

From Automation to Augmentation: Human–AI Collaboration and the Future of Human Resource Management in Service Industries

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Abstract

Artificial intelligence (AI) is transforming service industries by reshaping organizational processes, employee roles, and human resource management (HRM) practices. Although research on AI and HRM has grown rapidly in recent years, existing knowledge remains fragmented across different disciplinary and industry contexts. This study provides a systematic literature review of research on AI and HRM in service industries based on publications indexed in the Web of Science Core Collection. A total of 72 documents were analyzed to identify publication trends, leading research outlets, geographical distribution, and dominant thematic areas. The findings reveal five key research streams: AI awareness and employee attitudes, workforce development and digital competencies, employee well-being, AI-driven HRM practices, and human–AI collaboration for organizational transformation. The review highlights a shift from viewing AI primarily as an automation technology toward understanding it as a complementary capability that enhances human performance and supports digital transformation. Based on the findings, a future research agenda is proposed focusing on AI literacy, ethical AI governance, sustainable HRM, employee empowerment, and human–AI collaboration. The study contributes to the emerging literature by offering an integrated overview of current knowledge and identifying opportunities for developing human-centered AI strategies in tourism, hospitality, and other service organizations.

Keywords: Artificial Intelligence; Human Resource Management; Human–AI Collaboration; Digital Transformation; Service Industries; Tourism; Hospitality; AI Literacy; Employee Well-being.

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1. Introduction

Artificial intelligence (AI) has emerged as one of the most transformative technologies shaping contemporary organizations. Advances in machine learning, generative AI, predictive analytics, natural language processing, and intelligent automation are fundamentally changing how organizations operate, make decisions, and interact with employees and customers. While early discussions on AI focused primarily on automation and efficiency gains, recent research increasingly emphasizes the complementary relationship between human capabilities and intelligent technologies, highlighting the importance of human-centered approaches to digital transformation (Del Giudice et al., 2023; Korzynski et al., 2023).

Service industries, including tourism, hospitality, retail, and other customer-oriented sectors, have become particularly relevant contexts for AI adoption (Wei & Wei, 2025). Unlike manufacturing environments, service organizations rely heavily on human interaction, emotional intelligence, creativity, and relationship management. Consequently, the integration of AI into service organizations raises important questions regarding workforce adaptation, employee well-being, leadership, and the future role of human resource management (HRM). In hospitality and tourism, for example, AI-powered technologies such as service robots, chatbots, predictive systems, and intelligent customer-service platforms are increasingly being implemented to improve operational efficiency and service quality (Xu et al., 2020).

The growing presence of AI in workplaces is also generating profound changes in employees' perceptions, attitudes, and career development. Existing evidence suggests that AI awareness can significantly influence employees' career competencies, learning behaviors, and psychological outcomes. Kong et al. (2021) found that employees' awareness of AI technologies can affect both career competency development and job burnout, highlighting the complex and multidimensional consequences of digital transformation. Similarly, Kong et al. (2024) demonstrated that perceptions of AI influence career resilience and informal learning processes, suggesting that employees are increasingly required to develop adaptive capabilities to remain competitive in AI-enabled environments.

These developments place HRM at the center of organizational transformation. Traditionally, HRM has focused on recruitment, training, performance management, employee engagement, and talent development. However, the emergence of AI is expanding the strategic role of HRM by introducing new opportunities and challenges related to workforce analytics, intelligent recruitment systems, employee monitoring, digital skill development, and human-machine collaboration. Kim et al. (2021) argue that technological innovations are continuously reshaping HRM practices and creating new research opportunities regarding the interaction between technology and people management. Similarly, Prikshat et al. (2023) proposed the concept of AI-augmented HRM, emphasizing that AI should be viewed as a capability that enhances rather than replaces human contributions within organizations.

Recent studies have also explored the role of AI in fostering employee engagement and performance. Prentice et al. (2023) conceptualized AI as a boundary-crossing object capable of influencing employee engagement and organizational outcomes, while Del Giudice et al. (2023) advocated for a human-centered approach to AI acceptance, arguing that successful AI implementation depends not only on

technological characteristics but also on employees' perceptions, trust, and readiness to collaborate with intelligent systems. These findings suggest a gradual shift in the literature from an automation-oriented perspective toward a collaboration-oriented paradigm, where human and artificial intelligence are viewed as complementary rather than competing resources.

At the organizational level, AI adoption is increasingly associated with broader digital transformation strategies (Baquero et al., 2026). Trocin et al. (2021) demonstrated how AI enables digital innovation by supporting new forms of organizational learning, knowledge management, and value creation. In service organizations, these transformations are influencing leadership practices, organizational culture, and service delivery models. For instance, Xu et al. (2020) highlighted the potential of service robots to redefine leadership roles in hotel management, indicating that future managers will need to balance technological capabilities with human-centered leadership approaches.

