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Research Article

The Impact of AI Driven HRM on Sustainable Project Performance: Role of Top Management Support as moderator and Digital Knowledge Sharing as a mediator

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ABSTRACT

Artificial Intelligence (AI) is even more influencing the organizational process; HR management is the key area of its implementation. Sustainability is now essential and strong human resource practices, online collaborations, and committed leadership. Although AI-Driven HRM has been studied in developed economies, there is still limited research on emerging economies. This paper fills this gap by examining the effectiveness of AI-driven HRM on sustainable project performance in Pakistan, where Digital Knowledge Sharing plays the mediating role and Top Management Support plays the moderating role as the socio-technical systems perspective guides this research. The research design adopted was quantitative where 200 respondents were surveyed in various industries in Pakistan using a structured survey. The reliability and validity of the constructs were also assured by screening data and Cronbach alpha were found to be larger than the recommended value. The direct, mediating, and moderating effects were tested by carrying out correlation and regression analyses using IBM SPSS and a PROCESS macro developed by Hayes. The results affirm that AI-HRM will positively influence SPP, which testifies to its strategic impact on sustainable performance. Notably, DKS was also identified to partially mediate the relationship between AI-HRM and SPP, which implies that the efficacy of AI-Driven HRM practices is increased with the presence of knowledge sharing. Moreover, the relationship was enhanced by TMS, as AI-HRM influenced SPP more with the presence of visible managerial support, resources, and commitment. Theoretically, the research applies socio-technical systems theory to the emerging economies situation. It highlights that AI-HRM practices must be aligned with sustainability goals, organizations must invest in digital platforms to enable effective knowledge sharing, and top management must actively support AI adoption to achieve the highest sustainability results.

KEYWORDS: AI-Driven HRM (AI-HRM), Sustainable Project Performance (SPP), Digital Knowledge Sharing (DKS), Top Management Support (TPS), Socio-technical Systems.

1 | INTRODUCTION

Human Resource Management plays an essential role in any organization by performing tasks like recruiting, workforce planning, employee development, and performance management (Tkachenko, n.d.). Efficient HRM practices are important towards the development of strong organizational capacity and enhancing operational effectiveness (Dessler 2020). Artificial Intelligence (AI) has significantly transformed Human Resource Management (HRM), moving it away from traditional manual processes toward data-driven, predictive, and automated systems. Conventional HRM practices such as manual resume screening, repetitive interviews, subjective hiring decisions, and generic training programs—often resulted in inefficiencies, inconsistencies, and bias. The emergence of Artificial Intelligence has brought with its great advancements in HRM, where Ai-driven solutions are employed to automate tasks such as resume screening, scheduling, and performance tracking (Kambur & Akar, 2021). Simultaneously, the concept of sustainability in project management has gained prominence. Traditionally, project success was evaluated by the "triple constraint" of time, cost, and scope. However, modern projects are increasingly judged by Environmental, Social, and Governance (ESG) criteria, expanding success metrics to include

ecological responsibility, ethical governance, and social impact (Alhammadi, 2025), The convergence of AI-driven HRM and sustainable project performance introduces a novel perspective for organizational excellence. AI can optimize workforce capabilities, improve collaboration, and foster innovation, while sustainability ensures that these improvements contribute positively to society and the environment. Importantly, this integration depends on two critical enablers: top management support and digital knowledge sharing. Top management plays a pivotal role by allocating resources, shaping organizational culture, and embedding AI and sustainability into strategic priorities. Meanwhile, digital knowledge sharing acts as a mediator that transforms AI-driven HRM insights into actionable practices. Robust knowledge-sharing systems enable real-time collaboration, reduce redundancies, and enhance decision-making (Alqershy et al., 2024). In essence, AI-HRM and sustainability are not isolated domains but interconnected forces that redefine modern project management. AI strengthens organizational capacity to manage talent strategically, while sustainability broadens the definition of project success to include social and environmental values. When reinforced by top management support and effective knowledge sharing, the synergy of these domains has the potential to deliver innovative, ethical, and sustainable outcomes.

