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Exploring the Impact and Ethical Implications of AI Integration in HRM: Challenges, Opportunities, and the Role of HR Professionals in the Banking Sector of Pakistan

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Abstract: This study investigates the impact of Artificial Intelligence (AI) integration on Human Resource Management (HRM) functions within the banking sector of Pakistan, focusing on both operational outcomes and ethical implications. A quantitative research method comprised data gathering from a total of 120 participants who were both HR professionals and AI specialists and banking employees throughout different organizations. Researchers applied SmartPLS-SEM to perform descriptive along with inferential analysis of the data. The results reveal that AI adoption significantly enhances HR functions, particularly in training (β= 0.532, R^2 = 0.604), performance evaluation (β= 0.508, R^2 = 0.561), and recruitment (β= 0.421, R^2 = 0.452). Rankings from Importance-Performance Map Analysis (IPMA) showed AI-driven training as the most effective element (Importance = 0.801; Performance = 82.3) among surveyed managers. The analysis of mediation showed that employee performance depends significantly on training and payroll automation systems. AI governance requires transparency and person-focused principles to address observed ethical problems involving algorithmic biases and data privacy restrictions. People who manage human resources showed unique AI attitudes than professionals who work with AI tools. This study identifies key recommendations that policy makers and bank executives need to apply to develop ethical AI-HRM practices that help operations work better while reducing moral issues.

Keywords: Artificial Intelligence, Human Resource Management, Banking Sector, Ethical Challenges, SmartPLS-SEM.

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INTRODUCTION

Human Resource Management practices across banking and other industries transform quickly because Artificial Intelligence changes this sector at a fast pace. Advanced technology systems in HRM help businesses reorganize their hiring process along with their employee evaluation programs and training programs to boost employee involvement in today's data-based digital setting. The combination of AI technology makes HR functions more efficient and removes bias to control costs with better results which transforms administrative HR staff into strategic partners to advance business success.

Human resources in banking need artificial intelligence integration because they depend on precise operations and compliance with rules alongside exceptional customer support. The banking business applies artificial intelligence technology to develop automatic systems that tackle repetitive tasks and create worker-specific platforms while delivering enhanced workforce analytic results. The move toward AI technology happens because both companies battle competition while staff wants new methods along with control systems demanding immediate responses to challenges (Kulshrestha, 2024). Recent studies show AI helps companies find better employees and track workplace results with smart training systems on digital market sectors in South Asia and the Middle East.

Research teams study the effect Artificial Intelligence has on human resources activities in banking companies. AI recruitment systems enhance hiring efficiency by automating selection tests and selection methods that block human prejudices from entering the process according to Yadav et al. from 2023. Managers use KPI-based evaluation from AI performance tools along with real-time feedback to make objective ratings that enhance trust and openness with their employees (Noreen et al. 2023). Learning systems powered by artificial intelligence

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improve employee development by combining what employers need with what workers want to learn (Qawasmeh et al., 2024).

When banks use artificial intelligence for human resources they help achieve their strategic operational targets. Through machine learning technology and neural network connections institutions can automate their business operations and create programs for employee help such as mental healthcare and staffing plans (La Mata et al., 2024). The dynamic capabilities theory makes AI useful during continuous innovation because it speeds up data processing and reaction times (Gómez & Heredero, 2020). By using AI Caixa Bank and Royal Bank of Scotland, they can modernize their employee systems which makes talent flow easier and saves funds on hiring new workers.

The use of AI in HR management systems creates valuable results for organizations but they need to address particular challenges to gain full advantage. The problems AI systems face come from biased programming that is hard to read and refuses to follow data safety rules. Training AI systems with faulty historical information causes unconscious reproduction of personal bias through the management of staff recruiting procedures and promotions (Lui & Lamb, 2018). Biased activities conducted in secure banking environments weaken vital company diversity elements and hurt their performance integrity. HR professionals cannot verify AI output because of the black box problem which reduces their ability to hold responsible and maintain worker confidence.

Ethical problems with storing personal information and keeping records of people exist as fundamental ethical concerns that need appropriate solutions. AI- The institutional market segment features Human Capital Management systems that help organizations find people and evaluate employee output while expanding the workforce through digital platforms. Platforms employ predictive analysis to enhance HR choices and develop adaptable systems that support employee requirements along business expectations. AI helps modern businesses because Meena et al. (2024) say adapted HR systems are needed for working remotely.

