implementation risks job stress and burnout. Although the topic of AI adoption has been widely discussed in management and Human Resource Management (HRM) literature, most previous studies primarily focus on the relationship between AI implementation and organizational outcomes, such as operational efficiency, service quality, and overall organizational performance. Consequently, limited attention has been given to understanding how AI directly influences individual employee performance within organizations. Research (Huang & Rust, 2018), for example, focuses on the customer service aspect at the organizational level, without addressing how the duality of AI's impact affects internal employee performance. Jarrahi (2018) emphasized human-AI collaboration but did not explore the psychological stress experienced by employees. Meanwhile, Naamati-Schneider et al. (2024) highlighted the risk of burnout associated with AI implementation. Still, they did not provide a comprehensive framework explaining how both the positive and negative impacts of AI simultaneously influence employee performance.

Consequently, the research gap that forms the foundation of this study lies in the lack of comprehensive studies specifically examining the impact of AI on employee performance from a dual-impact perspective (positive and negative). Existing studies tend to analyze the effects of AI in a fragmented manner, focusing either on its positive contributions, such as productivity improvement, or on its negative consequences, such as job insecurity and technostress, without integrating both perspectives simultaneously. However, there is still a limited systematic synthesis that integrates technological, organizational, and psychological perspectives to explain the dual impact of AI on employee performance. Therefore, this study aims to address this gap by providing a systematic literature review that analyzes the dual impact of AI on employee performance and identifies contextual factors that shape employees' responses to AI in the workplace. By synthesizing findings from previous studies, this research seeks to explain how AI simultaneously influences employee productivity, well-being, and work behavior. Through this integrated perspective, the study contributes to the literature by offering a clearer conceptual understanding of how AI generates both opportunities and challenges for employee performance. It is anticipated that this article will serve as a resource for academics, practitioners, and corporate leaders seeking to manage AI deployment humanely and effectively.

## LITERATURE REVIEW

### The Effect of Artificial Intelligence on Employee Performance

Artificial Intelligence (AI) in this context refers to technologies that are capable of mimicking human intelligence to perform various tasks, such as data analysis, decision-making, process automation, and natural language-based interactions (S. J. Shaikh, 2023). In the work environment, AI plays an important role in supporting or replacing routine tasks, providing deeper insights through analysis, and driving business innovation (Burström et al., 2021). On the other hand, employee performance

describes the level of success of individuals in completing the tasks and responsibilities given by the organization, which is assessed based on productivity, work quality, efficiency, innovation, and adaptability (Retnowati & Darma, 2024; Vuong & Nguyen, 2022). In the application of AI, the success of employee performance is not only determined by the completion of tasks with the help of technology (Narayanamurthy & Tortorella, 2021), but also by the extent to which the technology can be effectively utilized to improve work results and create added value for the organization (Maddikunta et al., 2022). The arrival of AI encourages employees to develop innovative thinking and more advanced human-machine collaboration skills (Downes et al., 2021; Kong et al., 2023). These skills are required to handle increasingly complex tasks while maintaining a competitive edge in collaborative work environments. Thus, efforts to improve employee well-being and work performance are not only a must for organizations in adjusting to technological changes, but also an important element for employee career development (Park et al., 2021). The use of AI in organizational management has therefore become a significant concern in recent studies (Harju et al., 2021; Pei et al., 2024; Tong et al., 2021). However, previous studies often explain the impact of AI either from the perspective of productivity improvement or from the risks associated with technological change. This study adopts the concept of AI impact duality, which views AI as simultaneously creating opportunities and challenges for employees. To explain this duality, this research integrates several theoretical perspectives that help understand how employees perceive, interact with, and respond to AI technologies in the workplace.

Specifically, this study integrates the Technology Acceptance Model (TAM), Task Technology Fit (TTF) Theory, and Cognitive Appraisal Theory as the conceptual basis for explaining how AI adoption can influence employee performance both positively and negatively. This research also refers to the Effective Performance Model proposed by Boyatzis (1991), which emphasizes the importance of balancing emotional, social, and technical competencies in achieving optimal performance. When employees possess the necessary competencies to work with AI technologies, the technology can enhance performance. Conversely, the lack of these competencies may lead to stress or decreased performance.

### **The Technology Acceptance Model (TAM)**

Perceived utility and ease of use are important factors in determining technology acceptability, according to Davis (1989), the Technology Acceptability Model (TAM). In AI adoption, these perceptions are often influenced by the level of technological literacy, training provided, and organizational communication about the long-term benefits of AI (Brougham & Haar, 2018). In addition, successful AI adoption is also influenced by the extent to which organizations can integrate this technology with existing work processes without creating significant barriers for employees (Soomro et al., 2024). In the context of AI impact duality, TAM explains that when employees perceive AI as useful and easy to use, they are more likely to accept and utilize the technology, which can improve work efficiency and performance. Conversely, negative perceptions of AI may lead to resistance that hinders performance.

### **Task Technology Fit Theory**

In the context of technology adoption, employee performance is frequently impacted by several factors, such as organizational support, perceived technological benefits, and flexibility (Gibson et al., 2022). According to Goodhue & Thompson (1995), Task Technology Fit Theory, the degree to which technology facilitates employee tasks has a significant impact on the success rate of technology adoption. Although technological assistance for task completion is frequently seen favorably in the context of AI, the requirement for relearning and personalization may have an impact on worker productivity and motivation (Trenerry et al., 2021). In the context of AI, TTF explains that AI technologies can enhance performance when their capabilities align with job requirements. However, when AI systems are poorly aligned with employee tasks or require significant adjustments, they may reduce productivity and motivation.

### **Cognitive Appraisal Theory**

Cognitive appraisal theory by Lazarus (1984) explains individual responses to new or challenging situations based on initial judgments influenced by perceptions, knowledge, and goals. This assessment includes cognitive and emotional aspects, resulting in a response of engagement or avoidance (Bhattacharjee et al., 2018). In the context of AI implementation, this theory helps explain employees' psychological responses to AI. Employees who perceive AI as an opportunity may experience positive motivation and engagement, while those who perceive it as a threat may experience stress, anxiety, or avoidance behavior. Individuals with limited resources tend to view situations as threats, triggering stress or anxiety, while those with stronger competencies view them as opportunities that generate positive emotions (Spătaru et al., 2024).

