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The Role of Artificial Intelligence and HR Analytics in Enhancing Strategic Human Resource Decision-Making

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ABSTRACT

Purpose: This study aims to systematically analyze the roles of Artificial Intelligence (AI) and HR Analytics in enhancing strategic human resource decision-making, focusing on their integration, impact, and implementation challenges.

Research Method: This research employs a Systematic Literature Review (SLR) to analyze peer-reviewed journal articles on AI, HR Analytics, and strategic HR decision-making. Relevant studies were identified, screened, and synthesized to ensure a structured and comprehensive evaluation.

Results and Discussion: The findings indicate that AI and HR Analytics significantly enhance decision quality, speed, and predictive accuracy, enabling a shift from reactive to proactive decision-making. HR Analytics plays a mediating role in transforming workforce data into actionable insights. However, the impact varies depending on organizational readiness, data quality, and analytical capability. Key challenges include data integration, skill gaps, and ethical concerns such as algorithmic bias and transparency.

Implications: This study provides theoretical contributions by offering an integrated framework linking AI, HR Analytics, and strategic decision-making. Practically, organizations should strengthen data governance, analytical capabilities, and leadership support to maximize the benefits of AI-driven HR systems.

Originality: This study offers originality by integrating AI and HR Analytics into a unified framework that explains how both technologies support strategic human resource decision-making while addressing organizational and ethical implementation challenges.

Keywords: artificial intelligence; HR analytics; strategic decision-making; human resource management; data-driven organization.

1. Introduction

The rapid advancement of digital technologies has significantly reshaped human resource management (HRM), particularly through the integration of Artificial Intelligence (AI) and HR Analytics into organizational decision-making processes. In today's data-driven environment, organizations are increasingly required to leverage workforce data to enhance strategic decision-making and maintain competitive advantage (Davenport et al., 2020; Marler & Boudreau, 2017). AI enables the processing of large and complex datasets to generate predictive insights, while HR Analytics provides a systematic approach to transforming employee data into actionable knowledge (Minbaeva, 2018; Tursunbayeva et al., 2018). Despite this potential, evidence suggests that although more than 70% of large organizations

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have invested in HR Analytics, fewer than 20% have achieved advanced analytical capabilities, such as predictive or prescriptive analytics (Davenport et al., 2020). This indicates a critical gap between technological adoption and strategic utilization. As a result, while AI and HR Analytics are increasingly positioned as strategic enablers, their actual contribution to improving the quality of strategic HR decision-making remains uncertain and warrants further investigation.

Despite substantial investments in data and analytics, many organizations continue to struggle in effectively integrating AI and HR Analytics into strategic decision-making processes. Existing studies show that most organizations remain at the descriptive level of analytics, focusing on historical reporting rather than generating forward-looking insights for strategic planning (Angrave et al., 2016; Margherita, 2022). Although large volumes of employee data are collected, only a limited portion is utilized to inform high-level decisions, highlighting a persistent underutilization of analytical capabilities. This issue is further exacerbated by organizational constraints, including limited analytical competencies, weak data governance, and resistance to data-driven cultures (Minbaeva, 2018). Additionally, concerns related to data quality, ethical risks, and algorithmic bias complicate the implementation of AI in HR contexts. These challenges collectively underscore a central problem: the gap between the potential of AI and HR Analytics and their actual impact on strategic HR decision-making.

Recent studies provide robust evidence regarding the role of Artificial Intelligence (AI) and HR analytics in enhancing strategic human resource decision-making and organizational outcomes. Malik et al. (2023), through a systematic review of 67 peer-reviewed articles, developed a comprehensive framework for AI-assisted HRM, highlighting its impact on both organizational performance and employee-related outcomes. Similarly, Vudugula et al. (2023), analyzing 105 studies published between 2018 and 2023, demonstrated that AI-driven predictive models significantly improve the accuracy of strategic forecasting and facilitate a shift from reactive to proactive decision-making. Budhwar et al. (2022) further emphasized AI's critical role in optimizing decision-making processes and resource allocation across international HRM functions. Complementing these findings, Kiran et al. (2022) empirically confirmed that HR analytics serves as a mediating mechanism linking human capital management practices to enhanced organizational performance.