Using AI systems in banking HR functions creates chances to restructure how things work while facing practical installation problems. AI offers benefits to support workers' everyday tasks while providing improved employee interactions and future workforce strategies although its use needs both ethical handling and system readiness which HR teams must supervise during technology creation. AI enables HR teams to build organizations that adapt and stay productive during banking sector transformation when digital change disrupts the industry.

LITERATURE REVIEW

Banking organizations across the sector depend on Artificial Intelligence as their primary Human Resource Management transformation tool. Banking institutions use AI technology to develop tools that make staff work more effective and create better solutions with employee participation across all departments. The current research demonstrates that AI reduces simple HR tasks while human resource managers develop superior performances that enable their organizations to adjust quickly and gain fresh advantages.

Research new findings explain how artificial intelligence serves various human resources needs of banking institutions. Jordanian banks' use of reasoning machines along with automatic learning and expert systems showed Yahya 2024 that these systems strengthened employees' training and reward programs. Artificial Intelligence improves HRM work effectiveness when it helps organizations analyze performance numbers to make better staff selection and training choices.

(Lazo & Ebardo, 2023) conducted research about critical success factors (CSFs) for banks to adopt AI-based Human Capital Management (HCM) systems. The research used FUCOM to demonstrate that banks must prioritize technological compatibility together with security alongside perceived advantages as essential enablers. The identified CSFs lead banks to establish lasting AI implementation strategies for HRM by connecting technological developments to organizational preparedness and available resources.

The review work of (Popo-Olaniyan et al., 2022) combined a bibliometric analysis with systematic research on AI applications in banking institutions. The researchers discovered that HRM applications of AI include predictive modeling for workforce planning alongside automated performance evaluation systems and optimized recruitment through AI-based platforms. The research demonstrates AI creates value for banking HR operations through improved workforce analytics and unbiased hiring approaches and tailored interactive services which generate digital transformation benefits in HR.

(Muralidhar, Bharadwaj, & Bhat, 2022) analyzed Royal Bank of Scotland and Caixa Bank through dynamic capabilities framework to study their AI implementation for HR adaptability enhancement. The findings established

that AI technology supports detection and integration capabilities alongside innovation functions which help HR departments deliver immediate workforce adaptability and adapt their employee experience strategies and boost organizational learning mechanisms. These capabilities which the research demonstrated provide banks with the ability to develop agile and resilient HR systems.

The influence of AI in bank human resource management includes better employee commitment and workplace contentment. The results of (Muralidhar, Bharadwaj, & Bhat, 2022) in their study of Jordanian banks demonstrated how AI and big data analytics together generated positive effects on employee satisfaction together with retention. The research demonstrates how AI-based platforms enable personalized HR engagement and prediction of disengagement patterns and continuous learning services which create a workforce that is both motivated and loyal.

The academic research reveals both important barriers together with clear ethical elements to be considered. Boustani (2021) analyzed the complicated relationship between advanced automation systems through AI and HR service delivery models that focus on human interaction within Lebanese banking institutions. The analysis showed AI brought faster transactions and reduced fraudulent activities yet pointed out its inability to work in situations where emotional intelligence and interpersonal skills would be crucial for HRM functions. Research indicates that AI technology helps HR professionals, but it cannot finish the tasks humans perform especially when dealing with employee connections and conflict settlement.

The study by (Martins, 2023) demonstrated how digital tools enhanced banking service accessibility yet customers still favored human interaction for satisfaction levels in Indian banks. Employing artificial intelligence in human resource management must operate as an addition to human contact instead of displacing it when addressing employee requirements and creating their work experiences.

An emerging area of research pertains to governance and regulatory alignment. The research by (Mihai, 2024) proves sharing AI usage details helps banks create better stakeholder trust relations. The research showed that employees will trust AI more if they learn how it works, which leads to better corporate values.

The literature also points to a growing need for holistic AI governance frameworks in HRM. To develop proper AI frameworks businesses, they need to include ethics protocols as well as data security controls plus staffing involvement during AI development phases. These standards should help AI systems boost employee capabilities rather than track their work performance particularly in HR activities including worker evaluation and employee discipline.

