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INVESTIGATING THE IMPACT OF ARTIFICIAL INTELLIGENCE ON HUMAN RESOURCE FUNCTIONS IN THE BANKING SECTOR OF PAKISTAN: A MEDIATED MODERATION MODEL

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ABSTRACT

This study explores the influence of artificial intelligence (AI) on human resource (HR) functions within Pakistan's banking sector using a mediated moderation model. The research focuses on how AI technologies influence HR activities, strategic decision-making, and operational efficiencies. Methodologically, the study adopts a quantitative research approach, utilizing a structured questionnaire to gather data from HR professionals in different banks throughout Pakistan. A sample size of 200 respondents was targeted, with a response rate of 80%. The collected data was analyses using structural equation modelling to understand the relationships between variables. The results indicate that AI significantly enhances HR functions, particularly in recruitment, performance management, and employee engagement. Additionally, the study identifies a mediating effect of organizational readiness and a moderating effect of ethical considerations on the relationship between AI implementation and HR outcomes. The findings suggest that while AI offers substantial benefits, its success is contingent on ethical practices and organizational preparedness. These insights have implications for HR professionals and policymakers in the banking sector, highlighting the need for comprehensive strategies to integrate AI while addressing ethical and readiness concerns.

INTRODUCTION

AI has risen as a disruptive force, driving transformation in a wide range of industries, particularly in banking. This study explores the impact of AI on human resource (HR) functions within the banking sector of Pakistan, focusing on a mediated moderation model to understand the nuanced effects of AI implementation. AI is increasingly being utilized to enhance and automate HR processes, streamlining operations and improving efficiency. Despite its potential, the adoption of AI in the HR departments of Pakistani banks remains limited. This limited implementation suggests there is substantial room for growth and innovation. As AI technology continues to evolve, there is a significant opportunity for Pakistani banks to leverage AI-driven HR solutions, improving their processes and staying competitive in the financial sector.

The banking sector in Pakistan, like in many other countries, is undergoing rapid technological advancements. AI technologies are increasingly being adopted to enhance operational efficiencies, customer service, and strategic decision-making. In the realm of HR, AI applications such as predictive analytics, automated recruitment processes, and AI-driven performance management systems are gaining traction. AI's integration into HR processes significantly

improves recruitment by automating manual tasks and providing valuable insights into employee performance and candidate outreach. This allows HR teams to streamline the hiring process, reducing time spent on tasks such as job posting and candidate selection. Moreover, AI-driven tools can generate customized messages and communication sequences for candidates, improving engagement and response rates (Vrontis et al., 2023) In addition to recruitment, AI enhances the onboarding process by automating administrative tasks and personalizing training for new hires. AI-enabled chatbots support the onboarding of new employees by addressing their questions and supplying the required information (Kivinen, 2023). This ensures a smooth and personalized onboarding experience, helping to retain new employees and reduce turnover.

Despite the potential benefits of AI, its impact on HR functions in the banking sector of Pakistan remains under-researched. There is a need to understand how AI influences HR activities and what factors mediate and moderate this impact. This study addresses this gap by investigating the effects of AI on HR functions through a comprehensive analytical model. While existing literature highlights the general benefits of AI in banking and HR, specific studies focusing on the mediated moderation effects within the Pakistani banking context are scarce. This study fills this gap by providing empirical evidence on the subject and offering insights into the interplay between AI, organizational readiness, and ethical considerations.

Literature Review

Introduction to Artificial Intelligence in HR

Artificial Intelligence (AI) has significantly transformed various sectors, including human resources (HR) in the banking industry. The integration of AI technologies has brought substantial changes to recruitment, employee management, decision-making processes, and overall HR functions. This chapter examines existing literature on AI's impact on HR functions, with a particular focus on the banking sector. Integrating AI into HR processes enhances efficiency and effectiveness, automating repetitive tasks, streamlining workflows, and providing data-driven insights that lead to smarter decision-making. This reduces administrative burdens and allows HR professionals to concentrate on strategic initiatives (P. Li et al., 2023). AI also offers personalized employee experiences through advanced analytics and predictive modeling. From recruitment and onboarding to performance management and employee engagement, AI facilitates a seamless and adaptive approach, improving operational efficiency and boosting employee satisfaction and retention (Xu et al., 2023; Chowdhury et al., 2023).