Despite the rapid growth of research in this area, the existing literature remains fragmented across disciplines, industries, and theoretical perspectives. Studies have examined AI adoption, employee attitudes, workforce development, organizational innovation, service robotics, and HR analytics, yet a comprehensive understanding of how these streams converge within service industries is still lacking. Moreover, while bibliometric reviews have explored the broader intersection between AI and HRM, limited attention has been given to the specific challenges and opportunities emerging within service-oriented contexts, where human interaction remains a critical source of value creation.

To address this gap, this study conducts a systematic literature review of research on AI and HRM in service industries using publications indexed in the Web of Science Core Collection. Based on a sample of 72 documents, the study examines the evolution of the field, identifies dominant research themes, and proposes future research directions for human-centered digital transformation. In doing so, the article contributes to the growing discussion on Human–AI Collaboration by synthesizing current knowledge and highlighting how HRM can facilitate the development of synergistic relationships between employees and intelligent technologies.

Accordingly, the study addresses the following research questions:

RQ1. What are the dominant research themes linking artificial intelligence and human resource management in service industries?

RQ2. How is AI transforming workforce management, employee experiences, and organizational practices within service organizations?

RQ3. What future research directions can support effective Human–AI Collaboration and sustainable digital transformation in service industries?

2. Literature Review

2.1 Artificial Intelligence and Employee Attitudes

The integration of artificial intelligence into organizational environments has generated growing interest in understanding employees' perceptions, attitudes, and behavioral responses toward emerging technologies. As AI systems increasingly influence workplace processes, employees are required to adapt to new forms of interaction with intelligent technologies, creating both opportunities and challenges for organizations. Existing research suggests that employees' awareness and perceptions of

AI significantly influence their willingness to embrace technological change and their ability to remain competitive in digitally transformed workplaces.

Kong et al. (2021) found that AI awareness affects employees' career competencies and psychological outcomes, demonstrating that employees who perceive AI as an opportunity tend to develop stronger adaptive capabilities. Similarly, Del Giudice et al. (2023) emphasized that individual acceptance of AI depends on factors such as perceived usefulness, trust, and technological readiness. These findings suggest that successful AI implementation requires not only technological investments but also organizational efforts to foster positive employee attitudes toward AI-enabled work environments.

Furthermore, recent studies indicate that employees increasingly perceive AI as both a source of support and a potential threat. Concerns related to job displacement, technological uncertainty, and changing skill requirements coexist with expectations regarding enhanced productivity, learning opportunities, and improved decision-making. Consequently, understanding employee attitudes toward AI has become a critical issue for HRM scholars and practitioners.

2.2 Workforce Development and Digital Competencies

One of the most significant implications of AI adoption concerns workforce development and the acquisition of digital competencies. As AI technologies become embedded in organizational processes, employees are required to continuously update their knowledge and skills to remain effective contributors within AI-enabled workplaces.

Kong et al. (2024) demonstrated that employees' perceptions of AI positively influence career resilience and informal learning behaviors, highlighting the importance of lifelong learning in the digital era. Similarly, Prikshat et al. (2023) argued that AI-augmented HRM requires organizations to invest in employee reskilling and upskilling initiatives to ensure that workers can effectively collaborate with intelligent technologies.

The emergence of AI literacy has therefore become a central concept in contemporary HRM research. AI literacy refers to employees' ability to understand, evaluate, and effectively use AI technologies within professional contexts. Organizations that successfully develop AI literacy among their workforce are more likely to benefit from AI-driven innovation while minimizing employee resistance and technological anxiety.

2.3 Artificial Intelligence and Employee Well-Being

While AI offers substantial opportunities for improving efficiency and performance, its impact on employee well-being remains a subject of growing debate. The introduction of AI technologies can alter job roles, increase performance expectations, and create uncertainty regarding future career prospects.

Kong et al. (2021) identified a significant relationship between AI awareness and job burnout, suggesting that employees may experience psychological strain when adapting to rapidly changing technological environments. These findings indicate that organizations should carefully manage the human consequences of digital transformation to avoid negative outcomes such as stress, exhaustion, and reduced job satisfaction.

At the same time, AI can contribute positively to employee well-being by reducing repetitive tasks, supporting decision-making processes, and enabling employees to focus on more meaningful and creative activities. Consequently, the relationship between AI and employee well-being appears to be complex and highly dependent on organizational context, leadership support, and the availability of training and development opportunities.

2.4 AI-Driven Human Resource Management Practices

Artificial intelligence is increasingly transforming traditional HRM functions, including recruitment, selection, training, performance management, and talent development. Advances in data analytics and machine learning have enabled organizations to improve decision-making processes and enhance the effectiveness of HRM practices (Arslan et al., 2022).

