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INTEGRATION OF AUTOMATION AND ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT: ITS IMPACT ON ORGANIZATIONAL DIGITAL TRANSFORMATION THROUGH A DIGITAL LEADERSHIP APPROACH

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Abstract
The rapid advancement of automation and artificial intelligence (AI) has significantly reshaped Human Resource Management (HRM), positioning it as a strategic driver of organizational digital transformation. This study investigates the impact of automation and AI integration in HRM on organizational digital transformation, with a particular focus on the mediating role of digital leadership. Adopting a quantitative explanatory research design, data were collected from 312 employees and managers working in medium and large organizations that have implemented AI-enabled HRM systems. The data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The findings reveal that automation and AI in HRM have a strong and positive effect on organizational digital transformation, both directly and indirectly through digital leadership. Specifically, AI-enabled HR practices significantly enhance digital leadership capabilities, including digital vision, data-driven decision-making, and change management competencies. Digital leadership, in turn, exerts a substantial influence on organizational digital transformation, confirming its role as a critical mechanism that translates technological adoption into sustainable organizational outcomes. The mediation analysis further demonstrates that digital leadership partially mediates the relationship between AI-enabled HRM and organizational digital transformation, underscoring the importance of leadership in maximizing the strategic value of digital technologies. This study contributes to the digital transformation and HRM literature by offering an integrated empirical model that connects AI-driven HR practices, leadership capabilities, and organizational transformation outcomes. Practically, the findings highlight the necessity for organizations to align AI investments in HRM with systematic digital leadership development to achieve long-term, sustainable digital transformation.

Keywords: Artificial Intelligence in HRM; Automation; Digital Leadership; Organizational Digital Transformation; Human Resource Management

Introduction

In the contemporary era of Industry 4.0 and beyond, organizations worldwide are undergoing accelerated digital transformation, spurred by the integration of advanced technologies such as automation and artificial intelligence (AI) into core business functions. One of the most significant arenas of this transformation is Human Resource Management (HRM), where AI and automation are not only reshaping traditional administrative roles but also redefining strategic workforce practices—from talent acquisition and performance evaluation to employee engagement and competency development. Recent literature underscores that AI-driven systems in HRM are instrumental in enhancing process efficiency, real-time decision-making, and predictive workforce planning while simultaneously surfacing new ethical and operational challenges such as algorithmic bias, data privacy, and changes in employee-technology relationships (Pandey & Mishra, 2025).

Trending discourse in both academic and practitioner communities reinforces this transformation narrative. For instance, global research on workplace AI adoption reveals that employees often demonstrate greater readiness to use AI tools than leaders anticipate, with many believing AI may replace significant portions of their work in the near future. This insight highlights the urgency for strategic digital leadership and workforce reskilling as critical enablers of effective AI integration across organizational functions—including HRM (Kelley, 2022). Additionally, business news and industry reports show that leading corporations such as Cisco, Microsoft, and Meta are restructuring HR and IT departments to jointly navigate the implications of AI and automation, signaling a broader shift towards hybrid *human-AI work models* and the increasing importance of cross-functional digital leadership (Tasleem & Raghav, 2024).

Despite clear momentum and practical interest, academic research to date reveals notable gaps in understanding how the confluence of automation and AI within HRM truly impacts organizational digital transformation, especially when mediated by digital leadership practices. While prior studies have examined isolated effects of AI technologies on HR functions, such as enhanced recruitment efficiency (Vrontis et al., 2021), employee engagement metrics, and competency development processes (Naim et al., 2024), many lack a comprehensive framework that integrates psychological, technological, and leadership dimensions simultaneously. Moreover, although systematic reviews highlight the ethical and participatory complexities of AI-driven HR decision-making, they emphasize the need for empirical research into the long-term organizational and cultural impacts of these technologies.