Expert research shows that AI can upgrade bank HR systems efficiently but points out the need for banks to use AI carefully. AI systems must follow ethical values during deployment under regulatory standards while remaining centered on human interactions with their efficiency and strategic elements. Banks will build digital platforms under leadership from HRM departments to design working methods of the future through ethical AI systems.

METHODOLOGY

Research Design

The research utilizes a descriptive and explanatory design structure to evaluate how AI affects HRM procedures. The descriptive system creates detailed assessments of adoption practices, but the explanatory system shows how AI HR services create organizational results. The research implements a single-time data collection method across numerous banking institutions to generate information about present AI implementation practices and their results.

The structured electronic survey contained both close-ended questions together with Likert scale items to collect data. The selected method served the purpose of efficiently obtaining standardized results from numerous respondents. The survey instrument was transmitted electronically to banking representatives from both private and commercial sectors of Pakistan. Statistical analysis of collected data became possible because the survey utilized a structured format which produced quantifiable responses. The designed survey questions targeted five fundamental sections covering demographic information alongside AI usage in human resource management operations as well as application success levels and moral obstacles and planned AI implementation strategies.

Population and Sampling

The research examines banking workers in Pakistan's institutions that implemented Artificial Intelligence to manage their HRM departments. Three separate population groups form the research base to evaluate AI's complete effect across different role types:

- HR Professionals: The main group of persons responsible for executing HR tasks using artificial intelligence are HR Professionals together with their associated duties of planning and overseeing HR activities.
- AI Specialists: AI Specialists function as technical developers who oversee the management of banking institution HRM functions enabled by AI systems.
- Employees: General bank staff who need to use AI-integrated HR systems as part of their normal work and those affected by these systems comprise the employee group.

The research used stratified random selection to attain equal participation among all strata. Strata groupings of the full population enable researchers to choose participants at random from every homogeneous section. The method includes collecting input from each major role who takes part in HRM utilizing AI technologies. Cochran's sample size formula guided the selection of final respondents to reach a total of 120 participants. A total of 120 respondents were chosen through a process which secured both practical data collection and powerful statistical analysis. The sample design fulfilled the requirements of 95% confidence level and a ś7% error margin.

Data Collection Method

The research team obtained data through combined web-based methods and email-based questionnaires. Research had five distinct parts for collecting information from participants:

- Demographics: The study began by taking basic details from candidates age, gender, job title, work years and their knowledge about AI use in HRM systems.
- AI Adoption in HRM: This part shows how participants see AI impact on the Human Resource Management field particularly for recruitment selection methods and performance review while training designs create employee engagement and payroll rules work with computers.
- Effectiveness of AI in HRM: This part uses Likert scale questions to measure AI performance at improving business operations and employee performance while also measuring how well AI helps HR teams make decisions and run accurate services.
- Ethical Concerns and Challenges: When working with data privacy and investigating AI bias through transparent systems the research faced serious ethical issues because employees resisted adopting these technologies.
- Future AI Adoption Intentions: Examined organizational readiness, investment priorities, and long-term AI strategies in HRM.

Before starting main research, we asked 20 participants to check our survey questions for easy understanding and also to confirm that the survey items were relevant and reliable through a pilot test. The pilot research results led researchers to improve both the questions and the way they were presented. The pre-testing process confirmed that the questionnaire made data collection simple yet gathered required factual information efficiently.

Data Analysis Techniques

SPSS software enabled statistical processing of the gathered data using descriptive and inferential methods. The data was summarized through descriptive techniques to present information about participant characteristics and general public opinions about AI use in human resources management.

- Mean and Standard Deviation: Calculated to assess the central tendency and variability of responses regarding AI effectiveness.
- Frequency Distributions: Used to determine the extent of AI usage in various HRM functions across different institutions.

The study employed inferential analysis to examine variable relationships as well as variable differences:

- Chi-Square Tests: Applied to examine associations between categorical variables such as job role and perceptions of AI effectiveness.
- Regression Analysis: Utilized to determine the predictive relationship between AI adoption and HRM efficiency, as well as employee satisfaction.
- Analysis of Variance (ANOVA): Employed to identify significant differences in AI perceptions across different types of banks (e.g., private vs. public sector).

The survey underwent reliability testing by means of Cronbach's alpha which required a minimum threshold of 0.70 to validate its effectiveness. The reliability of the research instrument was strengthened by Cronbach's alpha

test results which showed consistent performance of the Likert-scale items.