Kim et al. (2021) highlighted how technological innovations have continuously reshaped HRM over the last six decades, creating new opportunities for data-driven workforce management. More recently, AI-powered recruitment systems have been used to identify suitable candidates, automate administrative tasks, and improve hiring efficiency. Similarly, predictive analytics tools are increasingly supporting talent management and workforce planning activities.

Prikshat et al. (2023) proposed a multilevel framework for AI-augmented HRM, emphasizing that AI should not be viewed solely as a replacement for human judgment but rather as a strategic capability that enhances managerial decision-making. This perspective aligns with emerging HRM approaches that seek to balance technological efficiency with human-centered management practices.

2.5 Human–AI Collaboration and Digital Transformation

A growing body of literature suggests that the future of work will be characterized by collaboration rather than competition between humans and intelligent technologies (Einola & Khoreva, 2023). This perspective represents a significant departure from earlier views that primarily associated AI with workforce replacement and automation.

Prentice et al. (2023) conceptualized AI as a boundary-crossing object capable of enhancing employee engagement and organizational performance through collaborative interactions. Similarly, Trocin et al. (2021) demonstrated how AI can facilitate digital innovation by supporting organizational learning and knowledge creation processes.

Within service industries, human–AI collaboration is particularly important because service quality often depends on empathy, emotional intelligence, and interpersonal communication. Xu et al. (2020) argued that service robots and AI systems are redefining leadership and managerial roles in hospitality organizations, requiring managers to develop new competencies for leading hybrid human–technology work environments.

These developments have contributed to the emergence of a human-centered perspective on digital transformation. Rather than focusing exclusively on automation, contemporary research increasingly emphasizes augmentation, where AI complements human capabilities and enables employees to achieve higher levels of performance, creativity, and service excellence. Consequently, Human–AI Collaboration has emerged as one of the most promising research areas at the intersection of AI, HRM, and service management.

3. Methodology

3.1 Research Design

This study adopts a systematic literature review (SLR) approach to synthesize existing knowledge on the intersection of artificial intelligence (AI), human resource management (HRM), and service industries. Systematic literature reviews provide a rigorous and transparent methodology for identifying, evaluating, and synthesizing existing research, enabling scholars to map the development of a field and identify future research opportunities.

Given the rapid growth of AI-related research in tourism, hospitality, and service organizations, an SLR was considered appropriate to consolidate fragmented knowledge and provide a comprehensive understanding of emerging trends in Human–AI Collaboration and digital transformation.

3.2 Data Collection

The literature search was conducted using the Web of Science (WoS) Core Collection, one of the most widely recognized and reliable academic databases for management, tourism, and hospitality research.

To identify relevant publications, the following search query was employed:

Topic Search (TS):

“artificial intelligence” AND “human resource management” AND (service OR tourism OR hospitality)

The search was performed in June 2026.

The initial search yielded 72 documents, representing the current body of knowledge at the intersection of AI, HRM, and service-oriented industries.

3.3 Inclusion and Exclusion Criteria

To ensure the relevance and quality of the sample, several inclusion criteria were applied:

- * Publications indexed in the Web of Science Core Collection.
- * Articles and review papers.
- * Publications written in English.
- * Studies focusing on artificial intelligence and human resource management within service-related contexts.
- * Studies published in peer-reviewed academic journals.

The following documents were excluded:

- * Editorials, book reviews, conference proceedings, and notes.
- * Publications unrelated to HRM issues.
- * Studies focusing exclusively on technical AI development without organizational or employee implications.

These criteria ensured that the final dataset captured the most relevant contributions addressing the human and managerial dimensions of AI adoption in service organizations.

3.4 Data Analysis

The analysis consisted of two complementary stages.

Descriptive Analysis

First, descriptive bibliometric indicators were examined to understand the evolution of the field. The analysis focused on:

- * Annual publication trends.
- * Leading journals.
- * Geographical distribution of publications.
- * Most influential studies based on citation counts.

This stage provided an overview of the development and maturity of the research domain.

Thematic Analysis

Second, a qualitative thematic analysis was conducted to identify the dominant research streams emerging from the selected studies.

Following an iterative review process, studies were categorized according to their primary research focus. This procedure enabled the identification of five major thematic areas:

1. AI awareness and employee attitudes.
2. Workforce development and digital competencies.
3. Employee well-being in AI-enabled workplaces.
4. AI-driven HRM practices.
5. Human–AI collaboration and digital transformation.

These themes represent the most frequently investigated topics within the literature and provide the foundation for understanding how AI is reshaping HRM in service industries.

3.5 Overview of the Dataset

The analysis revealed a rapidly growing body of literature. While only a limited number of studies were published before 2020, publication activity increased substantially from 2023 onwards, reflecting the growing organizational relevance of AI technologies and the emergence of generative AI applications.