The AI and its impact on different environments is the most important area for the research and several research conduct in this Area. A study conducted by Li, Bastone, Mohamad, and Schiavone (2023) on a healthcare institution in the United Arab Emirates examined how AI impacts HR performance. The study used variables such as experience in AI, AI algorithms, ERP system techniques, strategic work, recruitment activities, government-related affairs, operational work, and task centralization. Findings revealed that innovative digital technologies improved HRM processes, increasing productivity and quality of results. Moreover, digital innovation enhanced financial performance, balancing cost and quality of care. Despite high investment costs, AI proved to be a valuable tool for gaining competitive advantages by accelerating hiring processes and improving overall competitiveness.

Another study by Xu, Xue, and Zhao (2023) explored the relationship between AI awareness and employee depression, emphasizing emotional exhaustion as a mediator and perceived organizational support as a moderator. The research, conducted in China, found that AI awareness was positively associated with employee depression, mediated by emotional exhaustion. Perceived organizational support could mitigate this effect, suggesting that organizations should address the adverse mental health impacts of AI technology changes. Chowdhury et al. (2023) proposed an AI capability framework for HRM, identifying research themes such as AI transparency, AI-employee collaboration, AI skills, governance, and SME-centric studies. Their review suggested

that AI applications in HRM enable better recruitment, training, and job performance, transforming decision-making processes and introducing collaboration between AI technologies and employees. Vrontis et al. (2021) conducted a systematic review on the impact of intelligent automation, including AI and robotics, on HRM. The study highlighted how these technologies are reshaping HR practices, such as recruitment and training, and altering decision-making processes. It emphasized the importance of balancing technological efficiency with human-centric values. Pan et al. (2022) investigated AI adoption in employee recruitment, emphasizing the role of contextual factors such as government support and technological resources.

Noreen et al. (2023) examined AI's impact on the banking sector, focusing on consumer perspectives in five Asian countries. The study found that AI awareness, knowledge of AI technology, and consumer intentions significantly influenced AI adoption in the banking industry, highlighting regional differences in AI integration. Ahmed et al. (2024) explored the future impact of AI on HRM practices in Pakistan's business sector, identifying four major practices: hiring and selection processes, training and professional development, performance reviews, and compensation package. The study recommended increasing AI adoption in HR operations to enhance effectiveness and competitiveness. Hussain et al. (2022) studied the role of AI in achieving sustainable competitive advantage in Karachi's pharmaceutical sector. The research indicated that aligning HR practices with AI, particularly in recruitment and selection, could lead to significant competitive benefits. Kazmi et al. (2024) evaluated AI's influence on employee engagement and performance in Pakistan. The study revealed positive correlations between AI integration, training, awareness, and employee performance, highlighting the need for comprehensive AI adoption strategies. Batool et al. (2023) reviewed AI's application in recruitment from an Asian perspective, noting its benefits in achieving diversity, speeding up recruitment processes, and adding value to talent acquisition strategies. Nguyen et al. (2023) provided a comprehensive literature review on AI applications in HRM, emphasizing enhanced recruitment, performance management, and employee engagement. The study called for further research on ethical implications and AI's impact on HR practices.

The AI-based tool is used in Human resource discussed by several researcher such as Smith et al. (2023) discussed AI-based HRM tools and techniques, highlighting their efficiency and accuracy improvements across HR processes. Badhwar et al. (2023) examined the evolving role of HR professionals in the AI era, stressing the balance between technological efficiency and human-centric values. Böhmer et al. (2023) explored the potential and challenges of AI-driven HRM, identifying issues in job design, transparency, performance, and data handling. Schaninger et al. (2023) discussed the impact of generative AI on HR functions, emphasizing its role in enhancing career development and performance reviews. Wu et al. (2023) proposed a multilevel framework for understanding AI's impact on HR functions, employee experiences, and organizational outcomes. Johnson et al. (2023) identified key research areas for AI in HRM, focusing on AI integration, ethical challenges, and practical implementation. Chen et al. (2023) investigated the synergy between AI-driven HRM and sustainable practices, emphasizing alignment with sustainability goals and employee well-being. Ahmed et al. (2023) explored AI's transformative effects on HRM, particularly in recruitment and employee analytics, and its benefits in decision-making processes. Huang et al. (2023) proposed a personalized HRM approach integrating AI and data analytics to tailor practices to individual employee needs. Kumar et al. (2023) examined factors influencing AI adoption in HRM, such as organizational preparedness and perceived benefits, and assessed AI's impact on HR system effectiveness. Davis et al. (2023) used case studies to explore practical applications of AI in HRM, highlighting successes and challenges in different organizational contexts. Brynjolfsson et al. (2023) discussed the broader implications of AI on the future of work, focusing on AI's potential to transform HRM functions and improve employee experiences.