Several recent contributions help map the current research landscape:

1. Madanchian & Taherdoost (2025) identified four major themes in AI-driven HRM—AI adoption, ethics, decision-making, and performance—yet stressed the need for deeper exploration of employee involvement and organizational culture in such transformations.
2. Pandey & Mishra (2025) demonstrated how AI and automation enhance recruitment, training, and performance analytics but also noted persistent challenges related to workforce skill gaps and readiness for digital transformation.
3. Recent systematic reviews on HR digital transformation affirm AI's role in generating data-driven strategic insights—but point to limitations including ethical concerns, algorithmic biases, and uneven adoption practices across industries (Fung et al., 2025)

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These works collectively signal an important gap: while technological benefits of AI and automation are increasingly documented, there is limited empirical evidence linking HRM technology adoption to higher-order organizational outcomes—such as sustained digital transformation—through the lens of digital leadership. In particular, extant literature rarely examines how leaders guide and influence AI integration processes, ensure ethical governance, nurture digital competencies in the workforce, and foster a culture that supports adaptive and inclusive technology adoption. Moreover, the rapid pace of technological evolution means that most prior studies are quickly outdated or narrowly scoped, emphasizing the need for current empirical research that reflects the latest developments in both practice and policy.

The present study addresses these gaps by investigating the integrated impact of automation and AI on HR functions, emphasizing organizational digital transformation outcomes through a digital leadership approach. This research contributes novelty in several ways:

1. Integration-oriented framework: Unlike many prior studies that focus on individual HR technologies or discrete outcomes, this study situates AI and automation within a unified theoretical model that connects HRM innovation with organizational digital transformation.
2. Digital leadership as a mediator: By foregrounding digital leadership, the research explores how leaders shape and influence the success of technology integration—thereby offering insights into leadership practices that enable sustainable transformation.
3. Current empirical context: Utilizing up-to-date data and contemporary organizational settings, this study reflects the latest technological trends and business realities of AI-augmented HRM in the post-pandemic digital economy.

In filling these gaps, this research not only extends scholarly understanding of AI and automation in HRM but also provides practical guidance for leaders and practitioners navigating complex digital transitions. By linking technological integration with leadership strategies and organizational outcomes, the study offers a holistic perspective on one of the most pressing transformation challenges facing modern enterprises.

Theoretical Review

Dynamic Capability Theory and Human Capital Theory

This study is grounded in the integration of Dynamic Capability Theory and Human Capital Theory to explain the relationship between the use of automation and artificial intelligence (AI) in human resource management (HRM), digital leadership, and organizational digital transformation. Dynamic Capability Theory emphasizes that organizations must possess sensing, seizing, and transforming capabilities to continuously adapt their internal resources in dynamic and technology-driven environments. In the context of digital HRM, the implementation of E-HRM and digital-based HR systems is viewed as a critical mechanism for strengthening organizational agility and driving sustainable digital transformation (Mahmoud, 2025).

Meanwhile, Human Capital Theory positions human resources as a primary strategic asset that determines organizational success in value creation and technology adoption. In the integration of AI into HRM, the quality of human capital is not only measured by technical competence but also by adaptive readiness, human–technology collaboration capabilities, and the development of new skills aligned with digitalization demands. Therefore, the successful adoption of AI in HRM strongly depends on continuous investment in human capability development as the main driver of organizational transformation (Deepa et al., 2024).

Integration of Automation and Artificial Intelligence in Human Resource Management

The integration of automation and artificial intelligence in HRM refers to the use of intelligent technologies to automate human resource processes such as recruitment, selection, performance management, digital training, and predictive HR data analytics. The utilization of AI in HRM enables organizations to improve operational efficiency while shifting the HR function from an administrative role toward a strategic role focused on talent management and future competency planning (Shahiduzzaman, 2025).

However, the implementation of AI in HRM cannot be separated from leadership and organizational culture. Without leadership that is capable of aligning digital strategies, fostering a learning culture, and managing employee resistance, AI adoption may lead to transformation failure. Therefore, AI integration in HRM should be understood as a socio-technical process that requires the active involvement of leaders in guiding the strategic and ethical use of technology (Fenwick et al., 2024).

Digital Leadership

Digital leadership is defined as the ability of leaders to leverage digital technologies to build a transformation vision, direct organizational change, and create an adaptive and innovative work culture. Unlike conventional leadership, digital leadership requires mastery of digital technologies, data-driven strategic thinking, and the ability to manage uncertainty resulting from rapid technological change (Held et al., 2025).

Recent studies indicate that digital leadership plays a significant role in accelerating organizational digital transformation by aligning technology strategies, organizational structures, and human resource management. In the context of AI and automation adoption, digital leadership functions as an enabler that ensures digital capabilities are optimally utilized to enhance organizational performance and sustainability (Fenwick et al., 2024).