### **METHOD**

This study employs a qualitative methodology, gathering information about the effects of artificial intelligence on worker performance generally, without regard to industry, using a systematic literature review (SLR) approach and searches on the Scopus database. The Preferred Reporting Items for Systematic Literature Review and Meta Analysis (PRISMA) technique was used in conjunction with the SLR method to conduct this study. The literature search used keywords such as "Artificial Intelligence", "Employee Performance", "Impact of AI", "Positive Impact", and "Negative Impact". The procedures include formulating the research question, establishing the review methodology, carrying out an assessment, and conducting a descriptive analysis of the findings.

### **Defining Research Questions**

The first step in this research is to determine specific and directed research questions (RQ). Research questions serve as a guide in the literature search process. The study's research questions are as follows:

RQ 1: How does AI affect employee performance, both positively and negatively?

RQ 2: Which factors can affect employee performance positively or negatively?

RQ 3: How can organizations mitigate the negative impact of AI while maximizing the benefits?

RQ 4: What do previous researchers on the literature of AI on employee performance suggest for future research?

### **Defining the Review Protocol**

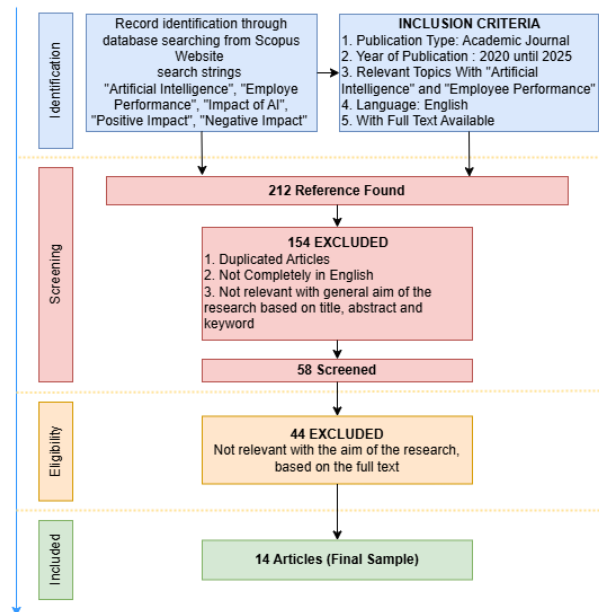
The review protocol was created to ensure the research was conducted in a systematic and transparent manner. In addition, the protocol also included the literature selection method and the tools used for analysis. The inclusion criteria for this study were: Articles relevant to the topic of AI and employee performance, articles published in reputable journals or Scopus-indexed publications, and publications in the last 5 years (2020–2025). Additional criteria included articles written in English and available in full text. Exclusion criteria included duplication, articles not available in full text, and articles not written in English.

### **Literature Evaluation**

Once the protocol was established, the literature obtained through the initial search was evaluated following the PRISMA framework, consisting of identification, screening, eligibility, and inclusion stages. The initial search identified 212 articles from the Scopus database. During the screening stage, duplicates and articles not relevant to the research objective based on title, abstract, and keywords were removed, resulting in 58 articles remaining for further evaluation. In the eligibility stage, a full-text review was conducted, and 44 articles were excluded because they were not directly related to the research objective. Finally, 14 articles were included as the final sample for analysis. The PRISMA method uses a flowchart to show the number of articles screened at each stage, from the initial search to the final literature analyzed. The purpose of this review is to guarantee that the analysis contains only high-quality and pertinent content.

### Conducting Descriptive Analysis of Results

The literature that passed the evaluation stage was then analyzed descriptively. This analysis includes identifying research trends, methods used in previous studies, main results reported, and research gaps found. The selected 14 articles were synthesized to identify patterns of the positive and negative impacts of AI on employee performance. The results of this descriptive analysis form the basis for drawing conclusions and recommendations that can be applied in practice.



**Figure 1. PRISMA SLR**

Source: Adapted from PRISMA 2020

## RESULTS AND DISCUSSION

Table 1 presents the findings of this literature review, including the article’s name, the variables used in the research, the findings, and the effect of AI on worker behavior and performance. Present the table as follows:

**Table 1. Literature Review Result**

1	The Janus Face of Artificial Intelligence Feedback: Deployment versus Disclosure Effects on Employee Performance, (Tong et al., 2021),	-Independent variables: Artificial Intelligence and Disclosure Effect, Employment Tenure). -Dependent variable: Employee Performance	This research is quantitative causal study using multiple regression. Primary data were obtained from 265 employees of Omega Corp (a financial service company in Asia) through questionnaires with a cross-section approach. The	AI improved employee performance by 12.9%. However, when employees knew feedback was coming from AI, performance dropped by 5.4% due to low trust and job replacement concerns. This negative impact	<b>Positive</b> with deployment effect <b>Negative</b> because it can reduce productivity due to the disclosure effect
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			analysis was conducted using ANOVA, with random sampling technique.	was milder for employees with longer tenure.
2	Analyzing the impact of artificial intelligence on employee productivity: the mediating effect of knowledge sharing and well-being, (F. Shaikh et al., 2023)	The following independent variables: AI  -Knowledge sharing (KS) and employee mental health and wellbeing (EMHWB) are mediating variables.  -Moderating Factor: Leadership in Technology (TL)  -Dependent variable: Productivity of employees (EP)	This research is a quantitative causal study using SEM-PLS. Data was collected from 184 medical personnel of hospitals in Pakistan (population 600) through questionnaires.	By mediating a knowledge sharing and promoting mental health and well-being, AI increases worker productivity in the healthcare industry. These results demonstrate how crucial social cognitive theory is to the use of AI. More research on the connection between productivity, well-being, and information sharing is necessary, as shown by the rejected hypothesis about the moderating effect of technological leadership.
3	Artificial intelligence as a boundary-crossing object for employee engagement and performance, (Prentice et al., 2023)	-Independent Variable: <b>AI Service Performance</b> -Moderating Variable: Job Security -Mediating Variable: Job Engagement and Employee Service Quality -Dependent Variable: Job Performance	This research is a quantitative causal study with SEM-PLS. Data were collected from 219 full-time employees in Australian service companies with >1 year of	Job security improves engagement and service performance, which in turn mediates the substantial impact of AI on job performance.  <b>Positive</b> when work engagement and service performance are mediated.