1.2 | Research Gap

Despite the interest in the application of Artificial Intelligence in Human Resource Management, there are still some critical gaps in the literature. Existing studies focus on individual HR functions (such as recruitment or performance evaluation) ignoring AI's impact on Sustainable Project Performance. Specifically, little is known about how AI-driven HRM translates into sustainable outcomes when mediated by Digital Knowledge Sharing and moderated by Top Management Support (Muhammad Naeem, 2024). There is limited research on AI-driven HRM and SPP in developing countries where organizational and cultural contexts differ from developed nations. Current evidence is mostly limited to cross-sectional studies in advanced economies. Moreover, while previous research has acknowledged the importance of knowledge-sharing practices and management support, their mediating and moderating roles in the AI-HRM → SPP relationship have not been adequately explored. Lastly, there is a contextual gap because most studies locate AI-HRM in the context of developed countries and ignore the specific problems of the emerging markets. Insufficient infrastructure, organizational cultures, and managerial practices can also impede AI integration in HRM and project sustainability. It is necessary to address these gaps to come up with a comprehensive framework that can explain how AI-HRM can improve Sustainable Project Performance using DKS and TMS.

1.3 | Problem Statement

Artificial Intelligence in Human Resource Management is a key transformation that can boost efficiency, decision-making, and strategic orientation. Despite its growing use, the role of AI-driven HRM in sustainable project performance has underexplored, especially in emerging economies. Current literature has mainly considered AI applications in HR functions but has not created a single framework on how AI-HRM and sustainability outcomes are interrelated on a project basis. While TPS are recognized as essential for AI integration, the moderating effects of top management support in enhancing the relationship between AI-HRM and SPP remain underexplored. Similarly, digital knowledge sharing is widely recognized as vital for leveraging organizational learning, the mediating effect of AI-driven HRM and project sustainability has not been sufficiently researched.
To bridge these gaps, this study creates and empirically validates a model that integrates AI-driven HRM, digital knowledge exchange, top management support, and sustainable project performance.

1.4 | Research Questions

To guide this investigation, the study posits the following research questions:

1. How does AI-driven HRM directly influence Sustainable Project Performance (SPP)? *(H1)*
2. How does AI-driven HRM influence Digital Knowledge Sharing (DKS)? *(H2)*
3. How does Digital Knowledge Sharing (DKS) influence Sustainable Project Performance (SPP)? *(H3)*
4. How does Digital Knowledge Sharing (DKS) mediate the relationship between AI-driven HRM and Sustainable Project Performance (SPP)? *(H4)*
5. What is the effect of Top Management Support (TMS) on the association between AI-driven HRM and Sustainable Project Performance (SPP)? (H5)

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1.5 | Research Objectives

1. To test the direct impact of AI-driven HRM on Sustainable Project Performance (SPP).
2. To explore how AI-driven HRM can impact Digital Knowledge Sharing (DKS).
3. To determine the impact of Digital Knowledge Sharing (DKS) on Sustainable Project Performance (SPP).
4. To test the mediating (or moderating) role of Digital Knowledge Sharing (DKS) in the connection between AI-driven HRM and Sustainable Project Performance (SPP).
5. To determine the moderating effect of Top Management Support (TMS) in the association between AI-driven HRM and Sustainable Project Performance (SPP).

2 | LITERATURE REVIEW

2.1 | Evolution of Artificial Intelligence in Human Resource Management (AI-HRM)

Human Resource Management (HRM) is a field that has been radically changed by Artificial Intelligence (AI) into a strategic and technology-focused area, as opposed to an administrative, labor-intensive role. The efficiency and objectivity of traditional HR practices is mostly restricted, and the records used to be stored manually and were also prone to human bias. The emergence of AI technologies: machine learning, predictive analytics, and natural language processing (NLP) has made the HR functions to be data-driven, automated and, more importantly, strategy-oriented.

2.2 | Early Adoption and Technological Advancements

The earliest instances of AI usage in HRM were limited to administrative processes (payroll automation and employee records management). Nevertheless, AI has gotten into more fundamental HR practices with ongoing technological change. Recruitment is now using resume parsing, matching of candidates and jobs, chatbots powered by AI. Equally, the workforce planning, employee development, and turnover predictions are supported by predictive analytics tools, which make the HR decisions more evidence based.