Despite these benefits, the literature consistently identifies several constraints that limit the full realization of AI and HR analytics. Bedad et al. (2026), in a meta-analysis of 85 studies, reported a small-to-moderate effect size ($r = 0.28$, $I^2 = 74\%$), indicating that while the impact is positive, it remains context-dependent. Additional evidence from Ashrafuzzaman et al. (2024) and Taslim et al. (2025) highlights improvements in recruitment efficiency and employee engagement. However, persistent challenges such as algorithmic opacity, data privacy concerns, and risks of systemic bias remain significant barriers (Asif et al., 2025; Sanjai Vudugula et al., 2023). Moreover, successful implementation requires not only technological investment but also leadership commitment, workforce upskilling, and organizational cultural readiness (Mohamed et al., 2025).

Despite the expanding literature on Artificial Intelligence (AI) and HR analytics in human resource management, several important research gaps remain from both empirical and theoretical perspectives. First, most existing studies examine AI and HR analytics independently, with limited integration into a comprehensive framework that explains their joint impact on strategic decision-making. While prior research highlights the potential of AI-driven systems to improve decision quality (Malik et al., 2023; Vudugula et al., 2023), these studies often emphasize technological capabilities rather than clarifying the mechanisms through which such technologies influence strategic outcomes.

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Furthermore, empirical findings remain inconsistent and context-dependent, as reflected in the modest effect sizes reported by Bedad et al. (2026), suggesting that organizational factors significantly shape these tools' effectiveness. Second, there is a lack of robust theoretical models that link technological adoption to organizational, human, and ethical dimensions. Many studies focus primarily on performance improvements, such as efficiency and recruitment outcomes (Taslim et al., 2025; Ashrafuzzaman et al., 2024), while underexamining mediating factors such as organizational culture, leadership readiness, and data governance. Additionally, challenges such as algorithmic opacity, bias, and privacy concerns (Vudugula et al., 2023; Asif et al., 2025) are rarely integrated into a unified framework, indicating the need for a more holistic synthesis of existing evidence.

Building on the identified gaps, this study offers a significant contribution by providing a comprehensive, integrative synthesis of the roles of Artificial Intelligence (AI) and HR analytics in strategic human resource decision-making. Unlike prior studies that examine these constructs in isolation, this research develops a unified conceptual framework that explains how AI and HR analytics jointly influence decision quality through interconnected technological, organizational, and human dimensions. The novelty of this study lies in its systematic integration of empirical findings with critical factors such as data governance, leadership readiness, organizational culture, and ethical considerations, including algorithmic transparency and bias. Furthermore, this study advances the existing literature by moving beyond outcome-based analysis to a process-oriented perspective, clarifying the mechanisms by which data-driven insights are transformed into strategic decisions. Accordingly, the primary objective of this systematic literature review is to critically analyze and synthesize existing research to (1) identify key trends and patterns in the adoption of AI and HR analytics, (2) examine their combined impact on strategic HR decision-making, and (3) develop a comprehensive framework that outlines the enabling factors and constraints influencing their effective implementation in organizational contexts.

The remainder of this paper is organized as follows. Section 2 provides a literature review and hypothesis development. Section 3 presents the research method and design. Section 4 provides a discussion. Section 5 is Concluding Remarks and Recommendations.

2. Literature Review and Hypothesis Development

2.1 Artificial Intelligence in Human Resource Management

Artificial Intelligence (AI) has become a central component in the evolution of Human Resource Management (HRM), enabling organizations to transform traditional HR functions into more data-driven and strategic processes. AI refers to computational systems capable of performing tasks that typically require human intelligence, such as learning, reasoning, and decision-making, through technologies like machine learning, natural language processing, and predictive analytics. In the HR context, AI is increasingly applied across core functions, including recruitment, employee selection, performance management, and workforce planning (Davenport et al., 2020; Jarrahi, 2018). Existing literature highlights that AI enhances efficiency and accuracy by automating repetitive tasks and improving decision quality through data-driven insights. Furthermore, AI enables organizations to process large-scale and complex datasets, uncover hidden patterns, and generate predictive models that support proactive HR strategies (Minbaeva, 2018). As a result, AI is not only positioned as a

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technological innovation but also as a strategic enabler that strengthens HR's role in achieving organizational objectives.