			service through questionnaires.		
4	Rebooting employees: upskilling for artificial intelligence in multinational corporations, (Jaiswal et al., 2022)	- Key Variable: AI Adoption (Independen) - Outcome: Upskilling Skills	This qualitative research involved 20 experienced professionals in Indian IT sector MNCs, analyzed using Gioia's methodology.	The study found that the five key competences needed to upskill professionals in the face of AI are data analysis, digital skills, advanced cognitive skills, decision making, and continuous learning.	<b>Positive</b> with upskilling skills
5	A study of artificial intelligence on employee performance and work engagement: the moderating role of change leadership, (Wijayati, Rahman, Fahrullah, et al., 2022)	Artificial intelligence is independent. -Moderating: Leadership change -Dependent: Work engagement and employee performance	254 workers in the banking and service industries in East Java participated in this quantitative study, which was examined using SEM with AMOS 22.0.	AI significantly improves worker performance and engagement, and the relationship is moderated by change leadership.	<b>Positive</b> with the moderating Influence of change leadership.
6	The Impact of Improving Employee Psychological Empowerment and Job Performance Based on Deep Learning and Artificial Intelligence, (Fan et al., 2023)	Artificial intelligence (AI) is independent. Mediating: Empowerment of the mind -Dependent: Work output	Regression and Deep Learning-Back Propagation Neural Networks (BPNN) were used to examine the data from this quantitative study, which covered 352 workers in China.	AI increases employees psychological empowerment, which affects work performance. The evaluation of working conditions (job satisfaction, pressure, and performance) is analyzed using the BPNN algorithm model.	<b>Positive</b> with the mediating Influence of psychological empowerment.
7	The Influence Mechanism of Authentic Leadership in Artificial	-Independen: Authentic Leadership (AL) - Mediating: Psychological safety	102 team leaders and 697 team members from Chinese AI	Psychological safety mediates the relationship between individual AL	<b>Positive</b> with Authentic Leadership support and meditation

	Intelligence Team on Employees' Performance, (Hao et al., 2020a)	(individual level), Team atmosphere (team level) - Dependent: Employees performance	businesses participated in this quantitative study, which was examined using cross-level analysis.	behavior and performance, whereas team milieu mediates the association between team AL conduct and individual performance. Teams working on developing AI technologies perform better under authentic leadership.	psychological safety and team atmosphere.
8	Analysing the Impact of Robot, Artificial Intelligence, and Service Automation Awareness, Technostress and Technology Anxiety on Employees' Job Performance in The Foodservice Industry, (Lestari et al., 2023)	Robot, Artificial Intelligence, and Service Automation (RAISA) awareness is independent. -Mediating: Technology anxiety and stress -Dependent: Job Performance	This quantitative research involved 147 employees of fast-food restaurants in Jakarta, using snowball sampling techniques and questionnaire analysis.	RAISA awareness has a positive effect on technostress, anxiety, and employee work performance, but technostress and technology anxiety have a negative impact on work performance in fast food restaurants.	<b>Positive</b> with RAISA awareness, but <b>negative</b> due to the influence of technostress and technology anxiety.
9	Harnessing the power of artificial intelligence (AI): a paradigm shift in HRM practices for employee sustainable performance, (Chin et al., 2024)	-Independent: AI integration -Mediating: HRM procedures, organizational digital culture Adoption of AI is moderating -Dependent: Sustainable performance of employees	Employees of upscale hotels in Malaysia participated in this quantitative study; the sample was selected using G*Power and examined using SPSS 28.0 and SmartPLS 4.	Although it has nothing to do with the digital culture of the company, AI integration improves long-term success. Digital culture promotes sustainable performance, whereas HRM practices have an impact on it. AI has no moderating effect on the link between	<b>Positive:</b> Integration of AI improves performance over the long run. <b>Negative</b> because the use of AI does not support the link between HRM and performance.

10	The Effect of Job Skill Demands Under Artificial Intelligence Embeddedness on Employees' Job Performance: A Moderated Double-Edged Sword Model, (N. Chen et al., 2024a)	-Independent: Requirements for job skills under embedded AI -Mediating: Job embeddedness and competency requirements -Moderating: Fear of technology -Dependent: Job performance and organizational well-being	479 workers from 8 Chinese companies participated in this quantitative study, which used the time-lag approach and Ordinary Least Squares (OLS) analysis.	performance and HRM. AI embeddedness has two effects: (1) raising competency standards, which enhances performance and well-being on the job; and (2) lowering job embeddedness, which reduces performance and well-being. The association between work embeddedness and skill needs is moderated by technology concern.	<b>Positive</b> if AI embeddedness is mediated by competency needs, but <b>negative</b> if technology anxiety is high which can reduce job embeddedness.
11	Innovative Work Behavior and Job Performance of Corporate Employees in the Age of Artificial Intelligence, (S. Chen et al., 2024)	- Independent: Artificial intelligence (AI) -Mediating: Interpersonal trust -Dependent: Innovative work behavior, job performance -Motivasi: Intrinsic motivation, extrinsic motivation	This quantitative research involved employees in 18 companies in G city, using path analysis and multiple regressions, controlling for gender, education, and company size.	AI use promoted creative behavior (0.305, $p < 0.01$ ) and greatly improved job performance (0.520, $p < 0.001$ ). The relationship between AI and creative activity was mediated by interpersonal trust. AI additionally boosts worker motivation, which results in higher output.	<b>Positively</b> influenced by interpersonal trust.
12	Challenge or Hindrance? How and When Organizational Artificial Intelligence	-Independent: Organizational AI adoption -Mediating: Challenge/hindrance appraisal -Moderator: Locus	Methodical and Quantitative A three-phase (time-lag) study of 332 workers from	AI adoption affects employee perceptions based on locus of control. Internal locus	<b>Positive</b> with the influence of internal locus of control, <b>Negative</b> external