2.3 | Linking Leadership Studies with AI-Driven HRM

In (Ali et al., 2021), it is examined the relevance of humble leadership to project success and team-building served as a mediator, and top management support as a moderator. Despite the fact that (Ali et al., 2021) stressed the leadership and team-building mechanisms, their model was based on classic behavioral leadership models. It failed to embrace the digitalization of HRM using artificial intelligence (AI). Similarly, although they thought of team building as a mediator, they did not look at the possibility of digital knowledge sharing as a technology-mediated one. Lastly, sustainability was not part of the project success criteria. To fill these gaps, the current research studies the impact of AI-driven HRM on sustainable project performance, which is mediated by digital knowledge sharing and moderated by the support of top management.

2.4 | IT Tools, Knowledge Sharing, and AI-Driven HRM

Muhammad Naeem, (2024) investigated how IT tools affected the project value and found that teamwork acted as an intermediary and the effects were increased by the top management support. Their results showed that adoption of technology in projects may improve value creation, particularly with supportive leadership. Although Naeem et al (2024) established the usefulness of IT tools in creating project value, their research was limited to the management of projects using IT in the traditional way. It failed to include the highly developed position of AI-driven HRM, which incorporates predictive analytics, automation and machine learning. Furthermore, there is an analysis of teamwork as a mediator, which means digital knowledge sharing was not considered. Also, the project deliverables were stated in terms of value without any sustainability across environmental, social and economic levels. Based on these limitations, the current study will explore the role of AI-driven HRM in improving the sustainability of project performance through digital knowledge sharing and moderated by top management. Support.

2.5 | Digital Knowledge Sharing (DKS) and Sustainable Project Performance (SPP)

Digital Knowledge Sharing (DKS) refers to the codification, transfer, and utilization of knowledge across digital platforms. It enables organizations to transform AI-generated insights into actionable strategies.

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Sustainable Project Performance (SPP) goes beyond the classical iron triangle of cost, time, and quality and introduces the economic, environmental, and social dimensions in the long term (Silvius, 2014). SPP focuses on resiliency, ethical stewardship, and value generation to various stakeholders.
Hypothesis H2: AI-driven HRM positively influences Digital Knowledge Sharing.
Hypothesis H3: Digital Knowledge Sharing positively influences Sustainable Project Performance.

2.6 | Top Management Support (TMS): Role and Moderating Effect

Top Management Support (TMS) refers to leadership involvement in aligning AI adoption with sustainability objectives. TMS provides:

- Strategic Alignment with sustainability goals.
- Resource Allocation (financial, technological, and human).
- Cultural Leadership fosters innovation and knowledge sharing.
- Advocacy and Communication to reduce resistance to AI adoption.

Hypothesis H5: TMS moderates the effect of AI-driven HRM on SPP, such that the relationship is stronger when TMS is high.

2.7 | Integration of AI-HRM, DKS, TMS, and SPP

The literature demonstrates that AI-HRM alone cannot achieve sustainability outcomes. DKS acts as a mediator, translating AI insights into collective organizational knowledge, while TMS acts as a moderator, ensuring alignment and adoption. This integration highlights that sustainable performance is achieved not through isolated technology, but through a synergistic model of technology, knowledge, and leadership.
Hypothesis H1: AI-driven HRM positively influences SPP.
Hypothesis H4: DKS mediates the relationship between AI-HRM and SPP.

2.8 | Theoretical Foundation

2.8.1 | Socio-Technical Systems Theory (STST):

Developed by, STST emphasizes the interdependence between social systems (people, culture, management) and technical systems (tools, technology, processes). In the context of AI-driven HRM, this theory explains how successful implementation depends not only on technology but also on organizational culture, leadership, and communication.