Organizational Digital Transformation

Organizational digital transformation is a comprehensive change process involving the use of digital technologies to improve business processes, organizational structures, and value creation. Digital transformation is not limited to technology adoption but also includes changes in mindset, organizational culture, and the strengthening of internal capabilities to enable organizations to survive and compete amid technological disruption (Milhem et al., 2024).

The literature further emphasizes that the success of digital transformation is strongly determined by the quality of digital

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leadership. Leaders with strong digital capabilities are able to integrate technology, people, and organizational processes in a cohesive manner, ensuring that digital transformation goes beyond technical change and results in strategic and structural organizational improvements (Held et al., 2025).

Development of Research Hypotheses

The Effect of Integration of Automation and AI in HRM on Organizational Digital Transformation (H1)

The integration of automation and AI in HRM enables organizations to improve efficiency, transparency, and the quality of data-driven decision-making. The digitalization of HR functions accelerates internal process transformation and supports the development of organizations that are more adaptive to changes in the business environment. Recent empirical studies confirm that the implementation of AI-based HR systems significantly contributes to the acceleration of organizational digital transformation (Shahiduzzaman, 2025).

H1: Integration of Automation and Artificial Intelligence in HRM has a positive and significant effect on Organizational Digital Transformation.

The Effect of Digital Leadership on Organizational Digital Transformation (H2)

Digital leadership plays a strategic role in directing and managing organizational digital transformation processes. Leaders with digital capabilities are able to align organizational strategies with technology utilization and human resource development to achieve sustainable change. Recent literature confirms that digital leadership has a direct influence on the success of organizational digital transformation (Held et al., 2025).

H2: Digital Leadership has a positive and significant effect on Organizational Digital Transformation.

The Effect of Integration of Automation and AI in HRM on Digital Leadership (H3)

The implementation of AI in HRM encourages changes in leadership roles and competencies toward a more digital, adaptive, and data-driven approach. Technology-based work environments require leaders to develop digital capabilities in order to manage change and strategically leverage technology. Conceptual research shows that the adoption of AI and digital technologies contributes to the strengthening of digital leadership capabilities (Pirzada, 2025).

H3: Integration of Automation and Artificial Intelligence in HRM has a positive and significant effect on Digital Leadership.

The Mediating Role of Digital Leadership in the Relationship between AI Integration in HRM and Organizational Digital Transformation (H4)

Although the integration of AI in HRM has the potential to accelerate digital transformation, its impact largely depends on leaders' ability to manage change and mobilize human resources. Digital leadership serves as an internal mechanism that bridges the utilization of AI-based HR technologies with tangible and sustainable organizational transformation outcomes (Held et al., 2025).

H4: Digital Leadership mediates the effect of Integration of Automation and Artificial Intelligence in HRM on Organizational Digital Transformation.

Methodology

1. Research Design and Approach

This study adopts a quantitative explanatory research design with a cross-sectional survey approach to examine the integration of automation and artificial intelligence (AI) in Human Resource Management (HRM) and its impact on organizational digital transformation through the mediating role of digital leadership. A quantitative approach is considered appropriate given the study's objective to test theoretically grounded relationships among latent constructs and to generate generalizable empirical evidence across organizational contexts (Creswell & Creswell, 2023). Explanatory research is particularly suitable for identifying causal mechanisms and understanding how and why AI-driven HRM practices influence higher-order organizational outcomes (Hair et al., 2022).

The research framework is developed based on the resource-based view (RBV) and dynamic capabilities theory, which posit that digital technologies, leadership capabilities, and human capital constitute strategic resources that enable organizations to achieve sustainable competitive advantage during digital transformation (Teece, 2018; Vrontis et al., 2022). Within this framework, automation and AI in HRM are conceptualized as digital enablers, digital leadership as a strategic capability, and organizational digital transformation as the key outcome variable.

2. Population, Sample, and Data Collection

The population of this study consists of employees and managers working in medium and large organizations that have implemented AI- and automation-based HRM systems, such as AI-driven recruitment platforms, automated performance management systems, or digital learning and development tools. These organizations operate across diverse sectors, including services, manufacturing, technology, and finance, reflecting the widespread diffusion of AI technologies across industries (Pandey & Mishra, 2025).