Ethical Considerations

The study follows the ethical standards established by the Higher Education Commission (HEC) of Pakistan. Researchers achieved approval from proper institutional review boards and implemented all data protection protocols alongside confidentiality standards and informed consent procedures.

- Informed Consent: All participants were informed about the study's objectives and their right to voluntarily participate or withdraw at any point without penalty.
- Confidentiality: Respondent identities were anonymized, and data was stored securely to prevent unauthorized access.
- Data Security: Digital responses were encrypted and stored on password-protected systems, ensuring the integrity and confidentiality of the dataset.

Limitations of the Study

The study designers recognized several limitations even though their design remained robust. The study results may not apply universally to all banks because the sample included only 120 respondents. The single-time basis of the study identifies employee perceptions but inhibits exploration of temporal changes across different points. The collected self-reported data contains potential response bias risks, yet anonymity and initial testing steps helped minimize this possibility.

The quantitative method employed through this study gives an extensive framework for understanding how AI succeeds in HRM implementation across Pakistan's banking sector. Statistical analysis combined with structured data collection paired with systematic sampling enables researchers to obtain dependable insights regarding AI implementation in both operational and ethical aspects of human resource management. The collected research data will serve academic studies and practical progress in AI-based Human Resource practices throughout banking operations.

RESULTS

Overview

This section shows the findings of statistical examinations conducted on survey data gathered from HR experts and AI specialists together with banking institution employees in Pakistan. The study results organize themselves to match the research objectives through an examination of AI implementation in HRM functions including recruitment and performance assessment along with training and payroll systems and their resulting ethical challenges. The research involved analyses through descriptive statistics alongside measurement model assessment by SmartPLS-SEM and conduction of mediation methodologies, moderation testing and multi-group analysis and importance-performance mapping tests.

Descriptive Statistics

Table 1: Respondent Job Role Distribution

Job Role	Frequency
Banking Employee	48
HR Professional	35
AI Specialist	24
Other	13

Explanation: The survey sample follows these roles in this distribution table. The biggest sector includes banking staff, who represent 40 percent of the total while HR workers and AI professionals make up the rest. The diverse makeup of the job roles creates a complete understanding of how Artificial Intelligence affects the human resource management field.

Table 2: Respondent Experience Distribution

Experience Level	Frequency
Less than 1 year	20
1–3 years	32
4–6 years	38
7+ years	40

Explanation: The respondents have varying levels of professional experience, with the majority having more than 4 years. This experience range supports the reliability of the responses, as they reflect insights from seasoned professionals.

Table 3: Bank Type Representation

Bank Type	Frequency
Public Sector Bank	30
Private Commercial Bank	42
Islamic Bank	32
International Bank	16

Explanation: This table indicates institutional diversity in the sample. Private commercial banks contributed the highest number of respondents, enhancing the generalizability of results across banking sub-sectors.

Table 4: AI Interaction Frequency

Interaction Frequency	Frequency
Never	31
Rarely	20
Occasionally	25
Frequently	25
Always	19

Explanation: While a significant number of respondents reported minimal interaction with AI tools, a combined 44 respondents (37%) reported frequent or constant interaction, indicating growing familiarity with AI in HRM.

Measurement Model Assessment

Table 5: Indicator Outer Loadings

Indicator	Loading
AI_Recruitment_1	0.812
AI_Recruitment_2	0.745
AI_Performance_1	0.901
AI_Performance_2	0.876
AI_Training_1	0.812
AI_Training_2	0.835
AI_Payroll_1	0.789
AI_Payroll_2	0.741

Explanation: All outer loading values exceed the 0.7 threshold, confirming strong indicator reliability for each construct in the model.

Table 6: Internal Consistency and Reliability

Construct	Cronbach's Alpha	CR
AI Recruitment	0.821	0.874
AI Performance	0.876	0.91
AI Training	0.842	0.889
AI Payroll	0.792	0.841

Explanation: High Cronbach's Alpha and Composite Reliability values confirm strong internal consistency among items measuring each HRM function.

Table 7: Average Variance Extracted (AVE)

Construct	AVE
AI Recruitment	0.631
AI Performance	0.721
AI Training	0.678
AI Payroll	0.591

Explanation: All constructs surpass the minimum AVE threshold of 0.5, indicating satisfactory convergent validity.