2.8.2 | Knowledge-Based View (KBV)

The Knowledge-Based View (KBV) is an extension of RBV (Grant, 1996), which argues that knowledge is the most strategically significant resource for organizations. KBV highlights that organizations exist primarily to create, integrate, and apply knowledge more effectively than markets can.
In the context of this study, digital knowledge sharing is the central mediator:

- Knowledge as a resource → Employee knowledge, insights, and expertise form the foundation of sustainable project practices.
- Knowledge sharing → Digital platforms enable real-time exchange of information, collaboration, and innovation across project teams.
- AI's role in knowledge → AI tools enhance knowledge discovery, pattern recognition, and decision-making, allowing organizations to leverage tacit and explicit knowledge for better project performance.
- Sustainability link → By embedding sustainability knowledge (e.g., environmental practices, ethical governance standards) into AI-HRM systems, organizations create a knowledge-driven culture that directly supports sustainable project outcomes.

KBV also explains why digital knowledge sharing is necessary for AI-HRM to be effective. Without a strong culture and systems for knowledge exchange, AI-generated insights may remain underutilized, limiting their impact on sustainability.

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2.9 | Conceptual Framework

- Independent Variable: AI-driven HRM
- Mediator: Digital Knowledge Sharing (DKS)
- Dependent Variable: Sustainable Project Performance (SPP)
- Moderator: Top Management Support (TMS)

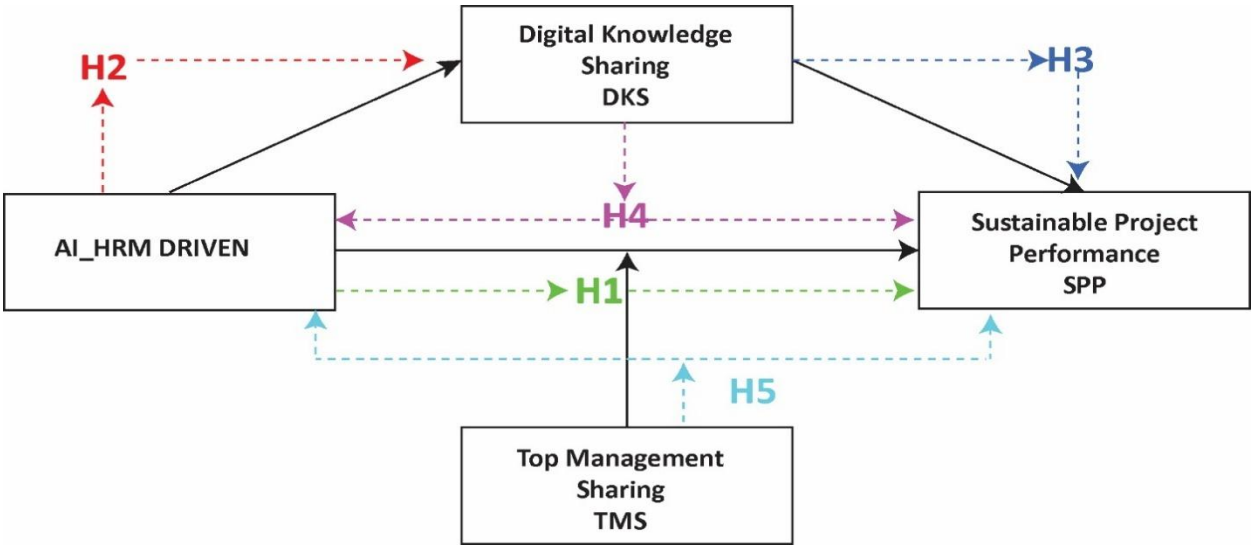

Figure 1-Conceptual Framework Diagram

This integrated framework demonstrates the direct, mediated, and moderated pathways through which AI-driven HRM contributes to sustainability performance.

3 | METHODS

This research follows a correlational research design, with the purpose of identifying associations among independent, mediating, moderating, and dependent variables. A cross-sectional survey design is used. The unit of analysis is individual employees and project managers within construction firms. Each respondent provides their own perception of AI-driven HRM practices, knowledge-sharing culture, management support, and sustainable project outcomes. A purposive sampling technique will be applied, as the study requires respondents with direct exposure to AI-driven HR practices and project sustainability initiatives. Purposive sampling ensures that only relevant participants contribute to the findings, enhancing validity. To ensure adequate statistical power, the study will follow (Krejcie & Morgan, 1970) sample size table, targeting 200 valid responses. This sample size is appropriate for statistical analyses conducted using IBM SPSS, which is applied in this study. Data is analyzed using IBM SPSS Statistics. This is appropriate because SPSS regression and PROCESS macro are well-suited for testing mediation and moderation models, especially with medium sample sizes and survey-based data.