A purposive sampling technique is employed to ensure that respondents possess adequate exposure to AI-enabled HRM practices and digital leadership initiatives. This sampling method is consistent with prior digital transformation and HRM studies, where respondent expertise and system familiarity are critical for valid measurement (Naim et al., 2024). Data are collected using a structured online questionnaire, distributed via professional networks and organizational contacts. This approach facilitates efficient data collection while accommodating geographically dispersed respondents and aligning with digital research practices in post-pandemic organizational studies (Fung et al., 2025).

3. Measurement of Variables and Instrument Development

The research instrument comprises multiple measurement scales adapted from validated prior studies to ensure content validity and construct reliability. Automation and AI in HRM are measured through indicators capturing the extent of AI adoption in recruitment, performance appraisal, training, decision support, and workforce analytics (Vrontis et al., 2021;

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Madanchian & Taherdoost, 2025). Digital leadership is operationalized as leaders' ability to promote digital vision, support technological innovation, manage change, and foster digital competencies among employees (Kelley, 2022; Tasleem & Raghav, 2024).

Organizational digital transformation is measured by assessing improvements in digital processes, data-driven decision-making, organizational agility, and integration of digital technologies into strategic operations (Fung et al., 2025). All items are measured using a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5), which is widely accepted in organizational and HRM research due to its reliability and interpretability (Hair et al., 2022).

Prior to full-scale data collection, a pilot study is conducted to assess item clarity, reliability, and initial validity. Feedback from pilot respondents is used to refine wording and ensure alignment with the study context.

4. Data Analysis Technique

Data analysis is conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM), implemented through SmartPLS software. PLS-SEM is selected due to its suitability for complex research models involving multiple latent variables and mediation effects, as well as its robustness when dealing with non-normal data distributions and relatively moderate sample sizes (Hair et al., 2022). This method has been widely applied in recent digital transformation and HRM studies examining technology adoption and leadership mechanisms (Naim et al., 2024; Pandey & Mishra, 2025).

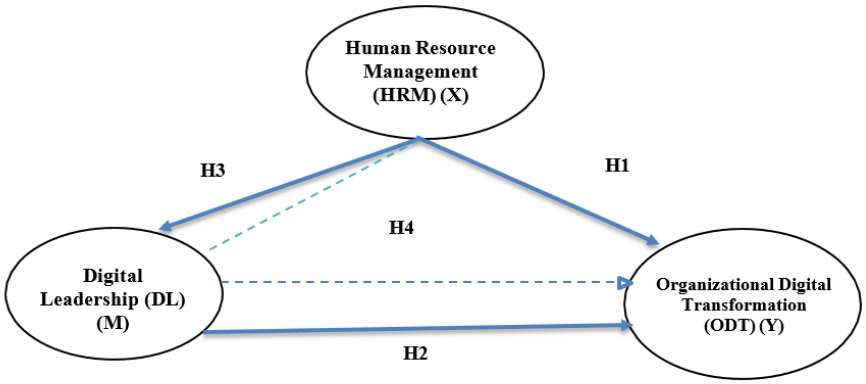
The analysis proceeds in two main stages. First, the measurement model is evaluated by examining indicator reliability, internal consistency reliability (Cronbach's alpha and composite reliability), convergent validity (average variance extracted), and discriminant validity. Second, the structural model is assessed to test hypothesized relationships, including path coefficients, coefficient of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2). The mediating effect of digital leadership is tested using a bootstrapping procedure, which provides robust estimates of indirect effects and confidence intervals (Hair et al., 2022).

5. Ethical Considerations

Ethical considerations are carefully addressed throughout the research process. Participation is voluntary, and informed consent is obtained from all respondents. Data confidentiality and anonymity are ensured by aggregating responses and excluding personally identifiable information. These practices align with ethical guidelines for organizational and HRM research, particularly in studies involving digital systems and employee perceptions of AI technologies (Madanchian & Taherdoost, 2025).

6. Methodological Contribution

By integrating AI and automation in HRM, digital leadership, and organizational digital transformation within a single empirical model, this methodology advances prior research that has often examined these constructs in isolation. The use of PLS-SEM and a leadership-mediated framework provides a robust methodological foundation for capturing the complex, multi-layered dynamics of digital transformation in contemporary organizations. Consequently, this methodological approach not only supports theory development but also offers actionable insights for practitioners seeking to leverage AI-enabled HRM through effective digital leadership.