The dataset also demonstrated strong geographical concentration. China emerged as the leading contributor, followed by the United States, the United Kingdom, Malaysia, Australia, and India. This distribution highlights the increasing global interest in AI-enabled HRM while also suggesting opportunities for broader geographical diversification in future research.

Regarding publication outlets, the most influential contributions were published in journals such as the **International Journal of Contemporary Hospitality Management**, **Journal of Hospitality and Tourism Technology**, **Human Resource Management**, **Tourism Review**, and **Technological Forecasting and Social Change**. The presence of both hospitality and management journals confirms the interdisciplinary nature of the field and underscores the growing importance of AI as a strategic issue for service organizations.

The results of the thematic analysis are presented in the following section.

4. Results

4.1 Publication Trends

The results reveal a rapidly expanding body of literature at the intersection of artificial intelligence (AI), human resource management (HRM), and service industries. Although early studies appeared sporadically before 2020, publication activity increased substantially after 2023, reflecting the growing organizational adoption of AI technologies and the emergence of generative AI applications.

The annual distribution of publications indicates a clear upward trajectory, with the highest number of studies published during 2024 and 2025. This trend suggests that AI has evolved from a peripheral technological issue to a strategic management concern within service organizations.

Table 1. Annual Distribution of Publication.

Year	Publications
2020	3
2021	8
2022	7
2023	8
2024	16
2025	17
2026*	9

*Source: Authors' elaboration. *Data collected in June 2026.*

The increasing volume of publications reflects growing academic interest in understanding how AI technologies affect workforce management, employee experiences, leadership, and organizational transformation in service environments.

4.2 Leading Journals and Geographical Distribution

The literature is distributed across a diverse range of journals in management, hospitality, tourism, and technology studies. Among the most influential publication outlets are the **International Journal of Contemporary Hospitality Management**, **Journal of Hospitality and Tourism Technology**, **Human Resource Management**, **Tourism Review**, and **Technological Forecasting and Social Change**.

The geographical distribution of publications demonstrates a strong concentration in Asia-Pacific economies. China emerged as the leading contributor, followed by the United States, the United Kingdom, Malaysia, Australia, and India.

Table 2. Most Productive Countries.

Country	Publications
China	20
United States	11
United Kingdom	8
Malaysia	7
Australia	5
India	5

Source: Authors' elaboration.

The dominance of Asian countries may reflect the region's rapid adoption of AI technologies and strong governmental support for digital transformation initiatives. However, this geographical concentration also highlights opportunities for future studies in underrepresented regions such as Latin America, Africa, and parts of Europe.

4.3 Influential Contributions

The citation analysis identified several highly influential studies shaping the development of this research field. The most cited article was Kong et al. (2021), which examined the influence of AI awareness on career competency and job burnout among hospitality employees. Other influential contributions focused on generative AI, employee engagement, AI acceptance, digital innovation, and AI-enabled organizational transformation.

Collectively, these studies have contributed to a shift in perspective from viewing AI primarily as a technological innovation toward understanding its implications for workforce management, employee development, and organizational effectiveness.

4.4 Emerging Research Themes

The thematic analysis revealed five dominant research streams that collectively define the current state of knowledge regarding AI and HRM in service industries.

4.4.1 AI Awareness and Employee Attitudes

The first research stream focuses on employees' perceptions, attitudes, and reactions toward AI technologies. Several studies emphasize the importance of AI awareness in shaping employees' willingness to adapt to technological change and develop new competencies (Kong et al., 2021).

Research in this area suggests that employee perceptions of AI can influence motivation, learning behaviors, technology acceptance, and organizational commitment. Positive perceptions are generally associated with greater adaptability and openness to innovation, whereas concerns regarding job displacement and technological uncertainty may create resistance to change.

The findings indicate that employee attitudes represent a critical factor influencing the success of AI implementation initiatives.

4.4.2 Workforce Development and Digital Competencies

A second major theme concerns workforce development and the acquisition of digital competencies. The literature consistently highlights the importance of reskilling and upskilling employees to ensure successful integration of AI technologies within service organizations.

Studies suggest that AI is creating new competency requirements, including data literacy, digital adaptability, problem-solving skills, and the ability to collaborate with intelligent systems. Employees increasingly need to engage in continuous learning processes to remain competitive in rapidly evolving work environments (Kong et al., 2024).

Consequently, workforce development has emerged as a strategic priority for organizations pursuing digital transformation initiatives.

4.4.3 Employee Well-Being in AI-Enabled Workplaces

The third research stream explores the implications of AI adoption for employee well-being. Existing studies present both positive and negative outcomes.

On the one hand, AI can reduce repetitive tasks, improve efficiency, and support decision-making processes. On the other hand, technological change may generate stress, uncertainty, and burnout among employees who perceive AI as a threat to their professional future (Kong et al., 2021).