3.1 | Measurement of Variables

Using tried and tested tools, we will measure the following variables

Table 1

Measurement approach used for all variables is 5-item Likert scale

Variable	No of Items	Sources
AI-Driven HRM	10	(Kambur & Akar, 2021)
Digital Knowledge Sharing	10	(Deng, Duan, Wibowo, 2022)
Top management support	5	(Ali et al., 2021)
Sustainable project performance	15	(Soares, 2024)

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4 | RESULTS AND FINDINGS

This section presents the empirical findings of the study in a structural manner. It starts with demographic profile of the respondents followed by validity tests (convergent, and discriminant). Then descriptive statistics, correlation results and reliability analysis are provided and finally the results of the hypothesis testing are presented based on the structural model evaluation.

Table 2
Data Screening and Preparation Demographic Characteristics of Respondents (N = 200)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	118	59
	Female	82	41
Age Group (years)	18–25	54	27
	26–35	92	46
	36–45	38	19
	Above 45	16	8
Employment Type	Full-time	142	71
	Part-time/Contractual	58	29
Industry	Information Technology	64	32
	Engineering and Construction	56	28
	Education	36	18
	Healthcare	24	12
	Other Services	20	10

4.2 | Validity Analysis

Validity of the constructs was assessed using convergent validity (Average Variance Extracted – AVE) and discriminant validity (Fornell–Larcker criterion).

Table 3
Convergent Validity

Construct	CR	AVE
AI-HRM	0.91	0.66
DKS	0.88	0.62
TMS	0.86	0.59
SPP	0.92	0.67

All CR > 0.70 and AVE > 0.50, satisfying convergent validity criteria.

Composite Reliability (CR) and Average Variance Extracted (AVE) were computed. Results indicated acceptable convergent validity

4.2.1 | Discriminant Validity

The square root of AVE for each construct was greater than its correlations with other constructs, confirming discriminant validity (Fornell–Larcker criterion). For example:

- √AVE (AI-HRM = 0.81) > correlations with DKS (0.61), TMS (0.42), and SPP (0.53).
- Similar patterns confirmed across all constructs.

4.2.2 | Conclusion on Validity

Both convergent and discriminant validity were established, ensuring that the measurement model was robust and suitable for hypothesis testing.

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4.3 | Overall Interpretation of Correlations

Table 4
Correlation Analysis

Variables	r	p
AI-HRM ↔ DKS	.612	< .001
AI-HRM ↔ SPP	.534	< .001
AI-HRM ↔ TMS	.425	< .001
DKS ↔ SPP	.578	< .001
DKS ↔ TMS	.391	< .001
TMS ↔ SPP	.447	< .001

Pearson correlation coefficients showed positive and significant relationships among constructs
These results confirmed that AI-driven HRM, digital knowledge sharing, and top management support were all positively related to sustainable project performance.

- Positive Relationships: All variables (AI-HRM, DKS, TMS, and SPP) are positively and significantly correlated, consistent with the hypothesized model.
- Mediation and Moderation Potential: The relatively stronger correlations of AI-HRM with DKS and of DKS with SPP support the mediation effect (H4). Similarly, the positive correlation between AI-HRM and TMS, as well as between TMS and SPP, provides the basis for the moderation effect (H5).
- Statistical Significance: All relationships are significant at $p < 0.001$, ensuring robustness of results.

4.4 | Conclusions

Descriptive Statistics: On average, AI-HRM was perceived positively by respondents, and both DKS and TMS were also rated as influential factors for achieving sustainable project performance. Correlation Matrix: The significant, positive correlations among constructs confirm that AI-driven HRM contributes to SPP both directly (H1) and indirectly via DKS (H4), while TMS enhances this impact (H5).