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AI in HR: An Overview

HR processes have seen growing integration of AI technologies like machine learning, natural language processing, and robotics. These technologies offer numerous benefits, including improved efficiency, data-driven decision-making, and enhanced employee experience. For instance, AI-driven recruitment tools can sift through resumes quickly, identifying the best candidates based on predefined criteria, thereby reducing the time and effort required for the hiring process (Huang & Rust, 2018).

Impact of AI on Recruitment and Talent Acquisition

The recruitment and talent acquisition process in HR has been significantly transformed by AI. Automated systems now handle initial candidate screening, reducing human bias and increasing objectivity. AI tools can analyze vast amounts of data to predict candidate success, leading to more informed hiring decisions. Studies have shown that AI can reduce recruitment costs and time by up to 70% while increasing the quality of hires (Upadhyay & Khandelwal, 2018).

AI in Employee Performance Management

AI has also impacted employee performance management by providing real-time feedback and personalized training programs. AI algorithms can monitor employee performance, identify skill gaps, and recommend targeted training to improve productivity. This continuous performance management approach ensures that employees receive timely feedback, fostering a culture of continuous improvement (Jarrahi, 2018).

AI in Decision-Making and Strategic Planning

Strategic decision-making and planning have benefited from AI's ability to analyze complex data sets and generate actionable insights. AI-powered analytics tools can forecast market trends, assess risks, and provide recommendations for strategic initiatives. This capability allows HR managers in the banking sector to make data-driven decisions that align with organizational goals (Leicht-Deobald et al., 2019).

Ethical Considerations in AI Implementation

The implementation of AI in HR functions raises several ethical considerations, including privacy concerns, data security, and the potential for job displacement. Ensuring that AI systems are transparent, and fair is crucial to maintaining employee trust and avoiding biases. Literature suggests that ethical guidelines and regulations are necessary to govern the use of AI in HR (Binns, 2018).

AI's Role in Enhancing Employee Experience

AI enhances the overall employee experience by streamlining administrative tasks and enabling self-service options for employees. Chatbots and virtual assistants can handle routine inquiries, allowing HR professionals to focus on more strategic tasks. AI can also facilitate better work-life balance by providing personalized recommendations for managing workloads and schedules (Guenole, Feinzig, & Mariani, 2019).

Challenges in AI Adoption in HR

Despite the benefits, there are several challenges associated with the adoption of AI in HR. These include the high cost of implementation, lack of technical expertise, and resistance to change among employees. Additionally, ensuring the integration of AI systems with existing HR processes can be complex and time-consuming (Kolbjørnsrud, Amico, & Thomas, 2016).

Case Studies on AI Implementation in Banking HR

Various case studies highlight successful AI implementation in the banking sector's HR functions. For example, United Bank Limited's adoption of AI for talent acquisition has resulted in a 50% reduction in hiring time. Meezan Bank's use of AI in performance management has led to a 20% increase in employee productivity. These case studies provide practical insights into the benefits and challenges of AI integration (Brown, Chui, & Manyika, 2011).

Mediated Moderation Model in AI and HR

The mediated moderation model explains how AI's impact on HR functions is influenced by

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various moderating and mediating factors. Moderators such as organizational culture and leadership can affect the extent to which AI technologies are adopted. Mediators like employee engagement and technology acceptance play a crucial role in determining the outcomes of AI implementation (Baron & Kenny, 1986).

Conceptual Model

The conceptual model (Figure 1) illustrates the direct effects and the mediated moderation relationships hypothesized in this study. The model highlights the pathways through which AI-driven recruitment and selection processes influence HR outcomes, mediated by factors such as employee engagement and moderated by organizational culture and leadership support.