The literature therefore suggests that organizations should adopt human-centered implementation strategies that balance technological innovation with employee support mechanisms, training opportunities, and effective communication practices.

4.4.4 AI-Driven Human Resource Management Practices

A fourth stream examines how AI is transforming traditional HRM functions. Research in this area investigates applications such as AI-powered recruitment, talent acquisition, performance management, workforce analytics, and employee development.

Studies indicate that AI technologies can improve decision-making quality, reduce administrative burdens, and enhance workforce planning capabilities (Kim et al., 2021). Nevertheless, concerns regarding algorithmic bias, transparency, and ethical decision-making continue to receive increasing attention (Bankins, 2021).

The literature increasingly advocates a balanced approach in which AI supports rather than replaces managerial judgment.

4.4.5 Human–AI Collaboration and Digital Transformation

The fifth and most rapidly emerging research stream focuses on Human–AI Collaboration. Rather than viewing AI as a substitute for human labor, recent studies conceptualize AI as a complementary capability that augments employee performance and facilitates organizational innovation (Prentice et al., 2023; Trocin et al., 2021).

This perspective is particularly relevant in service industries, where customer experiences often depend on empathy, interpersonal communication, and emotional intelligence. Research suggests that optimal outcomes are achieved when organizations combine technological efficiency with uniquely human capabilities.

As a result, Human–AI Collaboration has become a central concept for understanding how service organizations can achieve sustainable digital transformation while preserving the value of human expertise.

4.5 Summary of Findings

The results reveal that research on AI and HRM in service industries has evolved considerably over recent years. While early studies focused primarily on technology adoption and employee reactions, more recent contributions emphasize workforce development, employee well-being, ethical AI implementation, and collaborative human–machine systems.

Overall, the literature suggests a transition from an automation-centered perspective toward a human-centered paradigm in which AI serves as a strategic resource for enhancing rather than replacing human capabilities. This evolution provides the foundation for the discussion and future research agenda presented in the following sections.

5. Discussion

The findings of this review demonstrate that research on artificial intelligence (AI) and human resource management (HRM) in service industries has evolved considerably over the past few years. The rapid increase in publications since 2023 reflects not only technological advances but also growing recognition that AI is becoming a strategic organizational capability rather than merely a technological innovation. The literature reviewed suggests that service organizations are increasingly moving beyond questions of AI adoption toward broader concerns regarding workforce adaptation, employee well-being, organizational transformation, and Human–AI Collaboration (Vrontis et al., 2022).

One of the most significant findings of this review is the transition from an automation-centered perspective to an augmentation-centered perspective. Early discussions surrounding AI frequently emphasized automation, efficiency gains, and labor substitution. However, the more recent literature increasingly portrays AI as a complementary capability that can enhance human performance rather than replace human workers (Prikshat et al., 2023; Prentice et al., 2023). This shift is particularly important in service industries, where competitive advantage often depends on interpersonal relationships, empathy, creativity, and emotional intelligence—capabilities that remain difficult for AI systems to replicate effectively.

The results also highlight the growing importance of employee attitudes and perceptions toward AI. Studies consistently show that employees' awareness and understanding of AI significantly influence their willingness to embrace technological change and develop new competencies (Kong et al., 2021). These findings support the argument that successful digital transformation is not solely determined by technological investments but also by organizations' ability to create positive employee experiences during technological transitions. Resistance to AI often stems from uncertainty regarding future job roles, skill requirements, and career opportunities. Consequently, organizations must actively address employee concerns and promote a culture that views AI as an opportunity for growth rather than a threat.

Another important contribution emerging from the literature concerns workforce development and AI literacy. As organizations continue to adopt AI-enabled technologies, employees increasingly require new skills and competencies to work effectively alongside intelligent systems. The findings suggest that traditional training approaches may no longer be sufficient to prepare employees for rapidly evolving technological environments. Instead, organizations must adopt continuous learning strategies focused on digital competencies, adaptability, critical thinking, and problem-solving capabilities (Kong et al., 2024). In this context, AI literacy emerges as a strategic organizational resource capable of supporting both employee development and long-term organizational competitiveness.

The review further reveals that employee well-being remains one of the most debated topics within the literature. While AI can improve efficiency and reduce repetitive work, it may simultaneously generate stress, burnout, and technological anxiety among employees who perceive their roles as vulnerable to automation (Kong et al., 2021). These findings indicate that AI implementation should not be evaluated solely according to productivity outcomes. Instead, organizations should adopt human-centered implementation strategies that consider employee well-being, psychological safety, and organizational support mechanisms. Such approaches are likely to enhance employee acceptance and improve the sustainability of digital transformation initiatives.