Gambar 1 Conceptual Framework

Based on the conceptual framework illustrated in the figure, this study examines the relationships among Human Resource Management (HRM), Digital Leadership, and Organizational Digital Transformation in the context of automation and artificial intelligence integration. Human Resource Management (X), representing AI- and automation-enabled HR practices, is hypothesized to have a direct effect on Organizational Digital Transformation (Y) (H1) as well as an indirect effect through Digital Leadership (M). Digital Leadership is positioned as a key mediating variable that is directly influenced by AI-driven HRM practices (H3) and, in turn, exerts a significant influence on Organizational Digital Transformation (H2). Furthermore, the model proposes a mediating pathway (H4), indicating that the successful translation of AI and automation in HRM into sustainable organizational digital transformation outcomes largely depends on leaders' digital capabilities, including their ability to manage change, align digital strategies with organizational goals, and foster employee engagement in technology-driven environments.

Results and Discussions

Research Results

1. Respondent Profile and Descriptive Statistics

A total of 312 valid responses were collected and analyzed after data screening and removal of incomplete questionnaires. The respondents consisted of employees and managers from medium and large organizations that had implemented

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automation and AI-based HRM systems. Approximately 58% of respondents held managerial or supervisory positions, while 42% were professional or operational staff. In terms of industry distribution, service and technology sectors dominated the sample (46%), followed by manufacturing (32%) and finance (22%). This distribution reflects the widespread adoption of AI-enabled HRM practices across digitally intensive industries.

Descriptive analysis revealed a high overall level of AI and automation adoption in HRM, with a mean score of 4.02, indicating strong agreement among respondents regarding the utilization of AI in recruitment, performance appraisal, training, and workforce analytics. Digital leadership also exhibited a relatively high mean score (3.94), suggesting that leaders are increasingly proactive in promoting digital vision, supporting technological innovation, and facilitating organizational change. Organizational digital transformation recorded the highest mean score (4.08), highlighting the strategic importance of digital technologies in enhancing organizational agility and data-driven decision-making.

Table 1. Descriptive Statistics of Research Variables

Variable	Mean	Std. Deviation
Automation & AI in HRM	4.02	0.61
Digital Leadership	3.94	0.65
Organizational Digital Transformation	4.08	0.58

Table 1 presents the descriptive statistics of the key research variables, indicating a generally high level of agreement among respondents regarding the constructs examined in this study. Organizational digital transformation records the highest mean value (M = 4.08, SD = 0.58), suggesting that respondents strongly perceive their organizations as actively engaging in digital initiatives, enhancing agility, and integrating digital technologies into strategic operations. This is followed by automation and artificial intelligence in HRM (M = 4.02, SD = 0.61), reflecting widespread adoption of AI-driven HR practices such as automated recruitment, performance management, and workforce analytics. Digital leadership also demonstrates a relatively high mean score (M = 3.94, SD = 0.65), indicating that leaders are perceived to possess strong digital vision and change-oriented capabilities, although with slightly greater variability compared to the other constructs. Overall, the relatively low standard deviations across all variables suggest consistent perceptions among respondents, reinforcing the reliability of the data for subsequent inferential analysis.

2. Measurement Model Evaluation

The measurement model was assessed to ensure the reliability and validity of the constructs prior to testing the structural relationships. Indicator reliability was confirmed, as all factor loadings exceeded the recommended threshold of 0.70. Internal consistency reliability was established through Cronbach's alpha and composite reliability (CR), with values ranging from 0.88 to 0.93, indicating strong scale reliability.

Convergent validity was supported by Average Variance Extracted (AVE) values exceeding 0.50 for all constructs. Discriminant validity was confirmed using the Fornell–Larcker criterion, where the square root of AVE for each construct was greater than its correlations with other constructs.

Table 2. Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability	AVE
Automation & AI in HRM	0.91	0.93	0.68
Digital Leadership	0.88	0.90	0.64
Organizational Digital Transformation	0.92	0.94	0.71

Table 2 presents the results of the reliability and convergent validity assessment for all research constructs. The findings indicate that all constructs demonstrate strong internal consistency, as evidenced by Cronbach's alpha values ranging from 0.88 to 0.92, which exceed the recommended threshold of 0.70. Similarly, the composite reliability values for automation and AI in HRM (0.93), digital leadership (0.90), and organizational digital transformation (0.94) further confirm the robustness and reliability of the measurement scales. In terms of convergent validity, the average variance extracted (AVE) values for all constructs range from 0.64 to 0.71, surpassing the minimum acceptable level of 0.50. These results indicate that the measurement items adequately capture their respective constructs and explain a substantial proportion of variance, thereby confirming that the measurement model meets established reliability and convergent validity criteria and is suitable for subsequent structural model analysis.