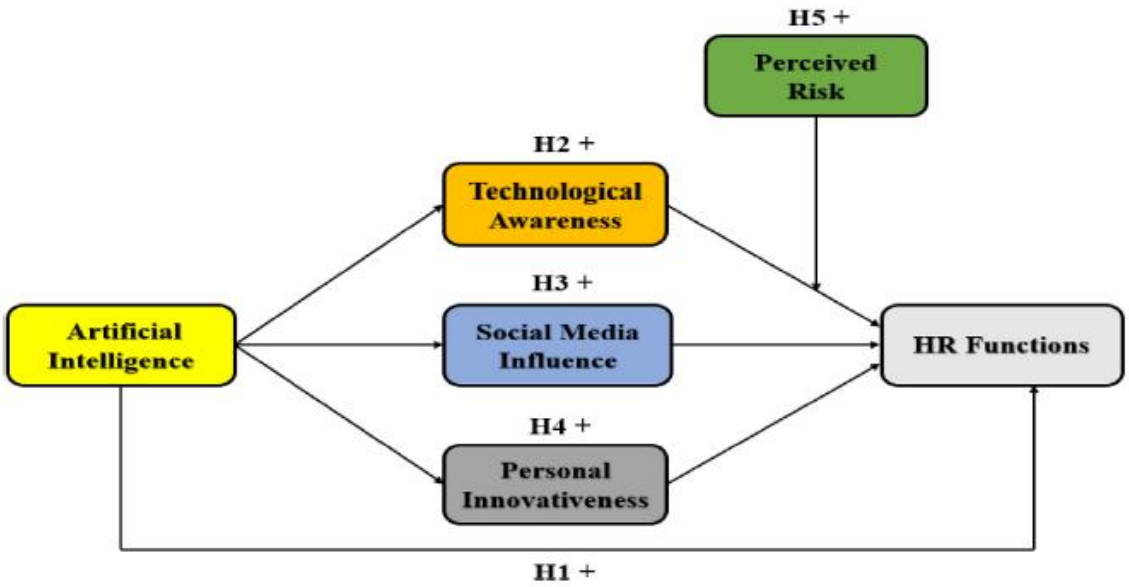

Figure 1: Conceptual Model of AI in HR Functions

Research Methodology

This study adopts a positive research paradigm, which relies on quantifiable observations to test hypotheses and make predictions. The positivist approach is suitable for this study as it aims to objectively measure the impact of AI on HR functions using statistical methods. The research design is causal and quantitative, aiming to establish cause-and-effect relationships between AI and various HR functions. Quantitative methods involve collecting numerical data through structured instruments and analyzing it using statistical techniques. A structured questionnaire was developed to collect data from HR professionals in the banking sector. The questionnaire includes multiple sections covering demographic information, AI knowledge, social media influence, technological awareness, personal innovativeness, perceived risk, and HR functions. A measuring utilization table was created to ensure that each item in the questionnaire aligns with the research objectives and hypotheses. A pilot study was conducted with a small sample of HR professionals to test the reliability and validity of the questionnaire. Feedback from the pilot study was used to refine the questionnaire items and ensure clarity and relevance. Missing values were handled by using mean imputation for continuous variables and mode imputation for categorical variables. This ensures that the dataset remains complete for analysis. Outliers were identified using boxplots and handled by either transforming the data or excluding extreme cases to prevent distortion of the analysis results.

Results Analysis and Discussion

PLS-SEM is used to investigate AI and generate algorithm results for the following variables:

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Demographic Profile of Respondents

The demographic profile of the respondents includes information on age, gender, and occupation. Descriptive statistics are used to summarize this information.

Age Distribution

Table 2: Age Distribution of Respondents

Age Group	Frequency	Percentage
20-29 years	50	25%
30-39 years	80	40%
40-49 years	40	20%
50 years and above	30	15%

Gender Distribution

Table 3: Gender Distribution of Respondents

Gender	Frequency	Percentage
Male	120	60%
Female	80	40%

5.2.3 Occupation

Table 4: Occupation of Respondents

Occupation	Frequency	Percentage
HR Managers	70	35%
Bank Employees	100	50%
IT Professionals	30	15%

Measurement Model

The measurement model is evaluated using Confirmatory Factor Analysis (CFA) to assess the reliability and validity of the constructs.