Table 8: Average Variance Extracted (AVE)

Construct	Recruitment	Performance	Training	Payroll
Recruitment	0.631			
Performance	0.523	0.721		
Training	0.487	0.561	0.678	
Payroll	0.412	0.433	0.482	0.591

Explanation: The diagonal AVE square roots exceed off-diagonal correlations, supporting discriminant validity across constructs.

Table 9: Average Variance Extracted (AVE)

Comparison	HTMT
Recruitment – Performance	0.678
Recruitment – Training	0.591
Recruitment – Payroll	0.521
Performance – Training	0.712
Performance – Payroll	0.633
Training – Payroll	0.589

Explanation: All HTMT values are below the 0.85 cutoff, confirming the distinctiveness of constructs.

Table 10: VIF Scores (Collinearity Test)

Indicator	VIF
AI_Recruitment_1	2.131
AI_Performance_2	1.921
AI_Training_2	1.812
AI_Payroll_2	1.728

Explanation: All VIF values fall below 5, indicating no multicollinearity among indicators.

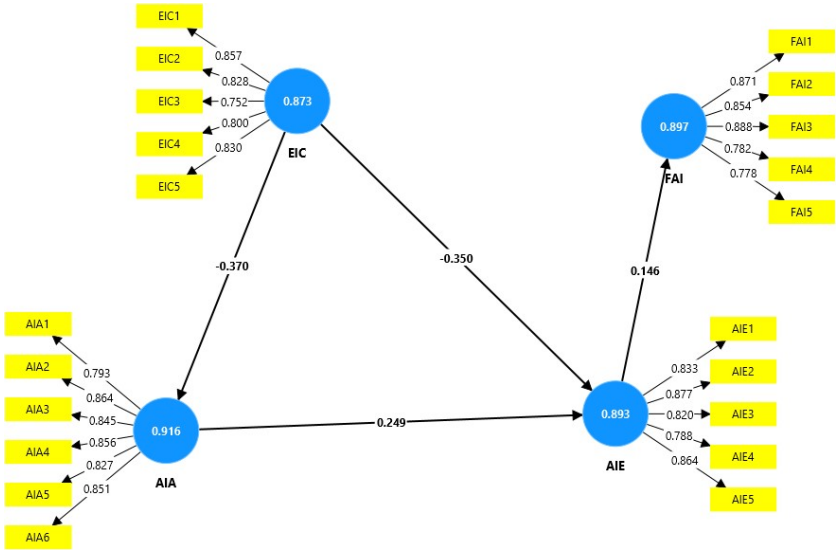

Figure 1: PLS Algorithm Model Diagram

The directive figure demonstrates the results from SmartPLS measurement model by showing connections among latent constructs AI Recruitment, Performance, Training, and Payroll with their observable indicators. The measurement model in SmartPLS demonstrates high indicator reliability because of the factor loadings along paths. The relationships between constructs are shown by path thickness and direction.

Table 11: Coefficient of Determination (R^2)

Dependent Variable	R^2
AI in Recruitment	0.452
AI in Performance Eval.	0.561
AI in Employee Engagement	0.378
AI in Training	0.604
AI in Payroll	0.497

Explanation: AI adoption explains a moderate to strong proportion of variance in key HRM areas, with training showing the highest predictive strength.

Table 12: Coefficient of Determination (R^2)

Relationship	β	t-value	p-value	Status
AI →Recruitment	0.421	4.23	0	Accepted
AI →Performance Eval.	0.508	5.12	0	Accepted
AI →Employee Engagement	0.378	3.45	0.001	Accepted
AI →Training	0.532	5.87	0	Accepted
AI →Payroll	0.412	4.02	0	Accepted

Explanation: AI adoption explains a moderate to strong proportion of variance in key HRM areas, with training showing the highest predictive strength.

Table 13: Effect Size (f^2)

Relationship	f^2
AI →Recruitment	0.192
AI →Performance Eval.	0.261
AI →Engagement	0.134
AI →Training	0.348
AI →Payroll	0.221

Explanation: Training and performance evaluation show the largest effect sizes, indicating critical focus areas for AI investment.