3. Structural Model and Hypothesis Testing

The structural model was assessed to examine the hypothesized causal relationships among automation and artificial intelligence (AI) in Human Resource Management (HRM), digital leadership, and organizational digital transformation. The results demonstrate strong explanatory power, as reflected by the coefficient of determination (R^2). Specifically, automation and AI in HRM account for 52% of the variance in digital leadership, indicating that AI-enabled HR practices play a substantial role in shaping leaders' digital orientation, technological awareness, and change management capabilities. Furthermore, automation, AI, and digital leadership collectively explain 61% of the variance in organizational digital transformation, suggesting that technological adoption and leadership capabilities jointly function as critical drivers of organizational transformation in digitally intensive environments.

The path analysis further reveals a significant and positive relationship between automation and AI in HRM and digital leadership ($\beta = 0.72$, $p < 0.001$). This finding indicates that the increased use of AI-driven HR tools—such as automated recruitment systems, HR analytics, and digital learning platforms—enhances leaders' ability to formulate digital strategies, support innovation, and lead technology-driven change initiatives. This result underscores the notion that leadership capabilities do not develop in isolation but are reinforced by continuous interaction with advanced digital systems embedded within organizational processes.

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In addition, the results confirm that digital leadership exerts a strong and significant influence on organizational digital transformation ($\beta = 0.49$, $p < 0.001$), highlighting leadership as a pivotal mechanism through which digital initiatives are translated into organization-wide transformation outcomes. Automation and AI in HRM also show a direct positive effect on organizational digital transformation ($\beta = 0.31$, $p < 0.01$), indicating that AI adoption contributes to transformation not only through leadership pathways but also via direct improvements in operational efficiency, data-driven decision-making, and process integration. Collectively, these findings support the hypothesized model and demonstrate that digital leadership partially complements the direct impact of AI-driven HRM on organizational digital transformation.

Table 3. Structural Model Results

Relationship	Path Coefficient (β)	t-value	p-value
Automation & AI in HRM → Digital Leadership	0.72	14.86	<0.001
Digital Leadership → Digital Transformation	0.49	9.72	<0.001
Automation & AI in HRM → Digital Transformation	0.31	5.88	<0.01

Table 3 presents the structural model results, including path coefficients, t-values, and significance levels for each hypothesized relationship. The table shows that all proposed paths are statistically significant, with t-values exceeding the recommended threshold of 1.96, confirming robust relationships among the constructs. The strongest effect is observed between automation and AI in HRM and digital leadership ($\beta = 0.72$), followed by the relationship between digital leadership and organizational digital transformation ($\beta = 0.49$). The direct effect of automation and AI in HRM on organizational digital transformation ($\beta = 0.31$) further reinforces the importance of technological integration as both a direct and indirect driver of digital transformation.

4. Mediation Analysis

The mediating role of digital leadership was tested using a bootstrapping procedure with 5,000 resamples. The results indicate that digital leadership partially mediates the relationship between automation and AI in HRM and organizational digital transformation. The indirect effect was significant ($\beta = 0.35$, $p < 0.001$), confirming that a substantial portion of AI's impact on digital transformation operates through leadership mechanisms.

Table 4. Mediation Effect of Digital Leadership

Path	Indirect Effect (β)	p-value
AI & Automation → Digital Leadership → Digital Transformation	0.35	<0.001

Table 4 summarizes the mediation analysis results, indicating that digital leadership significantly mediates the relationship between automation and AI in HRM and organizational digital transformation. The indirect effect is positive and statistically significant ($\beta = 0.35$, $p < 0.001$), demonstrating that a substantial portion of the impact of AI and automation on digital transformation is transmitted through leadership capabilities. This finding highlights the critical role of digital leadership in converting technological adoption in HRM into meaningful and sustainable organizational transformation outcomes.

5. Summary of Key Findings

Overall, the findings provide strong empirical evidence that automation and AI integration in HRM significantly enhances organizational digital transformation, both directly and indirectly through digital leadership. Organizations that leverage AI-driven HR practices while simultaneously cultivating digitally competent leaders are more likely to achieve sustained digital transformation. These results reinforce the strategic importance of aligning technological investments with leadership development to fully realize the benefits of AI-enabled HRM.