Despite these advantages, the literature also reveals several limitations and challenges associated with implementing AI in HRM. Prior studies indicate that while AI improves operational efficiency, its impact on strategic decision-making remains uneven and highly context-dependent (Angrave et al., 2016; Margherita, 2022). One critical concern is the "black box" nature of AI systems, which reduces transparency and may undermine managerial trust in algorithm-driven decisions (Jarrahi, 2018). Additionally, issues related to algorithmic bias, data privacy, and ethical risks present significant barriers to widespread adoption (Davenport et al., 2020). Moreover, many organizations lack the necessary analytical capabilities and organizational readiness to fully leverage AI technologies, resulting in underutilization of their strategic potential (Minbaeva, 2018). These limitations suggest that, while AI holds substantial promise for enhancing HRM, further research is needed to critically examine how its integration can effectively support strategic human resource decision-making across diverse organizational contexts.

2.2 HR Analytics (People Analytics)

Human Resource Analytics (HR Analytics), also known as People Analytics, has increasingly become a strategic capability in modern organizations by enabling data-driven human resource management practices. HR Analytics refers to the systematic use of data, statistical analysis, and predictive modeling to support HR-related decision-making and improve organizational outcomes (Hamilton & Sodeman, 2020; Margherita, 2022). Recent developments highlight a shift from traditional descriptive analytics toward more advanced predictive and prescriptive approaches, allowing organizations to anticipate workforce trends and optimize strategic decisions. Empirical evidence suggests that HR Analytics enhances key HR functions, including talent acquisition, employee retention, and performance management, by providing actionable insights from large-scale workforce data (Falletta & Combs, 2020). Furthermore, HR Analytics helps align HR strategies with business objectives, reinforcing HR's strategic role in achieving competitive advantage.

Despite its potential, the literature reveals persistent challenges and inconsistencies in the effective implementation of HR Analytics. While recent studies emphasize its positive impact on decision-making and organizational performance, others argue that many organizations struggle to move beyond basic analytical applications due to limited analytical capabilities and a lack of organizational readiness (Hamilton & Sodeman, 2020; Margherita, 2022). Additionally, there is growing concern about the "value gap," in which organizations collect extensive HR data but fail to translate it into meaningful strategic insights (Falletta & Combs, 2020). Contextual factors such as data quality, technological infrastructure, and organizational culture play a critical role in determining the effectiveness of HR Analytics adoption. These limitations indicate the need for more integrative research that not only examines outcomes but also explains how HR Analytics can be embedded into strategic decision-making processes within organizations.

2.3 Strategic Human Resource Decision-Making

Strategic Human Resource Decision-Making refers to high-impact, long-term workforce-management decisions that align with organizational strategy and support competitive advantage. In recent literature,

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this concept is increasingly associated with evidence-based management, which emphasizes integrating multiple sources of evidence, such as scientific research, organizational data, and professional expertise, to improve decision quality (HakemZadeh & Rousseau, 2024). This approach reflects a shift from intuition-based decision-making toward more systematic and data-driven processes. Empirical studies indicate that organizations adopting evidence-based HR practices are better able to improve decision accuracy, reduce bias, and enhance organizational performance. Furthermore, strategic HR decisions, including workforce planning, talent management, and leadership development, are considered essential in shaping organizational adaptability and long-term sustainability in dynamic business environments.

However, the implementation of strategic HR decision-making remains inconsistent across organizations. Recent studies show that although the importance of data-driven decision-making is widely recognized, many organizations still face challenges in integrating analytics into strategic processes due to limited analytical capabilities, fragmented data systems, and insufficient organizational readiness (Cascio, 2019; Fernandez & Gallardo-Gallardo, 2020). In addition, cognitive biases and reliance on managerial intuition continue to influence decision-making processes even in data-rich environments. Another limitation lies in the lack of integration of contextual factors such as organizational culture, leadership commitment, and ethical governance, which are critical for effective decision-making. These issues suggest that while the concept of strategic HR decision-making has advanced significantly, its practical implementation remains underdeveloped and requires a more integrated approach that combines analytics, technology, and organizational capabilities.

2.4 Integration of AI and HR Analytics in Decision-Making

The integration of Artificial Intelligence (AI) and HR Analytics represents a significant advancement in enhancing decision-making processes within human resource management. This integration enables organizations to move beyond traditional data analysis toward intelligent, data-driven systems capable of generating predictive and prescriptive insights. AI strengthens HR Analytics by automating complex data processing, improving pattern recognition, and enabling real-time decision support (Borges et al., 2021). Recent studies indicate that AI-driven analytics systems facilitate more accurate workforce forecasting, talent identification, and strategic planning by transforming large-scale HR data into actionable insights Chowdhury et al. (2023) Furthermore, the integration of AI and analytics supports the development of data-driven organizational capabilities, allowing firms to enhance decision quality, reduce uncertainty, and respond more effectively to dynamic business environments (Verma et al., 2021). As such, the convergence of AI and HR Analytics is increasingly recognized as a key enabler of strategic human resource decision-making.