The transformation of traditional HRM functions also emerges as a major theme within the reviewed literature. AI is increasingly influencing recruitment, selection, talent management, workforce analytics, and performance evaluation processes (Kim et al., 2021). These developments provide opportunities to improve efficiency and decision quality, yet they also introduce important ethical challenges. Concerns regarding algorithmic bias, transparency, fairness, privacy, and accountability have become increasingly prominent in recent years. Consequently, organizations must carefully balance the benefits of AI-driven decision-making with the need to maintain ethical standards and employee trust.

Perhaps the most important insight generated by this review is the emergence of Human–AI Collaboration as a dominant conceptual framework for understanding the future of work in service industries. Rather than framing AI as a substitute for human labor, recent studies emphasize the creation of hybrid systems in which human and artificial intelligence contribute complementary strengths (Trocin et al., 2021; Prentice et al., 2023). In hospitality, tourism, and other service sectors, AI technologies can support operational efficiency, data analysis, and routine decision-making, while employees continue to provide emotional intelligence, relationship management, creativity, and personalized service experiences.

This finding aligns closely with Sociotechnical Systems Theory (Trist & Bamforth, 1951), which argues that organizational performance is maximized when social and technical systems are jointly optimized. From this perspective, successful AI implementation requires organizations to design work systems that integrate technological capabilities with human expertise rather than prioritizing one at the expense of the other. The reviewed literature increasingly supports this human-centered perspective, suggesting that the future of service industries will depend on organizations' ability to develop effective Human–AI Synergy.

Finally, the geographical distribution of research reveals a strong concentration of studies in Asia-Pacific countries, particularly China. While this reflects the region's rapid adoption of AI technologies and investment in digital transformation, it also highlights a significant research gap. Future studies should examine how cultural, institutional, and economic factors influence AI adoption and Human–AI Collaboration across different regions. Greater geographical diversity would improve the generalizability of existing findings and contribute to a more comprehensive understanding of AI-enabled HRM practices.

Overall, the evidence reviewed suggests that the future of HRM in service industries will be shaped not by the replacement of employees through automation, but by organizations' capacity to create collaborative environments where human and artificial intelligence work together to generate value. This shift from automation to augmentation represents one of the most important developments in

contemporary HRM research and provides the foundation for the future research agenda proposed in the following section.

6. Future Research Agenda

The rapid development of artificial intelligence (AI) technologies is creating new opportunities and challenges for human resource management (HRM) in service industries. Although the existing literature has expanded considerably in recent years, several important gaps remain insufficiently explored. Based on the findings of this review, five priority research directions are proposed to advance knowledge on Human–AI Collaboration and digital transformation.

6.1 Advancing Research on AI Literacy and Workforce Readiness

One of the most promising research areas concerns AI literacy and workforce readiness. While existing studies emphasize the importance of digital competencies, limited evidence exists regarding the specific skills employees require to work effectively alongside AI systems. Future research should investigate the development of AI literacy across different employee groups, organizational levels, and service contexts.

Longitudinal studies would be particularly valuable for examining how AI literacy evolves over time and how it influences employee adaptability, performance, and career development. Researchers should also explore the effectiveness of different training approaches, including experiential learning, digital mentoring, and AI-assisted learning systems.

6.2 Understanding Employee Well-Being in AI-Enabled Workplaces

The relationship between AI adoption and employee well-being remains underexplored and presents conflicting findings. While some studies suggest that AI can reduce workload and improve job performance, others highlight concerns regarding job insecurity, technological anxiety, and burnout.

Future studies should investigate the psychological mechanisms through which AI influences employee well-being. Particular attention should be given to variables such as organizational support, leadership style, employee resilience, and perceived employability. Comparative studies across industries and countries could provide valuable insights into how contextual factors shape employee responses to AI-driven transformation.

6.3 Developing Human–AI Collaboration Models

The findings of this review suggest that Human–AI Collaboration is emerging as the dominant paradigm for future service organizations. However, empirical evidence explaining how human employees and AI systems interact in practice remains limited.

Future research should move beyond technology adoption models and focus on collaborative work systems. Questions such as how employees allocate tasks between themselves and AI systems, how trust develops in Human–AI relationships, and how collaborative performance can be measured deserve greater attention.

Quantitative studies using structural equation modeling, longitudinal designs, and multi-level analyses could contribute significantly to understanding the mechanisms underlying successful Human–AI Collaboration.

6.4 Ethical AI and Responsible Human Resource Management

As AI increasingly influences HRM decisions, ethical considerations are becoming a critical research priority. Existing studies have raised concerns regarding algorithmic bias, privacy, transparency, explainability, and accountability, yet empirical evidence remains fragmented (Budhwar et al., 2023).

Future research should investigate how organizations can design ethical AI governance frameworks that balance technological efficiency with fairness and employee rights (Rivelles, 2026). Particular attention should be given to recruitment systems, performance evaluation algorithms, workforce analytics, and employee monitoring technologies.