<p>Adoption Influences Employee Job Crafting, (Cheng et al., 2023)</p>	<p>of control - Dependent: Job crafting</p>	<p>eight Chengdu, China-based enterprises.</p>	<p>of control sees AI as a challenge, encouraging promotive job crafting, while external locus sees it as an obstacle, encouraging preventive job crafting.</p>	<p>influence of locus of control</p>
<p>13 The two faces of Artificial Intelligence (AI): Analyzing how AI usage shapes employee behaviors in the hospitality industry, (Liu et al., 2024)</p>	<p>-Independent: Use of AI -Moderator: Avoidance and Approach orientations -Mediators: Workplace anxiety and technological self-efficacy -Dependent: Work withdrawal behavior, prosocial service conduct</p>	<p>Data for this quantitative study was gathered over three time periods from a survey of 280 Chinese hotel employees.</p>	<p>The use of AI has a dual effect: increases technological self-efficacy which promotes prosocial behavior, but also triggers workplace anxiety which promotes withdrawal. Approach orientation amplifies the positive effects, while avoidance orientation exacerbates the negative effects.</p>	<p><b>Positive</b> with the influence of technology efficacy and strengthened by approach orientation <b>Negative</b> effect of workplace anxiety moderated by avoidance orientation.</p>
<p>14 Impact of Artificial Intelligence on Employees Working in Industry 4.0 Led Organizations, (Malik et al., 2022)</p>	<p>Artificial intelligence (AI), Employee experiences, technostress, job performance, Work-related flexibility, creativity, job insecurity</p>	<p>The qualitative research used semi-structured interviews and NVivo analysis, involving professionals from nine industries with an average of 7.6 years of experience.</p>	<p>This study shows the effects of adopting AI, including the good effects of flexibility, autonomy, creativity, and enhanced performance as well as the negative effects of security threats, data privacy, digital change, and job</p>	<p><b>Positive</b> effects of employee experience, flexibility and creativity <b>Negative</b> effects of technostress and job insecurity</p>

anxiety. Technostress due to workload, insecurity, and complexity was also identified, emphasizing the Importance of Upskilling and knowledge management to support employees.

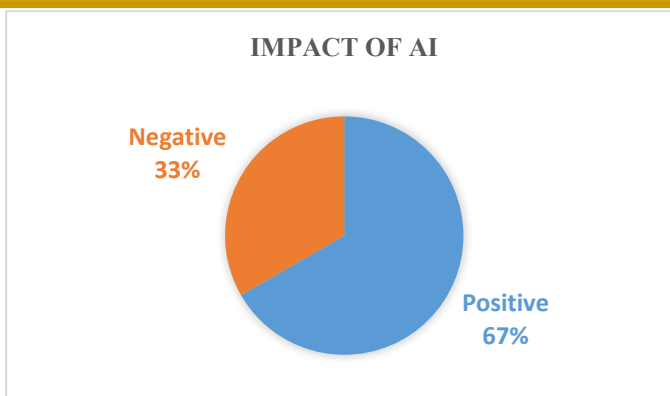
Source: Developed by the authors from reviewed articles

**Table 2. Variables that Exert Positive Influence on the Impact of AI on Employee Performance**

Variables that positively influence AI and employee performance	Deployment Effect (Tong et al., 2021), Tenure (Tong et al., 2021), Knowledge Sharing (Shaikh et al., 2023)), Job Engagement (Prentice et al., 2023 et al., , Service Performance (Prentice 2023), Upskilling Skills (Jaiswal et al., 2022), Change Leadership ( <i>Wijayati et al., 2022</i> ), Authentic Leadership (Hao et al., 2020), Team Atmosphere (Hao et al., 2020) Hao et al., 2020), Psychological Safety (, 2020), Psychological Empowerment, Psychological Empowerment ( <i>Fan et al., 2023</i> ), RAISA (Robot, Artificial Intelligence, and Service Automation) awareness ( <i>Lestari et al., 2023</i> ), Interpersonal Trust (S. Chen et al., 2024), Competency Needs (N. Chen et al., 2024), Motivation (S. Chen et al., 2024)), Internal Locus of Control ( <i>Cheng et al., 2023</i> ), Technological Self-Efficacy ( <i>Liu et al., 2024</i> ).
Variables that negatively affect AI on employee performance	Disclosure Effect (Tong et al., 2021), Technological Leadership (Shaikh et al., 2023), Technostress ( <i>Lestari et al., 2023</i> ), Technology Anxiety ( <i>S. Chen et al., 2024; Lestari et al., 2023</i> ), Workplace Anxiety ( <i>Liu et al., 2024</i> ), External Locus of Control ( <i>Cheng et al., 2023</i> )), Job Insecurity ( <i>Malik et al., 2022</i> ).

Source: Authors' synthesis based on systematic literature review

Based on the investigation of the literature review, 14 articles were identified that focused on artificial intelligence and employee job performance. The review process included 212 articles from Scopus. We found 14 papers using PRISMA guidelines and inclusion and exclusion criteria, and we arranged them in Table 1 according to the article's identity, variables, research methodologies, research findings, and the effect of AI on employee performance (whether positive or negative). The characteristics that have a positive or negative impact on how AI affects employee performance were then grouped in Table 2.



**Figure 2. Comparison Diagram of Positive and Negative Impacts of AI**

Source: Authors' own analysis based on systematic literature review

In Table 1, the 14 selected articles present evidence regarding both the positive and negative impacts of artificial intelligence on employee performance. To strengthen the synthesis of findings, the results were analyzed using a thematic categorization approach. The variables identified in the literature were grouped into several conceptual themes that explain how AI influences employee performance. These themes include: (1) individual capability and psychological factors, (2) organizational and leadership support, and (3) technology-related risks and stress factors. Based on the analysis, AI shows a predominantly positive influence on employee performance. Of the 14 articles analyzed, all studies reported positive impacts of AI on employee performance, while 7 studies also highlighted negative consequences associated with AI adoption. As illustrated in Figure 2, the results indicate that 67% of the findings demonstrate positive impacts, while 33% highlight negative impacts. This pattern suggests that AI functions as a dual-impact technology, simultaneously generating opportunities and challenges for employees. From the thematic analysis, the positive impact of AI on employee performance can be categorized into three main groups.

First, individual capability and psychological factors. Several studies show that AI improves employee performance by strengthening individual competencies and psychological resources. For example, the deployment effect identified by Tong et al. (2021) demonstrates that AI implementation can significantly improve work productivity. Similarly, employee tenure and the development of new skills through upskilling programs (Jaiswal et al., 2022) help employees adapt to AI-driven work environments. Other individual-level factors, such as psychological empowerment, internal locus of control, and interpersonal trust, further strengthen employees' ability to utilize AI technologies effectively. Second, organizational and leadership support. Organizational conditions play an important role in determining whether AI adoption improves employee performance. Studies indicate that organizational mechanisms such as knowledge sharing (Shaikh et al., 2023), job engagement and service performance (Prentice et al., 2023), as well as team atmosphere and psychological safety (Hao et al., 2020), create supportive environments that facilitate effective AI adoption. Leadership-related factors such as change leadership and authentic leadership also encourage employee adaptation and enhance performance outcomes in AI-enabled workplaces. Third, technological awareness and adaptation factors.