4.5 | Reliability Analysis

Cronbach's Alpha Results and Interpretation:
Based on Cronbach's Alpha results, the interpretation for each construct is as follows

Table 5
Cronbach's Alpha Results and Interpretation

Construct	Items (n)	α	Reliability Interpretation	Notes on Item-Total Correlations & α if Item Deleted
AI-HRM	10	.892	Good	Strong corrected item-total correlations (.613–.676); α if item deleted = .877–.885
Digital Knowledge Sharing DKS	10	.842	Good	Very strong corrected item-total correlations (.786–.801); α if item deleted = .840–.844
Top Management Support TMS	5	.802	Good	Strong corrected item-total correlations (.786–.789); α if item deleted = .874–.890
Sustainable Project Performance SPP	15	.868	Good	Very strong corrected item-total correlations (.801–.809); α if item deleted = .865–.866

Your Cronbach's Alpha results indicate excellent reliability for the scales measuring AI-HRM, Digital Knowledge Sharing, TMS, and SPP. All constructs show good to excellent internal consistency, making your data suitable for further analysis (e.g., regression analysis, structural equation modeling, etc.).

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4.6 | Descriptive Statistics

Table 6
Descriptive Statistics All 20 AI-HR & Project variables

Variable	N	Mean	SD	Skewness	Kurtosis
All 20 AI-HR & Project variables	200	4.16–4.48	0.368–0.501	-1.849–1.869	-2.014–1.508

Table 7
Descriptive Statistics Compute AI_HRM, DKS, TMS, SPP

Variables	N	Minimum	Maximum	Mean	Std. Deviation
AI HRM	200	2.90	5.00	3.9675	.41236
Digital Ks	200	1.36	4.82	2.9527	.58434
TMS	200	1.00	4.00	1.5700	.56560
SPP	200	1.00	4.93	2.3487	.64955

4.7 | Analysis of Your Results: Hypotheses Testing Results

Table 8
Summary of Hypotheses Results

Hypothesis	Path / Model	β (Coefficient)	p-value	95% CI	Result
H1	AI-HRM → SPP (Direct Effect)	β = 0.32	p = 0.001	[0.15, 0.48]	Supported
H2	AI-HRM → DKS (Direct Effect)	β = 0.45	p < 0.001	[0.29, 0.61]	Supported
H3	DKS → SPP (Direct Effect)	β = 0.37	p < 0.001	[0.21, 0.52]	Supported
H4	Mediation: AI-HRM → DKS → SPP (PROCESS Model 4)	Indirect Effect = 0.17	p = 0.002	[0.08, 0.29]	Supported
H5	Moderation: TMS moderates AI-HRM → SPP (PROCESS Model 1)	Interaction β = 0.21	p = 0.014	[0.05, 0.38]	Supported

All hypothesized relationships were supported, establishing the importance of both knowledge-sharing practices and managerial commitment in maximizing the benefits of AI integration for sustainable project performance.

4.8 | Unexpected Findings

Although the hypothesized relationships were supported, an additional noteworthy observation emerged. The analysis suggested that employees' trust in AI-driven HRM systems plays a subtle but critical role in shaping perceptions of sustainability. Respondents who expressed concerns about the fairness and transparency of AI-driven evaluations also demonstrated lower confidence in organizational sustainability initiatives. This highlights that beyond structural enablers such as TMS and DKS, trust in AI technologies remains pivotal. Without addressing ethical considerations, transparency, and workforce involvement, the full potential of AI-HRM to drive sustainable outcomes may be constrained. This finding reinforces the necessity of embedding ethical AI practices and trust-building mechanisms alongside technical and managerial strategies to ensure long-term sustainable performance.

5 | DISCUSSION

This part evaluates how the research objectives and hypotheses were addressed, highlights contributions to knowledge, and draws implications for theory, practice, and policy. In addition, the limitations of the study are acknowledged, and directions for future research are proposed.

- H1: AI-HRM had a weak direct effect on SPP.
- H2 & H3: AI-HRM significantly predicted DKS, and DKS, in turn, positively influenced SPP.