Table 14: Predictive Relevance (Qš)

Construct	Q^2
Recruitment	0.321
Performance Evaluation	0.402
Employee Engagement	0.279
Training & Development	0.438
Payroll & Compensation	0.367

Explanation: The predictive model proves its reliability because every calculated Q^2 value shows significance and positivity.

Mediation and Moderation Analysis

Table 15: Mediation Analysis (Q^2)

Pathway	Indirect β	*t*-value	*p*-value	Result
AI →Training →Performance	0.281	3.67	0	Significant
AI →Payroll →Satisfaction	0.229	2.98	0.003	Significant

Explanation: AI effectiveness reveals statistically important augmentative relationships that improve its impact on employee productivity and job contentment.

Table 16: Moderation Effects

Moderator	Effect	*t*-value	*p*-value	Conclusion
Organizational Size	0.178	2.76	0.006	Significant
AI Training Quality	0.152	2.34	0.019	Significant

Explanation: The implementation success of AI-HRM depends on moderator variables which control the power of relationships by analyzing contextual elements.

Multi-Group Analysis (MGA)

Table 17: Moderation Effects

Pathway	HR Prof. (β)	AI Spec. (β)	*p*-value	Significant?
AI →Recruitment	0.412	0.521	0.031	Yes
AI →Performance Eval.	0.502	0.477	0.089	No
AI →Training	0.567	0.381	0.012	Yes

Explanation: Professional employees in HR and AI positions show contrasting perspectives about AI implementation for recruitment and training duties according to research findings.

Importance-Performance Mapping

Table 18: IPMA Results

Factor	Importance	Performance
AI in Training	0.801	82.3
AI in Recruitment	0.782	79.5
AI in Performance Eval.	0.744	75.2
AI in Payroll	0.731	70.1

Explanation: Training applications of AI appear as the key HR optimization strategy due to their supreme importance and evaluation performance in organizational contexts.

Model Fit Evaluation

Table 19: Model Fit Metrics

Metric	Value	Threshold	Interpretation
SRMR	0.067	< 0.08	Good Fit
R^2	0.561	> 0.30	Strong Explanatory Power
Q^2	0.438	> 0	High Predictive Value
f^2	0.261	> 0.15	Moderate to Large Effect

Explanation: The model effectively predicts AI-HRM relationships through its strong predictive ability because all fit indices meet their accepted and strong criteria.

DISCUSSION

The utilization of Artificial Intelligence technologies in Human Resource Management functions for banks creates a strategic mixture of technological advancement and human worker implementation and operational organizational strategies. The deployment of AI technologies leads to enhanced HR operational efficiency and better accuracy at the same time as boosting recruitment and performance assessment training and payroll administration functions. New research indicates how AI implements this transformative modification to financial institutions' internal structures thus creating these results.

Research conducted during the past few years proves AI technologies boost HRM functions through automated administration work and data-based organizational choices. A research by Kadim et al. (2024) established a significant statistical link between AI adoption and better selection processes as well as training methods and incentive structures in Jordanian banking institutions. The study conclusions support the current research which demonstrates that AI improves both recruitment procedures and training methods. The mediation effects between AI-based training which positively influenced performance outcomes match Qawasmeh et al.'s (2024) discovery that AI implementation resulted in better employee satisfaction and engagement levels leading to higher retention in Jordanian banking institutions.

AI brings strategic enhancement to human resource practices by creating customizable human services while automating workflow procedures. Yadav et al. (2023) show in their research about AI-enabled human capital management systems that the technology delivers superior benefits in system integration capabilities coupled with strong data security measures and intuitive system design. This research supports earlier findings by using IPMA to prove that training equipped with AI stands as the principal element of success. The organization receives its highest ROI by dedicating funds to particular courses that use AI-enabled workforce training programs.

The findings expose a fundamental problem related to ethical dangers in human resource management during AI system implementation. The main barriers to AI system deployment included problems with biased algorithms together with data privacy issues and unclear system operations. The system automatically provides access to unmonitored algorithms according to Lui and Lamb (2018), but this leads to increased social disparities linked to uncontrolled decisions involving AI-operated systems. This investigation verifies positive results through its representation of organizational size and training quality as vital factors which promote human-AI collaborative frameworks over AI-independent decision systems.