However, despite its potential, the literature highlights several challenges and limitations in integrating AI and HR Analytics. While some studies emphasize improved decision efficiency and accuracy, others highlight issues related to system complexity, data integration, and organizational readiness (Kamalaldin et al., 2020). In addition, the effectiveness of AI-driven decision-making depends heavily on the quality and accessibility of data, as well as the organization's ability to interpret analytical outputs meaningfully (Jatobá et al., 2019). Ethical concerns, including algorithmic bias, lack of transparency, and accountability issues, further complicate the adoption of AI in HR decision-making processes (Floridi et al., 2018). Moreover, current research remains fragmented, often focusing on either technological aspects or HR outcomes, without providing a comprehensive framework explaining how

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AI and HR Analytics jointly influence strategic decision-making. This indicates a need for integrative research that bridges technological capabilities with organizational and human factors.

3. Research Method

This study adopts a Systematic Literature Review (SLR) design to synthesize and critically evaluate existing research on the role of Artificial Intelligence (AI) and HR Analytics in enhancing strategic human resource decision-making. The SLR approach is appropriate as it enables a structured, transparent, and replicable process for identifying, selecting, and analyzing relevant studies. This research follows a systematic procedure consisting of problem formulation, literature search, screening, and synthesis to ensure methodological rigor. The study is grounded in the need to address inconsistencies and fragmentation in the prior literature, as highlighted by previous findings.

The population of this study comprises peer-reviewed academic articles on AI, HR Analytics, and strategic HR decision-making. The sample includes studies published in reputable international journals indexed in Scopus, Web of Science, and Google Scholar. Inclusion criteria include articles published within the last ten years, written in English, and directly relevant to the research topic. Exclusion criteria consist of non-peer-reviewed publications, duplicate studies, and articles that do not provide empirical or conceptual contributions to the field.

Data were collected through a structured literature search using predefined keywords such as "Artificial Intelligence in HRM," "HR Analytics," and "strategic HR decision-making." Boolean operators were applied to refine the search results and ensure relevance. The selection process involved several stages, including identification, screening, eligibility assessment, and final inclusion. A data extraction form was developed to systematically record key information from each selected study, including authors, publication year, research design, variables, and main findings.

The data were analyzed using qualitative content analysis and thematic synthesis. The selected studies were categorized into key themes, including technological integration, decision-making processes, organizational outcomes, and implementation challenges. This analytical approach allows for the identification of patterns, inconsistencies, and research gaps, thereby supporting the development of a comprehensive and integrative conceptual framework.

4. Results and Discussion

4.1 Analysis Results

4.1.1 Trends and Evolution of AI and HR Analytics in HRM

The findings of this study indicate a significant evolution in the application of Artificial Intelligence (AI) and HR Analytics within Human Resource Management (HRM). Early research primarily focused on using technology to enhance administrative efficiency, particularly by automating routine HR tasks such as payroll processing, employee record management, and basic reporting. However, over time, there has been a clear transition toward more strategic and data-driven applications. Recent studies emphasize the growing use of predictive and prescriptive analytics to support complex HR functions, including talent acquisition, performance management, employee retention, and workforce planning. This shift reflects a broader transformation in HRM from a traditionally administrative function to a strategic partner in organizational decision-making (Davenport et al., 2020; Marler & Boudreau, 2017).

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The increasing volume and availability of workforce data have expanded HR Analytics capabilities, enabling organizations to generate deeper insights and support long-term strategic decisions. Despite this progress, the literature also highlights a persistent gap between adoption and effective utilization. While many organizations have invested in HR Analytics systems, only a limited number have achieved advanced analytical maturity, particularly in predictive and prescriptive applications (Davenport et al., 2020). Additionally, research trends show that earlier studies relied heavily on descriptive methodologies, whereas recent studies increasingly employ empirical and systematic approaches, indicating a maturing field of study (Margherita, 2022).