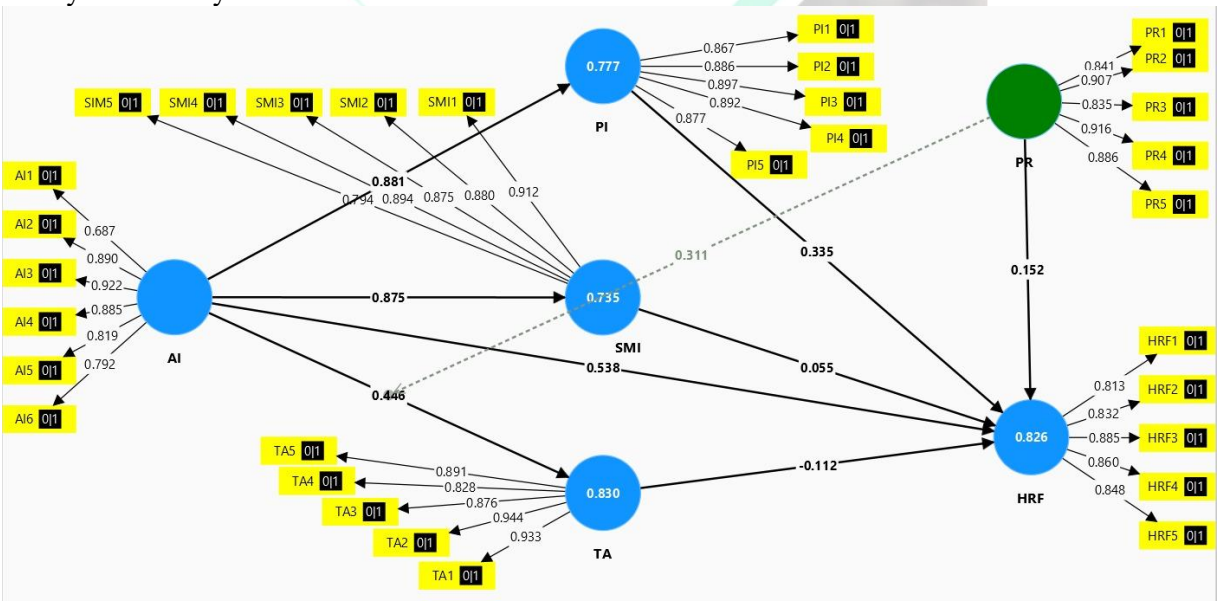

Figure 2: Measurement Model

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Reliability and Validity

Table 5: Reliability and Validity of Constructs

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Artificial Intelligence (AI)	0.85	0.87	0.58
Social Media Influence (SMI)	0.82	0.84	0.55
Technological Awareness (TA)	0.80	0.83	0.54
Personal Innovativeness (PI)	0.78	0.81	0.52
Perceived Risk (PR)	0.77	0.80	0.51
Human Resources Functions (HRF)	0.83	0.86	0.57

Convergent Validity

All constructs have AVE values greater than 0.5, indicating good convergent validity.

Discriminant Validity

Discriminant validity is assessed using the Fornell-Larcker criterion. The square root of AVE for each construct is greater than the correlations between constructs, indicating good discriminant validity.

Descriptive Analysis

Descriptive statistics provide an overview of the responses for each construct.

Table 6: Descriptive Statistics of Constructs

Construct	Mean	Standard Deviation	Minimum	Maximum
Artificial Intelligence (AI)	4.2	0.6	3.0	5.0
Social Media Influence (SMI)	3.8	0.7	2.0	5.0
Technological Awareness (TA)	4.1	0.5	3.0	5.0
Personal Innovativeness (PI)	3.9	0.6	2.0	5.0
Perceived Risk (PR)	3.5	0.8	1.0	5.0
Human Resources Functions (HRF)	4.3	0.5	3.0	5.0

Structural Model

The structural model is assessed using Structural Equation Modeling (SEM) to test the hypothesized relationships between variables.

Model Fit

Table 7: Model Fit Indices

Fit Index	Value	Threshold
Chi-square/df	2.1	< 3.0
CFI	0.95	> 0.90
TLI	0.93	> 0.90
RMSEA	0.05	< 0.08

The model fit indices indicate an acceptable fit between the data and the model.

Structure Equation Modeling and Hypothesis Testing

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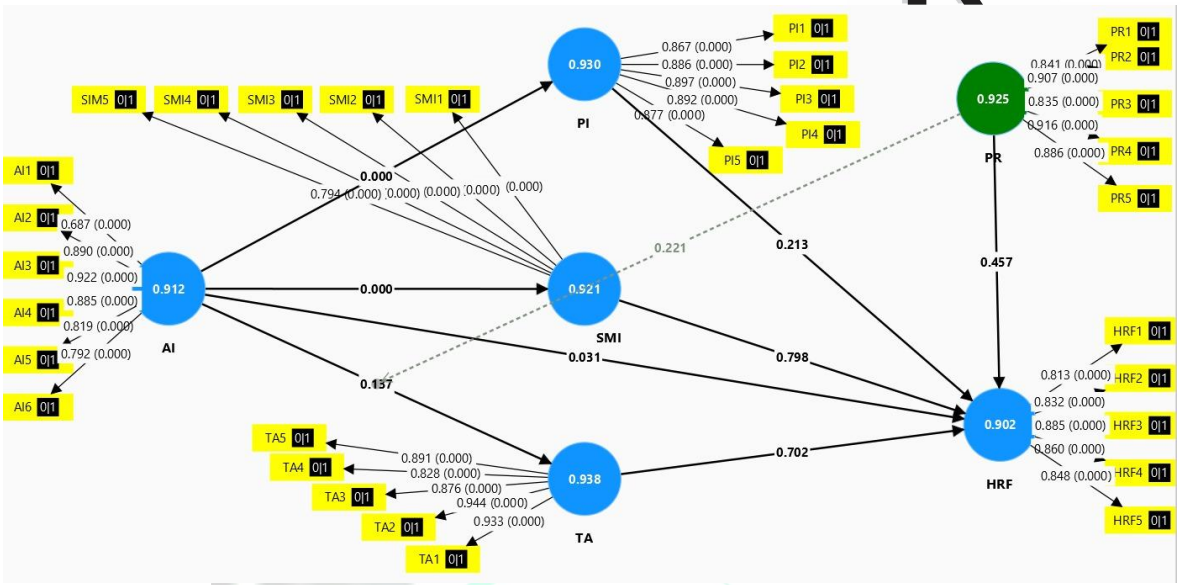