Researchers should also examine employee perceptions of ethical AI practices and their influence on trust, organizational commitment, and technology acceptance.

6.5 Sustainable HRM and Human-Centered Digital Transformation

The intersection between AI, sustainability, and HRM represents one of the most underdeveloped areas within the current literature. While digital transformation is often discussed from an efficiency perspective, less attention has been paid to its long-term social and organizational sustainability implications.

Future studies should explore how AI can support sustainable HRM practices, employee empowerment, diversity and inclusion initiatives, and responsible organizational development. The integration of AI with Environmental, Social, and Governance (ESG) frameworks also represents a promising avenue for future research.

In service industries such as tourism and hospitality, where human interaction remains central to value creation, understanding how AI can enhance rather than diminish human capabilities will be essential for achieving sustainable digital transformation.

6.6 Proposed Future Research Agenda

Table 3 summarizes the principal research gaps identified in the literature and proposes future directions for scholarly inquiry.

Table 3. Future Research Agenda.

Research Theme	Current Gap	Future Research Opportunities
AI Literacy	Limited longitudinal evidence	Examine competency development and training effectiveness over time
Employee Well-Being	Contradictory findings regarding AI impacts	Investigate psychological mechanisms and moderating variables
Human-AI Collaboration	Limited empirical evidence	Develop and test collaborative work models
Ethical AI	Lack of governance frameworks	Explore fairness, transparency, and accountability mechanisms
Sustainable HRM	Emerging research area	Integrate AI, ESG, and sustainable workforce management

Source: Authors' elaboration.

Overall, the future of HRM research in service industries should move beyond technology adoption and focus increasingly on the design of human-centered systems in which AI and employees jointly contribute to organizational performance. The emerging concept of Human–AI Synergy offers a particularly promising framework for understanding how organizations can achieve sustainable digital transformation while preserving the unique value of human capabilities.

7. Practical Implications

The findings of this review offer important implications for human resource managers, organizational leaders, service organizations, and policymakers seeking to successfully navigate AI-driven transformation. As artificial intelligence becomes increasingly embedded within service industries, organizations must recognize that technological implementation alone is insufficient to achieve sustainable competitive advantage. Instead, successful transformation requires a strategic approach that integrates technological innovation with human capability development.

7.1 Implications for Human Resource Managers

Human resource managers play a critical role in facilitating the transition toward AI-enabled workplaces (Malik et al., 2023). The findings suggest that organizations should prioritize workforce development initiatives focused on AI literacy, digital competencies, and continuous learning. Employees must be equipped not only with technical knowledge but also with the adaptability and critical thinking skills necessary to collaborate effectively with intelligent systems.

HR managers should also proactively address employee concerns regarding job displacement and technological uncertainty. Transparent communication, training opportunities, and career development programs can help reduce resistance to change and foster a more positive perception of AI adoption. Furthermore, HR departments should regularly assess employee well-being during digital transformation processes to minimize stress, burnout, and technology-related anxiety.

7.2 Implications for Organizational Leaders

Organizational leaders must move beyond viewing AI as a cost-reduction tool and instead recognize its potential as a strategic capability that complements human expertise. The findings indicate that

organizations achieve greater value when AI is used to augment rather than replace employee capabilities.

Leaders should therefore promote a culture of innovation, learning, and experimentation that encourages employees to engage with AI technologies. In addition, leadership styles that emphasize trust, collaboration, and employee empowerment are likely to facilitate more successful AI implementation initiatives. Human-centered leadership will become increasingly important as organizations seek to balance technological efficiency with employee engagement and organizational sustainability.

7.3 Implications for Tourism and Hospitality Organizations

For tourism and hospitality organizations, the findings are particularly relevant because service quality depends heavily on human interaction and customer experience. While AI technologies such as chatbots, service robots, predictive analytics systems, and virtual assistants can improve operational efficiency, they cannot fully replace the empathy, emotional intelligence, and personalized attention provided by employees.

Managers in tourism and hospitality should therefore adopt hybrid service models that combine the strengths of AI technologies with human capabilities. AI can be used to automate routine processes, support decision-making, and enhance operational performance, while employees focus on creating memorable customer experiences and managing complex interpersonal interactions.

Such an approach can improve both organizational efficiency and customer satisfaction while preserving the human dimension that remains fundamental to service excellence.

7.4 Implications for Ethical and Responsible AI Adoption

The increasing use of AI in HRM processes raises important ethical considerations that organizations cannot ignore. Recruitment algorithms, workforce analytics systems, employee monitoring tools, and performance evaluation technologies must be implemented responsibly to ensure fairness, transparency, and accountability (Taslim et al., 2025).

Organizations should establish clear governance mechanisms to oversee AI-based decision-making processes and regularly evaluate potential biases within AI systems. Employees should also be informed about how AI technologies are used and how algorithmic decisions may affect their work and career development.