4.1.2 Forms of Integration between AI and HR Analytics

The analysis of the literature reveals that the integration of AI and HR Analytics occurs in multiple forms, reflecting varying levels of technological and organizational maturity. At a fundamental level, AI enhances HR Analytics by automating complex data-processing tasks, enabling faster, more accurate analysis of large-scale workforce data. This automation allows organizations to move beyond traditional data analysis toward more sophisticated analytical capabilities, including pattern recognition and real-time decision support (Borges et al., 2021). In this context, AI serves as a critical enabler, enhancing the analytical capabilities of HR systems.

The integration is evident in the development of AI-driven predictive analytics, which allows organizations to forecast employee behavior, identify high-potential talent, and anticipate workforce challenges. AI-powered decision support systems also play a key role in helping managers make informed, data-driven decisions. However, the level of integration varies significantly across organizations. Some organizations utilize AI and HR Analytics primarily for operational purposes, such as recruitment screening or performance tracking, while others implement more advanced systems that support strategic decision-making processes (Chowdhury et al., 2023). Despite these advancements, the literature indicates a lack of standardized models or frameworks that comprehensively explain how AI and HR Analytics should be integrated. Existing studies tend to focus on either technological aspects or HR outcomes, resulting in fragmented insights (Verma et al., 2021).

4.1.3 Impact on Strategic HR Decision-Making

The integration of AI and HR Analytics has a substantial impact on strategic human resource decision-making, particularly in improving decision quality, speed, and predictive accuracy. The literature consistently shows that organizations utilizing AI-driven analytics are better equipped to make informed decisions based on objective data rather than intuition. This enhances decision quality by reducing bias and increasing the reliability of outcomes. Additionally, AI enables faster processing of large datasets, allowing organizations to respond more quickly to changing workforce conditions and business environments (Vudugula et al., 2023).

Another significant impact is improved predictive accuracy, as AI-driven models can identify patterns and trends that are not easily detectable with traditional analytical methods. This capability supports a shift from reactive decision-making, which focuses on past events, toward proactive and predictive approaches that anticipate future challenges and opportunities. In some cases, organizations are also moving toward prescriptive decision-making, where AI systems provide recommendations for

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optimal actions. This transformation enhances HR's strategic role by enabling more forward-looking, data-driven decision-making (HakemZadeh & Rousseau, 2024).

4.1.4 HR Analytics as a Mediating Mechanism

The findings of this study highlight the critical role of HR Analytics as a mediating mechanism in transforming workforce data into actionable insights that support strategic human resource decision-making. HR Analytics acts as an intermediary process that bridges the gap between raw employee data and organizational outcomes by converting large volumes of workforce information into meaningful, evidence-based recommendations. Through systematic data collection, analysis, and interpretation, HR Analytics enables decision-makers to identify patterns, trends, and relationships that inform strategic actions. This mediating role is particularly important in aligning human capital management practices with organizational objectives, as it allows organizations to base decisions on empirical evidence rather than intuition (Kiran et al., 2022).

HR Analytics facilitates the integration of data-driven insights into decision-making processes by enhancing the visibility and interpretability of workforce data. It supports various strategic HR functions, including talent management, performance evaluation, and workforce planning, by providing predictive insights that improve decision quality. Studies indicate that organizations leveraging HR Analytics are better able to link HR practices to performance outcomes, thereby strengthening HR's strategic contribution within the organization (Hamilton & Sodeman, 2020). Additionally, the HR analytics cycle emphasizes a structured process for transforming data into actionable knowledge, ensuring that insights are effectively translated into decision-making (Falletta & Combs, 2020). However, the effectiveness of this mediating role depends on the organization's analytical capability and its ability to interpret and apply analytical outputs. Without these capabilities, the potential value of HR Analytics may remain underutilized, limiting its impact on strategic decision-making.

4.1.5 Organizational Outcomes and Performance Implications

The results of this study indicate that integrating AI and HR Analytics positively influences various organizational outcomes, particularly by improving recruitment efficiency, employee engagement, talent management, productivity, and overall organizational performance. By enabling data-driven decision-making, these technologies allow organizations to optimize HR processes, reduce inefficiencies, and enhance workforce effectiveness. For example, AI-driven recruitment systems can streamline candidate selection processes, while HR Analytics can identify factors influencing employee performance and engagement. These improvements contribute to better organizational outcomes by aligning HR practices with strategic objectives and enhancing overall operational efficiency (Ashrafuzzaman et al., 2024).