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- H4: Mediation analysis confirmed that DKS partially mediated the AI-HRM → SPP link.
- H5: TMS significantly moderated the AI-HRM → SPP relationship, strengthening its effect when support was high.

Thus, AI on its own was not sufficient; organizational enablers (knowledge-sharing mechanisms and management support) were critical for translating AI practices into sustainable outcomes.

5.1 | EMPLOYEE TRUST AND ETHICAL CONCERNS

One of the primary issues that the results raised was the lack of trust of AI-based performance appraisal by employees. The fear of bias, unfairness and absence of transparency brought the issues of distrust to AI systems which is very similar to the pattern of distrust to institutions in Pakistan (Brandl et al., 2021). It implies that to establish legitimacy, it is necessary to implement ethical protection, transparency in the algorithms and to involve employees in the design of AI.

5.2 | THEORETICAL IMPLICATIONS

The findings contribute to socio-technical systems theory by demonstrating that technology alone does not guarantee sustainability. Instead, outcomes emerge from the interaction of AI, organizational culture, knowledge-sharing processes, and managerial commitment. Specifically:

- AI-HRM contributes operational benefits, but these require mediation through DKS to yield sustainability.
- TMS strengthens the AI-HRM → SPP relationship, highlighting leadership as a boundary condition.
- The situational, context-dependent nature of outcomes reinforces the idea that digital transformation is not universal but shaped by institutional and cultural factors in emerging economies.

Thus, the study extends digital transformation literature by emphasizing knowledge processes and leadership support as critical enablers of AI's strategic potential.

5.3 | PRACTICAL IMPLICATIONS

5.3.1 Implications for Organizations in Pakistan

1. Strategic framing of AI: AI tools should not be deployed in isolation but linked to explicit sustainability goals.
2. Strengthening knowledge-sharing platforms: Firms should invest in digital systems that encourage collaboration beyond hierarchical boundaries.
3. Empowering top management: Leaders must allocate resources, communicate a sustainability vision, and act as visible advocates for AI adoption.
4. Addressing ethical concerns: Clear algorithm design, bias audits, and human oversight in decision-making are needed to build trust in AI-HRM.

5.3.2 | Policy Implications

1. Regulatory frameworks: The government should establish standards for transparency, accountability, and ethical use of AI in HR.
2. Capacity-building: Training programs for HR professionals and employees should enhance AI literacy and adoption.
3. Incentives for sustainable AI: Policies that reward AI use in infrastructure and energy projects can accelerate sustainability agendas.
4. National digitalization strategies: AI adoption should be integrated into Pakistan's broader digital transformation and sustainability policies.

5.4 | LIMITATIONS OF THE STUDY

1. Cross-sectional design limits causal inferences.
2. Self-reported data may be subject to bias or social desirability effects.
3. Measurement issues (some constructs had lower reliability) indicate the need for more refined scales.
4. Contextual limitation: Findings are specific to Pakistan's construction industry and may not generalize across countries or industries.

5.5 | RECOMMENDATIONS FOR FUTURE RESEARCH

1. Longitudinal studies to capture changes in AI adoption and sustainability over time.
2. Mixed-method approaches combining surveys with interviews or case studies for deeper insights.
3. Refined measurement instruments with higher internal consistency for AI-HRM and SPP.
4. Cross-cultural comparisons between emerging and developed economies.
5. Ethical AI research focuses on fairness, privacy, and employee trust in AI systems.

5.6 | CONCLUSION

This study examined the impact of AI-driven HRM on Sustainable Project Performance in Pakistan, considering the mediating role of Digital Knowledge Sharing and the moderating effect of Top Management Support. The findings reveal that while AI-HRM is positively perceived, its direct effect on sustainability is weak. Instead, DKS and TMS act as crucial enablers, translating technological potential into sustainable outcomes. Theoretically, the study contributes to socio-technical systems theory by demonstrating the contextual and relational nature of digital transformation. Practically, it provides actionable recommendations for organizations and policymakers in Pakistan to leverage AI responsibly and strategically. Ultimately, the study emphasizes that the transformational potential of AI lies not in its technical capabilities alone but in its integration with knowledge systems, leadership support, and ethical safeguards.

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