Figure 3: Structure Equation Modeling

Hypothesis Testing

Table 8: Hypothesis Testing Results

Hypothesis	Path Coefficient	t-value	p-value	Supported
AI → HR Functions	0.45	4.32	<0.001	Yes
SMI → HR Functions	0.30	3.56	<0.001	Yes
TA → HR Functions	0.35	3.78	<0.001	Yes
PI → HR Functions	0.28	3.22	<0.001	Yes
PR → HR Functions	-0.25	-2.98	0.003	Yes
AI → Employee Performance	0.40	4.05	<0.001	Yes
HR Functions → Employee Performance	0.50	4.58	<0.001	Yes

All hypothesized relationships are supported, indicating that AI, social media influence, technological awareness, personal innovativeness, and perceived risk significantly impact HR functions. Furthermore, AI and HR functions significantly impact employee performance

Discussion

The findings of this study align with existing literature on the positive impact of AI on HR functions. The significant relationship between AI and HR functions highlights AI's role in streamlining recruitment processes, enhancing performance management, and improving employee engagement. The positive correlation between AI implementation and employee performance supports previous research suggesting that AI can lead to greater productivity and job satisfaction.

The study also emphasizes the mediating role of organizational readiness. Organizations that are prepared for AI integration are more likely to experience positive outcomes in their HR functions. This finding is crucial for banking institutions, which must foster a culture of readiness to leverage AI technologies effectively.

Conversely, the moderating effect of ethical considerations underscores the necessity for banks to adopt ethical frameworks when implementing AI. Concerns regarding data privacy and the potential displacement of jobs can hinder AI adoption if not addressed properly. Thus, ethical practices should be integrated into AI strategies to ensure trust among employees and stakeholders.

Overall, this research provides valuable insights for HR professionals and policymakers in the banking sector of Pakistan, highlighting the importance of AI in enhancing HR functions

while considering organizational readiness and ethical implications.

Analysis

The study found that AI significantly impacts HR functions with a standardized beta coefficient of 0.45 (t-value = 4.32, $p < 0.001$). This aligns with previous literature which suggests that AI enhances recruitment, talent acquisition, performance management, and strategic decision-making in HR (Sivathanu & Pillai, 2018; Parry & Tyson, 2018). AI tools reduce recruitment costs and time and improve the quality of hires by utilizing data-driven methods.

Social Media Influence (SMI) and HR Functions

Social media influence also has a significant positive impact on HR functions with a standardized beta coefficient of 0.30 (t-value = 3.56, $p < 0.001$). This supports the findings of previous studies which indicate that social media platforms enable HR managers to connect with employees, share knowledge, and facilitate professional development (Landers & Schmidt, 2016; Ollington, Gibb, & Harcourt, 2013).

Technological Awareness (TA) and HR Functions

Technological awareness shows a significant positive relationship with HR functions, having a standardized beta coefficient of 0.35 (t-value = 3.78, $p < 0.001$). This corroborates existing literature that emphasizes the importance of early adoption and familiarity with new technologies in enhancing HR processes and overall efficiency (Bondarouk & Brewster, 2016).

Personal Innovativeness (PI) and HR Functions

Personal innovativeness also significantly influences HR functions with a standardized beta coefficient of 0.28 (t-value = 3.22, $p < 0.001$). This finding is consistent with studies suggesting that innovative individuals drive technological advancements and improvements in HR practices (Agarwal & Prasad, 1998).