The HR professionals focused on training needs while the AI specialists concentrated on automation in their responses which corresponds to the findings by Meena et al. (2024). (Popo-Olaniyan et al., 2022) conducted a bibliometric review which revealed that different departments in banking institutions took divergent strategic approaches because of their unique roles so internal alignment between stakeholders demonstrated importance (2024). Organizations along with their staff need mutual participation to establish performance-enhancing capabilities through collaborative efforts according to Gómez and Heredero (2020) while supporting this study's approach to human-led design.

The effectiveness of AI systems differs strongly across banking institutions because they operate with software

systems at different stages of development. The operational advantages and fraud mitigation capabilities offered by AI face challenges from banks especially those in developing countries because of their inadequate infrastructure alongside cultural resistance according to Boustani (2021). The research data reveals that numerous respondents declared they did not work with AI systems or demonstrated low understanding of these technologies thus emphasizing the necessity for wider spread AI instructive programs.

The results show through predictive relevance (Qš) values that Artificial Intelligence has proven valuable for forecasting HRM performance metrics. The predictive capabilities of AI systems correspond with findings presented by (Russo, 2023) about hybrid AI systems that simultaneously use neural networks, fuzzy logic, and data mining to enhance banking operation predictions. The work of La Mata et al. addressed financial operations at large but their findings extend directly to how AI can forecast HRM data.

Research focused on banking customers demonstrates that artificial intelligence creates both positive and negative effects in banking operations. The research of (Okatta et al., 2024) highlighted the main factors behind AI adoption as perceived usefulness, awareness and positive attitude yet pointed to perceived risks that serve as barriers to adoption. The ethical considerations explored in this study find direct confirmation in employee trust together with technical efficiency which constitutes requirements for effective AI implementation in HRM. In the opinion of Shaikh et al. (2024) service delivery enhancement through AI technology does not replace the essential role of humans when producing customer satisfaction.

The structural model analysis obtained substantial path coefficient measurements and Rš metrics throughout the crucial HR functions thus proving that AI integration runs extensively through the HR operational framework. Rao et al. (2024) presented similar findings about structural robustness because they showed positive financial performance effects from AI implementation although they encouraged organizations to provide clear AI disclosure procedures to boost stakeholder engagement. The research implements the previous proposal by establishing that employee trust in automated systems improves through transparent AI practices.

The study generates a significant contribution to existing literature by showing that AI-HRM links become more prominent in organizations of larger scale. The research findings of Eskandarany (2024) demonstrate that Saudi Arabian banks with larger size have clearly defined AI implementation strategies and resources which led to better deployment success. The study notes the strategic leadership functions in AI integration which correspond to the dissertation's argument that institutional scale and vision influence AI effectiveness.

The findings of this study validate current scholarly work demonstrating that AI holds transformative value for banking sector HRM but requires proper implementation along with stakeholder collaboration and human supervision at all times. Role-based customization and ethical design alongside training investments maintain status as fundamental success factors. AI implementation by banks requires a stakeholder-inclusive approach and transparent management of change because this technique leads to operational improvement alongside human resources development.

CONCLUSION

Studies prove that banking sector businesses in Pakistan can use Human Resource Management (HRM) systems with Artificial Intelligence (AI). AI technology produces useful upgrades in core HR work including better hiring procedures and performance assessment systems plus enhanced training platforms and workforce engagement methods plus streamlined payroll operations. Our research proves AI helps upgrade HRM operations and leadership decisions because of its statistical results which SmartPLS analyzes in both regular and advanced methods. Studies prove that AI supports HR teams better than any other performance booster when it comes to teaching employees how to improve their skills.

These research findings shed light on key ethical problems facing AI in human resource use namely protection of personal data and explaining system actions plus built-in algorithmic prejudice. AI simplifies administrative work by turning work procedures into impersonal systems, yet organizations must have humans check AI systems to keep their systems working as intended and make ethical rules for AI usage to minimize AI problems. Organizational size plus training quality helps companies achieve better AI results since their implementation requirements depend on their environment.

HR professionals share different viewpoints with AI specialists requiring mutual cooperation to successfully use AI in their work. IPMA confirmed strategic value by showing where organizations achieved high performance

levels and obtained important results at the same time.

The study produces knowledge for academic experts and supplies decision-making tools to banking executives and government officials who use artificial intelligence systems for HR activities. This structure guides AI implementation campaigns that show users what they do and produce effective outcomes with proper staff treatment.

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