However, the literature also suggests that the magnitude of these positive effects is not always substantial. Some studies report small-to-moderate effect sizes, indicating that the impact of AI and HR Analytics on organizational performance is often contingent upon contextual factors such as organizational size, industry, and level of technological maturity (Bedad et al., 2026). Moreover, while improvements in employee engagement and productivity are frequently observed, these outcomes are not uniformly distributed across organizations. Research shows that successful outcomes depend heavily on the effective implementation and integration of AI and HR Analytics into organizational

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processes (Taslim et al., 2025). This variability highlights the importance of considering contextual and organizational factors when evaluating the performance implications of AI and HR Analytics.

4.1.6 Key Enabling Factors for Successful Implementation

The findings emphasize that the successful implementation of AI and HR Analytics is not solely determined by technological investment but is highly dependent on organizational readiness and supporting factors. One of the most critical enabling factors is data quality, as accurate, reliable, and well-structured data is essential for generating meaningful analytical insights. In addition, effective data governance practices ensure that data is managed securely and consistently, thereby enhancing the reliability of decision-making processes (Minbaeva, 2018). Without strong data foundations, the potential benefits of AI and HR Analytics cannot be fully realized.

Another important factor is analytical capability, which includes both technical skills and the ability to interpret and apply analytical results. Organizations must invest in workforce upskilling and training to ensure employees possess the competencies needed to use AI and analytics tools effectively. Leadership support also plays a crucial role in driving the adoption of data-driven decision-making by fostering a culture that values evidence-based practices. Furthermore, a data-driven organizational culture encourages the use of analytics in everyday decision-making, thereby increasing the likelihood of successful implementation (Mohamed et al., 2025). Technological infrastructure is also a key enabler, providing the necessary tools and systems for data processing and analysis.

4.2 Discussion

The findings of this study provide a comprehensive understanding of how the integration of Artificial Intelligence (AI) and HR Analytics has evolved and contributed to strategic human resource decision-making. The results indicate a clear transformation in HRM practices, shifting from traditional administrative and descriptive approaches toward more advanced, data-driven, and strategic processes. This evolution is reflected in the growing use of predictive and prescriptive analytics across key HR functions, including recruitment, performance management, talent management, and workforce planning. Such a shift demonstrates that organizations are no longer relying solely on historical data but are increasingly leveraging AI and analytics to anticipate future workforce trends and make proactive decisions. This finding supports the notion that AI and HR Analytics serve as strategic enablers that enhance organizational capability in managing human capital effectively (Davenport et al., 2020; Margherita, 2022; Tursunbayeva et al., 2018).

The study further reveals that the integration between AI and HR Analytics occurs at multiple levels and in various forms. AI strengthens HR Analytics by enabling automation, improving pattern recognition, and facilitating real-time data processing, which enhances the quality and speed of decision-making. The integration is evident in AI-driven predictive analytics, decision-support systems, and workforce-forecasting models. However, the level of integration varies across organizations, with some still operating at an operational level while others have advanced toward strategic applications. This variation indicates that organizational maturity and technological capability significantly influence the effectiveness of AI and HR Analytics integration (Borges et al., 2021; Chowdhury et al., 2023; Verma et al., 2021). The absence of a unified framework in prior studies further suggests that the integration process remains fragmented and requires a more holistic understanding.

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In terms of impact, the findings demonstrate that AI and HR Analytics significantly improve strategic HR decision-making by enhancing decision quality, speed, and predictive accuracy. Organizations are increasingly able to shift from reactive to proactive decision-making, enabling them to anticipate workforce challenges and opportunities. This aligns with the concept of evidence-based management, which emphasizes the importance of using data and analytical insights to support decision-making processes (HakemZadeh & Rousseau, 2024). Moreover, HR Analytics plays a crucial mediating role by transforming raw data into actionable insights that guide strategic decisions. This mediation process strengthens the link between human capital management practices and organizational performance, as also highlighted in previous studies (Kiran et al., 2022; Hamilton & Sodeman, 2020; Falletta & Combs, 2020).

The findings also indicate that integrating AI and HR Analytics positively impacts organizational outcomes, including recruitment efficiency, employee engagement, talent management, productivity, and overall performance. However, the magnitude of this impact varies and is often reported as small to moderate. This suggests that the effectiveness of these technologies is highly dependent on contextual factors, including organizational readiness, technological infrastructure, and implementation quality (Ashrafuzzaman et al., 2024; Taslim et al., 2025; Bedad et al., 2026). These results confirm that while AI and HR Analytics have strong potential to improve performance, their benefits are not automatically realized and require appropriate organizational conditions.