Several studies highlight that awareness of AI technologies, such as Robot, Artificial Intelligence, and Service Automation (RAISA) awareness, supports employee readiness to work with new technologies and contributes to performance improvement. However, the literature also identifies several themes associated with the negative impact of AI on employee performance. The first theme relates to technology-related stress and anxiety. Studies show that AI adoption can increase technostress, technology anxiety, and workplace anxiety (Lestari et al., 2023; Liu et al., 2024), which may hinder employee performance and reduce motivation. The second theme concerns job insecurity and perceived technological threats. The disclosure effect identified by Tong et al. (2021) indicates that when employees are aware that feedback originates from AI systems, their trust may

decrease, leading to lower productivity. Similarly, job insecurity caused by concerns about automation and technological replacement (Malik et al., 2022) may negatively affect employee attitudes toward AI adoption. The third theme involves individual perceptions and attitudes toward technology. Employees with an external locus of control (Cheng et al., 2023) tend to perceive AI as a threat or obstacle, which weakens technology acceptance and reduces performance outcomes. Overall, the thematic synthesis indicates that the impact of AI on employee performance is shaped by the interaction between individual, organizational, and technological factors. When organizations support employees through leadership, training, and knowledge-sharing mechanisms, AI tends to enhance productivity and work engagement. Conversely, when psychological concerns such as anxiety, technostress, and job insecurity are not properly managed, AI adoption may negatively influence employee performance. The word cloud presented in Figure 3 was constructed using the variables identified as having a positive or negative influence on how AI affects employee performance.



**Figure 3. Word Cloud AI and Employee Performance**

Source: Authors' own visualization based on literature data

Artificial intelligence (AI) plays a strategic role in improving employee performance across various industries, although its implementation also brings several challenges that must be managed effectively. Based on the results of the literature review, AI has been shown to improve employee performance through several mechanisms, such as automation of routine tasks, improved decision-making through data analysis, and enhanced collaboration between humans and intelligent systems. Several studies demonstrate the positive contribution of AI to employee performance. For instance, Tong et al. (2021) found that the deployment of AI increased employee performance by 12.9%, mainly due to the efficiency created by automated feedback systems. Similarly, Shaikh et al. (2023) showed that AI significantly improved the productivity of healthcare employees through the mediating role of knowledge sharing and employee well-being. Other studies also highlight the importance of mediating factors such as job engagement, service quality, and psychological empowerment in strengthening the positive relationship between AI and employee performance (Fan et al., 2023; Prentice et al., 2023). AI adoption also encourages employees to develop new competencies. Jaiswal et al. (2022) found that employees must develop several key competencies to adapt to AI-driven workplaces, including data analysis skills, digital literacy, advanced cognitive abilities, decision-making skills, and continuous learning. In addition, leadership factors such as change leadership and authentic leadership have been found to strengthen the positive impact of AI adoption by creating supportive work environments that encourage employee engagement and performance (Hao et al., 2020; Wijayati et al., 2022). However, despite its benefits, AI also introduces several risks that may negatively affect employee performance. Tong et al. (2021) found that when employees realized that performance feedback came from AI systems, their productivity decreased due to reduced trust and concerns about job replacement. Similarly, studies by Lestari et al. (2023) and Liu et al. (2024) revealed that AI adoption can increase technostress, technology

anxiety, and workplace anxiety, which may hinder employee performance. Job insecurity and concerns about technological change were also identified as significant challenges associated with AI adoption (Malik et al., 2022).

From a theoretical perspective, the findings of this systematic literature review support several theoretical frameworks used in this study. First, the Technology Acceptance Model (TAM) explains that employees' perceptions of usefulness and ease of use influence their willingness to adopt AI technologies. When employees perceive AI as beneficial for improving efficiency and productivity, they are more likely to accept and utilize the technology, leading to improved performance outcomes. Conversely, negative perceptions of AI, such as fear of job replacement or low trust in AI-generated feedback, may reduce technology acceptance and negatively affect performance. Second, the Task Technology Fit (TTF) theory helps explain how the alignment between AI capabilities and job requirements influences employee performance. When AI technologies are well aligned with employee tasks, such as automating repetitive activities or providing decision-support systems, they enhance productivity and work efficiency. However, when AI systems require significant adjustments or create additional complexity in work processes, they may reduce employee motivation and productivity. Third, Cognitive Appraisal Theory provides insight into employees' psychological responses to AI adoption. Employees who perceive AI as an opportunity for learning and skill development tend to experience positive emotions such as motivation and engagement. In contrast, employees who perceive AI as a threat may experience anxiety, technostress, or job insecurity, which negatively affect performance. These findings confirm the concept of the dual impact of AI, where the technology simultaneously generates opportunities and challenges for employee performance depending on organizational support, technological alignment, and employee perceptions.

This study contributes to the literature by providing a more integrated understanding of how artificial intelligence influences employee performance from a dual-impact perspective. Previous studies often focused either on the positive benefits of AI, such as productivity and efficiency, or on its negative consequences, such as technostress and job insecurity. This study extends existing research by integrating TAM, Task Technology Fit, and Cognitive Appraisal Theory to explain the dual impact of AI on employee performance, highlighting how technological adoption, organizational support, and psychological perceptions interact simultaneously in shaping employee outcomes. This research demonstrates that the interaction between technological, organizational, and psychological factors shapes the impact of AI. From a practical perspective, the findings suggest that organizations need to adopt strategic approaches to maximize the benefits of AI while minimizing its negative impacts. Organizations should focus on building employee trust in AI systems, providing training and upskilling programs, and ensuring that AI technologies are aligned with employee tasks and organizational goals. In addition, organizations should address the psychological challenges associated with AI adoption by implementing strategies to reduce technostress and technology anxiety. Leadership also plays a critical role in facilitating successful AI adoption. Supportive leadership styles, such as change leadership and authentic leadership, can help create a work environment that encourages employee engagement and reduces resistance to technological change. Finally, companies should encourage collaboration and knowledge sharing among employees to support the integration of AI into daily work processes. Such practices can enhance employees' technological self-efficacy, strengthen interpersonal trust, and ultimately improve employee performance. Future research is suggested to explore more deeply how psychological factors such as psychological empowerment, psychological safety, and technostress interact with AI technologies in different industries and organizational cultures. Longitudinal studies are also needed to examine the long-term effects of AI adoption on employee productivity, innovation, and organizational performance.