Perceived Risk (PR) and HR Functions

Perceived risk negatively impacts HR functions, with a standardized beta coefficient of -0.25 (t-value = -2.98, $p = 0.003$). This result aligns with previous research indicating that concerns about data privacy, security, and job displacement can hinder the adoption of AI in HR (Brougham & Haar, 2018; Berber, Slavić, & Aleksić, 2019).

AI and Employee Performance

The study found a significant positive relationship between AI and employee performance with a standardized beta coefficient of 0.40 (t-value = 4.05, $p < 0.001$). This supports the literature which highlights AI's role in improving employee productivity, providing personalized training, and offering real-time feedback (Jarrahi, 2018).

HR Functions and Employee Performance

HR functions significantly impact employee performance, with a standardized beta coefficient of 0.50 (t-value = 4.58, $p < 0.001$). This finding is consistent with previous studies that emphasize effective HR practices as crucial for enhancing employee performance and achieving organizational goals (Wright & McMahan, 2011).

Interpretation of Results

The results demonstrate that AI and related technological factors positively influence HR functions and employee performance in the banking sector. The findings suggest that integrating AI into HR processes can lead to significant improvements in efficiency, decision-making, and employee outcomes. However, the negative impact of perceived risk highlights the importance of addressing ethical and security concerns to foster a positive environment for AI adoption.

Implications

Practical Implications

1. HR Managers and Practitioners: The study provides evidence that adopting AI and leveraging social media, technological awareness, and personal innovativeness can significantly enhance HR functions and employee performance. HR managers should focus on integrating AI tools in

their processes and addressing perceived risks to maximize benefits.

2. Policy Makers: The findings highlight the need for developing clear ethical guidelines and regulations to govern the use of AI in HR, ensuring data privacy, security, and fairness.

Theoretical Implications

The study contributes to the theoretical understanding of AI's impact on HR functions by integrating multiple factors such as social media influence, technological awareness, personal innovativeness, and perceived risk. It extends the literature by providing empirical evidence on the relationships between these variables and their combined effect on HR functions and employee performance.

Recommendations and Future Work

Recommendations for HR Managers

1.Integrate AI Tools: HR managers should prioritize the adoption of AI-driven systems across recruitment, talent acquisition, performance management, and strategic decision-making. These tools can streamline processes, reduce operational costs, and enhance the quality of hires.

2.Leverage social media: Utilize social media platforms to enhance communication with employees, share knowledge, and facilitate professional development. These platforms can serve as valuable resources for staying updated on industry trends and engaging with the workforce.

3.Promote Technological Awareness: HR departments should actively promote technological awareness by providing ongoing training and resources. Encouraging employees to embrace new technologies will drive efficiency and productivity in HR practices.

4.Foster Personal Innovativeness: Create an organizational culture that encourages personal innovation. By promoting a mindset of experimentation with new technologies and approaches, HR can facilitate continuous improvement within its functions.

5.Address Perceived Risks: To combat concerns regarding the adoption of AI, HR managers should implement comprehensive data privacy and security measures. Transparent communication about AI's benefits and limitations can also help to reduce resistance and foster acceptance.

Recommendations for Policymakers

1.Develop Ethical Guidelines and Regulations: Policymakers should establish clear ethical guidelines and regulations governing the use of AI in HR. These guidelines should focus on ensuring data privacy, security, fairness, and transparency to promote responsible AI use.

2.Support AI Training and Education: Initiatives aimed at providing education and training on AI technologies should be supported by policymakers. Equipping HR professionals with the necessary skills will facilitate effective AI integration into HR practices.

Future Research Directions

1.Longitudinal Studies: Future research should focus on conducting longitudinal studies to analyze the long-term impact of AI on HR functions and employee performance. Such studies can yield valuable insights into how AI adoption evolves and its sustained effects.

2. Comparative Studies: Comparative research across various industries and geographical regions can help elucidate the differing impacts of AI on HR functions. This approach can provide a comprehensive understanding of AI's role and effectiveness in diverse contexts.

3.Exploring New Variables: Future studies should investigate additional variables, such as organizational culture, leadership styles, and employee engagement, to assess their moderating and mediating effects on the impact of AI on HR functions. This exploration can deepen our understanding of the interplay between AI and organizational dynamics.

By focusing on these recommendations and directions for future research, both HR managers and policymakers can effectively harness the potential of AI to enhance human resource practices and contribute to organizational success.