Building employee trust in AI systems will be essential for achieving long-term acceptance and maximizing the benefits of technological innovation.

7.5 Implications for Policymakers

Policymakers have an important role in supporting the development of responsible AI ecosystems within service industries. Regulatory frameworks should encourage innovation while simultaneously protecting employee rights, privacy, and workplace fairness.

Public institutions can contribute by promoting AI education, supporting workforce reskilling initiatives, and encouraging collaboration between academia, industry, and government. Such efforts

can help organizations address future skill shortages and ensure that AI-driven transformation generates both economic and social benefits.

Overall, the findings suggest that the future success of AI implementation in service industries will depend less on technological sophistication and more on organizations' ability to create collaborative environments where human and artificial intelligence work together effectively. Human-centered HRM practices, ethical governance, and continuous workforce development will therefore become critical drivers of sustainable digital transformation.

8. Conclusions

Artificial intelligence (AI) is rapidly transforming service industries, creating new opportunities and challenges for organizations, employees, and human resource management (HRM) professionals. As AI technologies become increasingly integrated into organizational processes, understanding their implications for workforce management and organizational performance has become a critical research priority. This study sought to contribute to this growing body of knowledge by conducting a systematic literature review of research addressing the intersection of AI, HRM, and service industries.

Based on the analysis of 72 publications indexed in the Web of Science Core Collection, the findings reveal a rapidly expanding field characterized by increasing scholarly attention since 2023. The review identified five dominant research streams: AI awareness and employee attitudes, workforce development and digital competencies, employee well-being, AI-driven HRM practices, and Human–AI Collaboration. Together, these themes provide a comprehensive overview of how AI is influencing both organizational processes and employee experiences within service organizations.

One of the most important findings of this study is the evolution of the literature from an automation-oriented perspective toward a collaboration-oriented perspective. While early discussions frequently focused on efficiency gains and workforce substitution, contemporary research increasingly recognizes AI as a complementary capability that can augment human performance and support organizational innovation. This shift is particularly relevant in service industries, where value creation depends heavily on human interaction, empathy, creativity, and relationship management (Baquero, 2024). The findings suggest that organizations are likely to achieve greater benefits when AI is used to enhance rather than replace human capabilities.

The review also highlights the growing strategic importance of workforce development and AI literacy. As organizations adopt increasingly sophisticated AI technologies, employees require new competencies to effectively collaborate with intelligent systems. Consequently, continuous learning, reskilling, and upskilling initiatives are becoming essential components of modern HRM strategies. Organizations that invest in developing employee readiness for AI-enabled workplaces are likely to be better positioned to achieve successful digital transformation outcomes.

At the same time, the literature demonstrates that AI adoption is not without challenges. Concerns regarding employee well-being, technological anxiety, job insecurity, privacy, algorithmic bias, and ethical decision-making remain significant issues requiring managerial attention. The findings indicate that successful AI implementation depends not only on technological capabilities but also on

organizations' ability to create supportive, transparent, and human-centered work environments. Ethical governance mechanisms and responsible HRM practices will therefore play an increasingly important role in shaping the future of AI-enabled organizations.

This study contributes to the literature in several ways. First, it provides an integrated overview of existing research at the intersection of AI, HRM, and service industries. Second, it identifies the principal themes that currently define the field and synthesizes fragmented knowledge into a coherent framework. Third, it proposes a future research agenda that highlights emerging opportunities related to AI literacy, Human–AI Collaboration, ethical AI governance, employee well-being, and sustainable HRM. In doing so, the study responds directly to growing calls for research examining how organizations can achieve digital transformation while preserving the central role of human capabilities.

Despite these contributions, several limitations should be acknowledged. First, the review was based exclusively on publications indexed in the Web of Science Core Collection. Although this database is widely recognized for its quality and coverage, relevant studies indexed in Scopus, Google Scholar, or other academic databases may not have been included. Second, the review focused on English-language publications, potentially excluding valuable contributions published in other languages. Third, the rapidly evolving nature of AI research means that new developments may emerge shortly after the completion of the review.

Future research should therefore continue to explore the dynamics of Human–AI Collaboration across different organizational and cultural contexts. Comparative international studies, longitudinal research designs, and empirical investigations of AI-enabled workplaces could provide valuable insights into the long-term consequences of AI adoption. Additionally, greater attention should be devoted to understanding how organizations can integrate AI technologies within broader sustainability, diversity, and employee empowerment strategies.

In conclusion, the future of service industries will not be determined by the extent to which organizations automate human work, but rather by their ability to create effective Human–AI Collaboration systems that combine technological capabilities with uniquely human strengths. Organizations that successfully achieve this balance are likely to be better positioned to enhance employee performance, improve service quality, and sustain competitive advantage in an increasingly digital world.

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