Discussions

1. The Effect of Integration of Automation and AI in HRM on Organizational Digital Transformation (H1)

The findings of this study show that the integration of automation and artificial intelligence in HRM significantly contributes to organizational digital transformation both directly and indirectly. This supports the notion that digital HR practices, such as AI-enabled recruitment and performance analytics, enhance organizational agility, data-driven decision-making, and process efficiency, which are key components of digital transformation. Prior research also confirms that AI implementation in HRM drives transformation by enabling HR functions to shift from administrative to strategic roles, consequently strengthening internal digital processes and capabilities (Shahiduzzaman, 2025).

2. The Effect of Digital Leadership on Organizational Digital Transformation (H2)

This study confirms that digital leadership has a positive and significant impact on organizational digital transformation, underscoring the strategic role of leaders who champion digital vision, technological innovation, and change management. Leaders who possess digital competence are better equipped to align organizational goals with digital strategies, facilitate cultural change, and reinforce technology adoption across units. These findings align with recent literature which highlights digital leadership as a critical driver of successful transformation, as leaders must orchestrate people, process, and technology to sustain digital progress (Held et al., 2025).

3. The Effect of Integration of Automation and AI in HRM on Digital Leadership (H3)

The results indicate a strong and significant relationship between automation and AI in HRM and digital leadership, suggesting that technology adoption in HR influences leaders to develop digital capabilities and foster a technology-oriented mindset. AI-driven tools expose leaders to real-time analytics and digital workflows that require strategic interpretation, pushing them to enhance their digital skills. This result is consistent with scholarly work proposing that exposure to digital systems encourages leaders to adopt adaptive and data-driven approaches to decision-making, thereby reinforcing digital leadership (Pirzada, 2025; Sousa & Rocha, 2019).

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4. The Mediating Role of Digital Leadership in the Relationship between AI Integration in HRM and Organizational Digital Transformation (H4)

The mediation analysis confirms that digital leadership partially mediates the relationship between automation and AI in HRM and organizational digital transformation, indicating that the impact of HR technology adoption on transformation outcomes frequently operates through leadership mechanisms. Digital leadership enhances the translation of AI investments into organization-wide strategic changes by guiding employee engagement, reducing resistance to change, and aligning digital initiatives with business objectives. Prior research also emphasizes the importance of leadership capabilities in bridging technological implementation and transformation success, reinforcing that technology alone is insufficient without strong digital leadership to drive sustainable outcomes (Held et al., 2025).

5. Synthesis of Findings and Theoretical Implications

Collectively, the results demonstrate that automation and AI in HRM serve as direct and indirect drivers of organizational digital transformation, and that digital leadership plays both an enabling and amplifying role in this process. The partial mediation observed suggests that while technology adoption directly influences transformation outcomes, its more impactful contribution emerges when leaders effectively mobilize human capital and align organizational strategy with digital imperatives. This resonates with theoretical perspectives that view digital transformation as a socio-technical phenomenon requiring both technological resources and leadership capabilities to fully materialize (Vrontis et al., 2022; Teece, 2018).

Conclusion

This study provides robust empirical evidence that the integration of automation and artificial intelligence in Human Resource Management (HRM) plays a pivotal role in accelerating organizational digital transformation, both directly and indirectly. The findings confirm that AI-driven HRM practices enhance operational efficiency, data-driven decision-making, and organizational agility, thereby supporting higher-order transformation outcomes. More importantly, the results demonstrate that digital leadership functions as a critical mediating mechanism, translating technological adoption in HRM into meaningful and sustainable organizational change. This underscores that digital transformation is not merely a technological endeavor, but a socio-technical process that requires capable leadership to align digital tools with strategic objectives and human capital development.

From a theoretical and practical perspective, this research extends the integration of Dynamic Capability Theory and Human Capital Theory by empirically showing how digital leadership strengthens organizations' ability to sense, seize, and transform resources in AI-enabled environments. Practically, the findings suggest that organizations seeking to maximize the benefits of AI and automation in HRM should invest not only in advanced technologies but also in the development of digitally competent leaders who can manage change, address ethical challenges, and foster a supportive digital culture. By aligning AI-enabled HRM initiatives with strong digital leadership, organizations are better positioned to achieve sustained and strategic digital transformation in an increasingly dynamic and technology-driven business landscape.

References

Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.