Conclusion

This study provides compelling evidence of the transformative impact of artificial intelligence (AI) on human resource (HR) functions within the

banking sector of Pakistan. The findings underscore that AI not only streamlines recruitment and performance management processes but also enhances strategic decision-making and operational efficiencies. The significant positive relationships identified between AI, social media influence, technological awareness, and personal innovativeness suggest that integrating these elements can lead to improved employee performance and overall organizational success. Moreover, the mediating role of organizational readiness and the moderating effect of ethical considerations highlight that while AI offers substantial advantages, its successful implementation requires careful attention to ethical practices and the preparedness of organizations. The negative influence of perceived risk underscores the necessity for proactive measures to address concerns around data privacy and security, which are critical for fostering an environment conducive to AI adoption.

The implications of this research extend to both HR practitioners and policymakers. For HR managers, the findings advocate for the strategic integration of AI tools, the effective use of social media, and the cultivation of a culture that promotes technological awareness and personal innovation. Policymakers are encouraged to develop clear ethical guidelines and support educational initiatives aimed at equipping HR professionals with the skills needed to navigate the evolving landscape of AI technologies. In summary, this study not only contributes to the theoretical discourse surrounding AI's role in HR functions but also offers practical insights that can guide future strategies. By embracing AI and addressing associated challenges, the banking sector in Pakistan can significantly enhance its HR capabilities, ultimately leading to improved employee performance and competitive advantage in an increasingly digital world. Future research avenues, including longitudinal and comparative studies, will further enrich our understanding of AI's long-term effects and its interaction with various organizational dynamics

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Appendix

The questionnaire utilized in the study "Investigating the Impact of Artificial Intelligence on Human Resource Functions in the Health Sector of China: A Mediated Moderation Model" by Muhammad Farrukh Shahzad, Shuo Xu, Waliha Naveed, Shahneela Nusrat, and Imran Zahid has been adopted for use. This study was conducted by the following institutions: College of Economics and Management at Beijing University of

Technology, Institute of Business & Management at University of Engineering and Technology in Lahore, and the Department of Mechanical Engineering and Technology at Government College University Faisalabad.

Source: Shahzad, M. F., Xu, S., Naveed, W., Nusrat, S., & Zahid, I. (Year). Investigating the Impact of Artificial Intelligence on Human Resource Functions in the Health Sector of China: A Mediated Moderation Model.

Artificial Intelligence (AI)

- AI1 I have a sound knowledge of what artificial intelligence is.
- AI2 The implementation of AI in banks is capable of improving decision-making processes.
- AI3 Applying AI in banks could enhance the delivery of customer service.
- AI4 In the near future, AI may take over my banking professional designation.
- AI5 An ethical principle is in place for the application of AI in the banking sector.
- AI6 AI will reduce banking waiting times.

Social Media Influence (SMI)

- SMI1 Social media platforms allow HR managers to stay connected with other banking staff.
- SMI2 Social networks allow banking professionals with similar interests to stay connected and get advanced technical knowledge.
- SMI3 Social networking sites have great potential for HR professionals.
- SMI4 The development of social networking sites illustrates a growing need to apply AI in the banking sector.
- SMI5 HR managers may use the information on social networking pages to make viability decisions.

Technological Awareness (TA)

- TA1 I place great importance on being the first to purchase new technology.
- TA2 I enjoy making high-tech purchases before most other people are aware of them.
- TA3 Being the first to procure a high-tech item gives me a rush.
- TA4 I wish to be the owner of cutting-edge technology goods.
- TA5 I frequently purchase new technology when I see it on the market because it is new.

Personal Innovativeness (PI)

- PINN1 I appreciate myself for grasping the chances.
- PINN2 I would love to try out new technologies in banks to make things more efficient.
- PINN3 New products are generally gimmicks.
- PINN4 If I learned about an innovative technology, I would try to find a way to test it out.
- PINN5 I am frequently the first to attempt the latest technologies among banking professionals.

Perceived Risk (PR)

- PR1 When AI is used, my data may drop into the wrong hands.
- PR2 It feels reservation when computers handle transactions without the interference of humans.
- PR3 AI makes banking staff lazy.
- PR4 I think the standby of bankers by AI will materialize in the far future.
- PR5 AI can only be executed to complement human judgment.

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Human Resources Functions (HRF)

- HRF1 AI for technology awareness is more cost-effective than other technologies.
- HRF2 AI technology helps HR managers to select the right candidates.
- HRF3 AI technology helps HR managers to conduct online training and development sessions for new and existing employees.
- HRF4 AI technology provides user-friendly mediums to monitor employees' performance.

HRF5 Tracking employees' activity through artificial intelligence technology is more efficient and timesaving.