The study identifies several key enabling factors that determine the success of AI and HR Analytics implementation. These include data quality, data governance, analytical capabilities, leadership support, workforce upskilling, technological infrastructure, and a data-driven organizational culture. Organizations that effectively combine these factors are more likely to translate analytical insights into strategic decisions successfully. This finding is consistent with previous research emphasizing the importance of organizational readiness and capability in leveraging analytics for decision-making (Minbaeva, 2018; Mohamed et al., 2025; Fernandez & Gallardo-Gallardo, 2020). Despite these benefits, the study also highlights significant barriers and challenges that limit the effectiveness of AI and HR Analytics. Common challenges include limited analytical capabilities, fragmented data systems, resistance to change, and difficulty moving beyond descriptive analytics. Additionally, ethical concerns such as algorithmic bias, lack of transparency, and data privacy issues pose significant risks in AI-driven decision-making. These findings align with previous studies that emphasize the complexity of implementing AI in organizational contexts and the need for careful management of ethical and governance issues (Angrave et al., 2016; Floridi et al., 2018; Asif et al., 2025; Jarrahi, 2018).

The findings of this study are largely consistent with previous research and extend the literature by offering a more integrated, process-oriented perspective. Prior studies such as Malik et al. (2023), Budhwar et al. (2022), and Sanjai Vudugula et al. (2023) highlight the strategic role of AI in improving HR decision-making, and the present study confirms these findings while further emphasizing the mediating role of HR Analytics and the importance of organizational factors. At the same time, this study also reinforces the argument that the effectiveness of AI and HR Analytics is context-dependent and influenced by multiple interrelated factors. By integrating technological, organizational, and human dimensions into a single analytical framework, this study provides a more comprehensive understanding of how AI and HR Analytics contribute to strategic human resource decision-making.

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5. Concluding Remarks and Recommendation

This study provides a systematic synthesis of the role of Artificial Intelligence (AI) and HR Analytics in enhancing strategic human resource decision-making. The research addresses the primary objective of identifying trends, forms of integration, and the combined impact of these technologies on decision-making processes and organizational outcomes. The findings indicate that AI and HR Analytics are increasingly positioned as strategic enablers that transform traditional HR practices into data-driven, proactive decision-making systems. Furthermore, the study highlights the critical role of HR Analytics as a mediating mechanism that converts workforce data into actionable insights, thereby supporting more informed and strategic decisions. Overall, this study answers the research questions by demonstrating how integrating AI and HR Analytics improves decision quality, predictive capability, and organizational effectiveness in HRM contexts.

This study contributes to both academic knowledge and practical applications by offering a comprehensive, integrative perspective on the interaction among AI, HR Analytics, and strategic decision-making. From a theoretical standpoint, the study advances existing literature by developing a process-oriented understanding that connects technological capabilities, analytical processes, and organizational outcomes within a unified framework. The originality of this research lies in its integration of technological, organizational, and human dimensions, which have often been examined separately in prior studies. From a practical and managerial perspective, the findings provide important implications for organizations seeking to implement AI-driven HR systems. Managers are encouraged to focus not only on technological investment but also on strengthening data governance, analytical capabilities, leadership commitment, and organizational culture to realize the strategic value of AI and HR Analytics fully. These insights are particularly relevant for policymakers and practitioners aiming to promote data-driven decision-making in HRM.

This study has several limitations that should be acknowledged. First, as a systematic literature review, the study relies on existing published research, which may limit the generalizability of findings due to potential publication bias and variation in study contexts. Second, the study focuses primarily on conceptual and empirical findings without incorporating primary data, which may restrict the depth of contextual analysis. Third, the scope of the review is limited to selected databases and timeframes, potentially excluding relevant studies outside these parameters. Given these limitations, future research is recommended to conduct empirical studies to test the proposed relationships across different organizational and industry contexts. Additionally, future studies should explore the role of ethical governance, human-AI collaboration, and organizational culture in greater depth. Expanding research to include longitudinal and cross-cultural perspectives would also provide a more comprehensive understanding of how AI and HR Analytics influence strategic human resource decision-making over time.

Statement of Use of Generative AI

During the preparation of this work, the author used ChatGPT to assist in improving the clarity and readability of the text. The author reviewed and edited the output and takes full responsibility for the content of the publication.

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