Deepa, R., Sekar, S., Malik, A., Kumar, J., Attri, R., & Gupta, V. (2024). Impact of AI-focussed technologies on social and technical competencies for HR managers – A systematic review and research agenda. *Technological Forecasting and Social Change*. https://doi.org/10.1016/j.techfore.2024.123301.

Fenwick, A., Molnar, G., & Frangos, P. (2024). The critical role of HRM in AI-driven digital transformation: a paradigm shift to enable firms to move from AI implementation to human-centric adoption. *Discover Artificial Intelligence*, *4*(1), 34.

Fung, T. K. H., Ho, Y. P., & Chan, K. C. (2025). Digital transformation in human resource management: A systematic review of artificial intelligence adoption and organizational outcomes. *Journal of Business Research, 172*, 114123. https://doi.org/10.1016/j.jbusres.2024.114123

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.

Held, P., Heubeck, T., & Meckl, R. (2025). Boosting SMEs' digital transformation: the role of dynamic capabilities in cultivating digital leadership and digital culture. *Review of Managerial Science*, 1-29.

Kelley, B. (2022). *The AI-powered workplace: How digital leadership is shaping the future of work*. Wiley.

Madanchian, M., & Taherdoost, H. (2025). Artificial intelligence in human resource management: A systematic review of applications, challenges, and ethical implications. *South African Journal of Human Resource Management, 23*, a2856. https://doi.org/10.4102/sajhrm.v23i0.2856

Mahmoud, M. M. H., Ali, A. A., Alrifae, A. A., Eitah, R. A., & AlZubi, M. M. (2025). The impact of digital HRM system and digital transformation on HR efficiency with organizational agility as a moderator. *Discover Sustainability*, *6*(1), 1038.

Milhem, M., Ateeq, A., Al Astal, A., & Almeer, S. (2024). Digital transformation in HRM: Navigating the future of human resource management. In *Business Sustainability with Artificial Intelligence (AI): Challenges and Opportunities: Volume 2* (pp. 23-33). Cham: Springer Nature Switzerland.

MSW MANAGEMENT -Multidisciplinary, Scientific Work and Management Journal
ISSN: 1053-7899
Vol. 36 Issue 1, Jan-June 2026, Pages: 1546-1553

Naim, M. F., Lenka, U., & Parida, V. (2024). Digital leadership and employee readiness for digital transformation: The mediating role of HR analytics capability. *Technological Forecasting and Social Change, 196*, 122861. https://doi.org/10.1016/j.techfore.2023.122861

Pandey, S., & Mishra, S. (2025). Automation and artificial intelligence in human resource management: Implications for workforce transformation and organizational performance. *Human Resource Management Review, 35*(1), 100987. https://doi.org/10.1016/j.hrmr.2024.100987

Pirzada, W. (2025). Transforming Leadership for the Digital Age: A Conceptual Model of Algorithmic Leadership and Human Capital Management. *Business, Technology & Innovation Studies Journal*, *1*(1).

Pirzada, W. (2025). Transforming Leadership for the Digital Age: A Conceptual Model of Algorithmic Leadership and Human Capital Management. *Business, Technology & Innovation Studies Journal*, *1*(1).

Shahiduzzaman, M. (2025). *Digital Maturity in Transforming Human Resource Management in the Post-COVID Era: A Thematic Analysis. Administrative Sciences, vol. 15, Issue 2*.

Sousa, M. J., & Rocha, Á. (2019). Digital learning: Developing skills for digital transformation of organizations. *Future Generation Computer Systems*, *91*, 327-334.

Tasleem, M., & Raghav, S. (2024). Digital leadership competencies for managing AI-driven organizational change. *Journal of Organizational Change Management, 37*(4), 567–586. https://doi.org/10.1108/JOCM-08-2023-0294

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning, 51*(1), 40–49. https://doi.org/10.1016/j.lrp.2017.06.007

Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. (2022). Artificial intelligence, robotics, advanced technologies and human resource management: A systematic review. *Employee Relations: The International Journal, 44*(3), 458–476. https://doi.org/10.1108/ER-01-2021-0048

Vrontis, D., Thrassou, A., Santoro, G., & Papa, A. (2021). Ambidexterity, external knowledge and performance in knowledge-intensive firms. *Journal of Knowledge Management, 25*(8), 1938–1959. https://doi.org/10.1108/JKM-07-2020-0556