## CONCLUSION

The adoption of AI has both positive and negative effects on employee performance. Positive impacts include increased productivity, job engagement, and psychological empowerment, while negative impacts include decreased trust due to the disclosure effect, technostress, and anxiety related to job replacement by AI. Variables that positively affect employee performance include individual factors such as tenure, knowledge sharing, deployment effect, job engagement, and upskilling, as well as leadership support such as authentic leadership and change leadership. Conversely, factors such as disclosure effect, technostress, technology and workplace anxiety, and job insecurity may hinder AI adoption and employee performance. Academically, this study contributes by synthesizing prior research and highlighting the dual impact of AI on employee performance from technological, organizational, and psychological perspectives. Practically, organizations should strengthen employee empowerment, training, and upskilling programs, supportive leadership, and a culture of trust to maximize the benefits of AI while reducing technostress and technology anxiety. Future research is suggested to examine further the role of psychological factors, organizational digital culture, AI trust, and leadership styles in AI adoption, as well as to conduct longitudinal studies to understand better the long-term effects of AI on employee performance across different industries.

## REFERENCES

- Bhattacharjee, A., Davis, C. J., Connolly, A. J., & Hikmet, N. (2018). User response to mandatory IT use: a coping theory perspective. *European Journal of Information Systems*, 27(4), 395–414. <https://doi.org/10.1057/s41303-017-0047-0>
- Boyatzis, R. E. (1991). *The competent manager: A model for effective performance*. John Wiley & Sons.
- Brougham, D., & Haar, J. (2018). Smart Technology, Artificial Intelligence, Robotics, and Algorithms (STARA): Employees' perceptions of our future workplace. *Journal of Management & Organization*, 24(2), 239–257. <https://doi.org/10.1017/jmo.2016.55>
- Burström, T., Parida, V., Lahti, T., & Wincent, J. (2021). AI-enabled business-model innovation and transformation in industrial ecosystems: A framework, model, and outline for further research. *Journal of Business Research*, 127, 85–95. <https://doi.org/10.1016/j.jbusres.2021.01.016>
- Chen, C. (2024). Influence of Employees' Intention to Adopt AI Applications and Big Data Analytical Capability on Operational Performance in the High-Tech Firms. *Journal of the Knowledge Economy*, 15(1), 3946–3974. <https://doi.org/10.1007/s13132-023-01293-x>
- Chen, N., Zhao, X., & Wang, L. (2024a). The Effect of Job Skill Demands Under Artificial Intelligence Embeddedness on Employees' Job Performance: A Moderated Double-Edged Sword Model. *Behavioral Sciences*, 14(10), 974. <https://doi.org/10.3390/bs14100974>
- Chen, N., Zhao, X., & Wang, L. (2024b). The Effect of Job Skill Demands Under Artificial Intelligence Embeddedness on Employees' Job Performance: A Moderated Double-Edged Sword Model. *Behavioral Sciences*, 14(10), 974. <https://doi.org/10.3390/bs14100974>
- Chen, S., Zhang, X., Pan, L., & Hu, M. (2024). Innovative Work Behavior and Job Performance of Corporate Employees in the Age of Artificial Intelligence. *Applied Mathematics and Nonlinear Sciences*, 9(1). <https://doi.org/10.2478/amns-2024-0856>
- Chen, T., Luh, D. B., & Wang, J. G. (2023). Analyzing AI-Generated Packaging's Impact on Consumer Satisfaction With Three Types of Datasets. *International Journal of Data Warehousing and Mining*, 19(1), 1–17. <https://doi.org/10.4018/IJDWM.334024>
- Cheng, B., Lin, H., & Kong, Y. (2023). Challenge or hindrance? How and when organizational artificial intelligence adoption influences employee job crafting. *Journal of Business Research*, 164, 113987. <https://doi.org/10.1016/j.jbusres.2023.113987>
- Chin, Y. S., Mohamad, A. A., & Lo, M. C. (2024). Harnessing the power of artificial intelligence (AI): a paradigm shift in HRM practices for employee sustainable performance. *Global Knowledge, Memory, and Communication*. <https://doi.org/10.1108/GKMC-06-2024-0355>

- Chowdhury, S., Dey, P., Joel-Edgar, S., Bhattacharya, S., Rodriguez-Espindola, O., Abadie, A., & Truong, L. (2023). Unlocking the value of artificial intelligence in human resource management through an AI capability framework. *Human Resource Management Review*, 33(1), 100899. <https://doi.org/10.1016/j.hrmr.2022.100899>
- Cugurullo, F., & Acheampong, R. A. (2024). Fear of AI: an inquiry into the adoption of autonomous cars despite fear, and a theoretical framework for the study of artificial intelligence technology acceptance. *AI & SOCIETY*, 39(4), 1569–1584. <https://doi.org/10.1007/s00146-022-01598-6>
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319. <https://doi.org/10.2307/249008>
- Downes, P. E., Reeves, C. J., McCormick, B. W., Boswell, W. R., & Butts, M. M. (2021). Incorporating Job Demand Variability Into Job Demands Theory: A Meta-Analysis. *Journal of Management*, 47(6), 1630–1656. <https://doi.org/10.1177/0149206320916767>
- Duan, Y., Edwards, J. S., & Dwivedi, Y. K. (2019). Artificial intelligence for decision making in the era of Big Data – evolution, challenges, and research agenda. *International Journal of Information Management*, 48, 63–71. <https://doi.org/10.1016/j.ijinfomgt.2019.01.021>
- Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., ... Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice, and policy. *International Journal of Information Management*, 57. <https://doi.org/10.1016/j.ijinfomgt.2019.08.002>
- Fan, X., Zhao, S., Zhang, X., & Meng, L. (2023). The Impact of Improving Employee Psychological Empowerment and Job Performance Based on Deep Learning and Artificial Intelligence. *Journal of Organizational and End User Computing*, 35(3), 1–14. <https://doi.org/10.4018/JOEUC.321639>
- Gibson, C. B., Dunlop, P. D., Majchrzak, A., & Chia, T. (2022). Sustaining Effectiveness in Global Teams: The Coevolution of Knowledge Management Activities and Technology Affordances. *Organization Science*, 33(3), 1018–1048. <https://doi.org/10.1287/orsc.2021.1478>
- Goodhue, D. L., & Thompson, R. L. (1995). Task-Technology Fit and Individual Performance. *MIS Quarterly*, 19(2), 213. <https://doi.org/10.2307/249689>
- Hao, M., Lv, W., & Du, B. (2020a). The Influence Mechanism of Authentic Leadership in an Artificial Intelligence Team on Employees' Performance. *Journal of Physics: Conference Series*, 1438(1), 012022. <https://doi.org/10.1088/1742-6596/1438/1/012022>
- Hao, M., Lv, W., & Du, B. (2020b). The Influence Mechanism of Authentic Leadership in an Artificial Intelligence Team on Employees' Performance. *Journal of Physics: Conference Series*, 1438(1), 012022. <https://doi.org/10.1088/1742-6596/1438/1/012022>
- Harju, L. K., Kaltiainen, J., & Hakanen, J. J. (2021). The double-edged sword of job crafting: The effects of job crafting on changes in job demands and employee well-being. *Human Resource Management*, 60(6), 953–968. <https://doi.org/10.1002/hrm.22054>
- He, C., Teng, R., & Song, J. (2024). Linking employees' challenge-hindrance appraisals toward AI to service performance: the influences of job crafting, job insecurity, and AI knowledge. *International Journal of Contemporary Hospitality Management*, 36(3), 975–994. <https://doi.org/10.1108/IJCHM-07-2022-0848>
- Huang, M.-H., & Rust, R. T. (2018). Artificial Intelligence in Service. *Journal of Service Research*, 21(2), 155–172. <https://doi.org/10.1177/1094670517752459>
- Jaiswal, A., Arun, C. J., & Varma, A. (2022). Rebooting employees: upskilling for artificial intelligence in multinational corporations. *The International Journal of Human Resource Management*, 33(6), 1179–1208. <https://doi.org/10.1080/09585192.2021.1891114>
- Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. *Business Horizons*, 61(4), 577–586. <https://doi.org/10.1016/j.bushor.2018.03.007>

- Johnson, M., Jain, R., Brennan-Tonetta, P., Swartz, E., Silver, D., Paolini, J., Mamonov, S., & Hill, C. (2021). Impact of Big Data and Artificial Intelligence on Industry: Developing a Workforce Roadmap for a Data-Driven Economy. *Global Journal of Flexible Systems Management*, 22(3), 197–217. <https://doi.org/10.1007/s40171-021-00272-y>
- Kong, H., Yin, Z., Baruch, Y., & Yuan, Y. (2023). The impact of trust in AI on career sustainability: The role of employee–AI collaboration and protean career orientation. *Journal of Vocational Behavior*, 146, 103928. <https://doi.org/10.1016/j.jvb.2023.103928>
- Kurochkina, A. A., Lukina, O. V., Degtereva, V. A., & Bikezina, T. V. (2023). *The Impact of Artificial Intelligence on Employee and Employer Risks* (pp. 27–40). [https://doi.org/10.1007/978-3-031-32719-3\\_3](https://doi.org/10.1007/978-3-031-32719-3_3)
- Lawton, B. (2009). The Characteristics of Technology. *The International Journal for the History of Engineering & Technology*, 79(1), 91–112. <https://doi.org/10.1179/175812009X407204>
- Lazarus, R. S. (1984). *Stress, appraisal, and coping* (Vol. 464). Springer.
- Lestari, N. S., Rosman, D., Veithzal, A. P., Zainal, V. R., & Triana, I. (2023). Analysing the Impact of Robot, Artificial Intelligence, and Service Automation Awareness, Technostress and Technology Anxiety on Employees' Job Performance in The Foodservice Industry. *2023 5th International Conference on Cybernetics and Intelligent Systems (ICORIS)*, 1–6. <https://doi.org/10.1109/ICORIS60118.2023.10352286>
- Li, W., Qin, X., Yam, K. C., Deng, H., Chen, C., Dong, X., Jiang, L., & Tang, W. (2024). Embracing artificial intelligence (AI) with job crafting: Exploring trickle-down effect and employees' outcomes. *Tourism Management*, 104, 104935. <https://doi.org/10.1016/j.tourman.2024.104935>
- Liu, Y., Li, Y., Song, K., & Chu, F. (2024). The two faces of Artificial Intelligence (AI): Analyzing how AI usage shapes employee behaviors in the hospitality industry. *International Journal of Hospitality Management*, 122, 103875. <https://doi.org/10.1016/j.ijhm.2024.103875>
- Longoni, C., Bonezzi, A., & Morewedge, C. K. (2019). Resistance to Medical Artificial Intelligence. *Journal of Consumer Research*, 46(4), 629–650. <https://doi.org/10.1093/jcr/ucz013>
- Maddikunta, P. K. R., Pham, Q.-V., B P., Deepa, N., Dev, K., Gadekallu, T. R., Ruby, R., & Liyanage, M. (2022). Industry 5.0: A survey on enabling technologies and potential applications. *Journal of Industrial Information Integration*, 26, 100257. <https://doi.org/10.1016/j.jii.2021.100257>
- Malik, N., Tripathi, S. N., Kar, A. K., & Gupta, S. (2022). The impact of artificial intelligence on employees working in Industry 4.0 led organizations. *International Journal of Manpower*, 43(2), 334–354. <https://doi.org/10.1108/IJM-03-2021-0173>
- Martínez-Plumed, F., Gómez, E., & Hernández-Orallo, J. (2021). Futures of artificial intelligence through technology readiness levels. *Telematics and Informatics*, 58, 101525. <https://doi.org/10.1016/j.tele.2020.101525>
- Naamati-Schneider, L., Arazi-Fadlon, M., & Daphna-Tekoah, S. (2024). Strategic technological processes in hospitals: Conflicts and personal experiences of healthcare teams. *Nursing Ethics*. <https://doi.org/10.1177/09697330241252876>
- Narayanamurthy, G., & Tortorella, G. (2021). Impact of COVID-19 outbreak on employee performance – Moderating role of Industry 4.0-based technologies. *International Journal of Production Economics*, 234, 108075. <https://doi.org/10.1016/j.ijpe.2021.108075>
- Nazareno, L., & Schiff, D. S. (2021). The impact of automation and artificial intelligence on worker well-being. *Technology in Society*, 67, 101679. <https://doi.org/10.1016/j.techsoc.2021.101679>
- Park, S., Jeong, S., & Chai, D. S. (2021). Remote e-Workers' Psychological Well-being and Career Development in the Era of COVID-19: Challenges, Success Factors, and the Roles of HRD Professionals. *Advances in Developing Human Resources*, 23(3), 222–236. <https://doi.org/10.1177/15234223211017849>
- Pei, J., Wang, H., Peng, Q., & Liu, S. (2024). Saving face: Leveraging artificial intelligence-based negative feedback to enhance employee job performance. *Human Resource Management*, 63(5), 775–790. <https://doi.org/10.1002/hrm.22226>

- Pillai, R., Ghanghorkar, Y., Sivathanu, B., Algharabat, R., & Rana, N. P. (2024). Adoption of artificial intelligence (AI) based employee experience (EEX) chatbots. *Information Technology & People*, 37(1), 449–478. <https://doi.org/10.1108/ITP-04-2022-0287>
- Prentice, C., Dominique Lopes, S., & Wang, X. (2020). The impact of artificial intelligence and employee service quality on customer satisfaction and loyalty. *Journal of Hospitality Marketing & Management*, 29(7), 739–756.
- Prentice, C., Wong, I. A., & Lin, Z. (CJ). (2023). Artificial intelligence as a boundary-crossing object for employee engagement and performance. *Journal of Retailing and Consumer Services*, 73, 103376. <https://doi.org/10.1016/j.jretconser.2023.103376>
- Retnowati, P. A., & Darma, G. S. (2024). Dynamics of Worklife Balance, Workload, Job Stress, and Employee Performance. *Wiga: Jurnal Penelitian Ilmu Ekonomi*, 14(2), 260–273. <https://doi.org/10.30741/wiga.v14i2.1180>
- Sen, K., Prybutok, G., & Prybutok, V. (2022). The use of digital technology for social wellbeing reduces social isolation in older adults: A systematic review. *SSM - Population Health*, 17, 101020. <https://doi.org/10.1016/j.ssmph.2021.101020>
- Shaikh, F., Afshan, G., Anwar, R. S., Abbas, Z., & Chana, K. A. (2023). Analyzing the impact of artificial intelligence on employee productivity: the mediating effect of knowledge sharing and well-being. *Asia Pacific Journal of Human Resources*, 61(4), 794–820.
- Shaikh, S. J. (2023). Artificially Intelligent, Interactive, and Assistive Machines: A Definitional Framework for Intelligent Assistants. *International Journal of Human-Computer Interaction*, 39(4), 776–789. <https://doi.org/10.1080/10447318.2022.2049133>
- Soomro, S., Fan, M., Sohu, J. M., Soomro, S., & Shaikh, S. N. (2024). AI adoption: a bridge or a barrier? The moderating role of organizational support in the path toward employee well-being. *Kybernetes*. <https://doi.org/10.1108/K-07-2024-1889>
- Spătaru, B., Podină, I. R., Tulbure, B. T., & Maricuțoiu, L. P. (2024). A longitudinal examination of appraisal, coping, stress, and mental health in students: A cross-lagged panel network analysis. *Stress and Health*, 40(5). <https://doi.org/10.1002/smi.3450>
- Srivastava, A., & Maity, R. (2023). Assessing the Potential of AI-ML in Urban Climate Change Adaptation and Sustainable Development. *Sustainability*, 15(23), 16461. <https://doi.org/10.3390/su152316461>
- Sutomo, A. D., Nurhasanah, F., Marmoah, S., Sumardi, Saddhono, K., & Rahardjo, S. S. (2024). Adaptation of Change in the Learning System with the Use of Artificial Intelligence to Ensure Better Strategy. *2024 4th International Conference on Advanced Computing and Innovative Technologies in Engineering (ICACITE)*, 912–917. <https://doi.org/10.1109/ICACITE60783.2024.10616824>
- Tong, S., Jia, N., Luo, X., & Fang, Z. (2021). The Janus face of artificial intelligence feedback: Deployment versus disclosure effects on employee performance. *Strategic Management Journal*, 42(9), 1600–1631. <https://doi.org/https://doi.org/10.1002/smj.3322>
- Trenerry, B., Chng, S., Wang, Y., Suhaila, Z. S., Lim, S. S., Lu, H. Y., & Oh, P. H. (2021). Preparing Workplaces for Digital Transformation: An Integrative Review and Framework of Multi-Level Factors. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.620766>
- Tschang, F. T., & Almirall, E. (2021). Artificial Intelligence as Augmenting Automation: Implications for Employment. *Academy of Management Perspectives*, 35(4), 642–659. <https://doi.org/10.5465/amp.2019.0062>
- Vuong, T. D. N., & Nguyen, L. T. (2022). The Key Strategies for Measuring Employee Performance in Companies: A Systematic Review. *Sustainability*, 14(21), 14017. <https://doi.org/10.3390/su142114017>
- Wamba, T. S.-L., Fosso Wamba, S., Kala Kamdjoug, J. R., & Tchatchouang Wanko, C. E. (2020). Influence of artificial intelligence (AI) on firm performance: the business value of AI-based transformation projects. *Business Process Management Journal*, 26(7), 1893–1924. <https://doi.org/10.1108/BPMJ-10-2019-0411>
- Wijayati, D. T., Rahman, Z., Fahrullah, A., Rahman, M. F. W., Arifah, I. D. C., & Kautsar, A. (2022). A study of artificial intelligence on employee performance and work engagement:

the moderating role of change leadership. *International Journal of Manpower*, 43(2), 486–512. <https://doi.org/10.1108/IJM-07-2021-0423>

Wijayati, D. T., Rahman, Z., Arifah, I. D. C., Kautsar, A., & Rahman, M. F. W. (2022). A study of artificial intelligence on employee performance and work engagement: the moderating role of change leadership. *International Journal of Manpower*, 43(2), 486–512.

Zhou, Y., Wang, L., & Chen, W. (2023). The dark side of AI-enabled HRM on employees based on AI algorithmic features. *Journal of Organizational Change Management*, 36(7), 1222–1241. <https://doi.org/10.1108/JOCM-10-2022-0308>