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Impact of Artificial Intelligence in Human Resource Management: Evaluating the Nexus between AI-Driven Recruitment and Candidate Experience in the Pakistani Banking Sector

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Abstract
The study explores the role of artificial intelligence (AI) in human resource management, examining the link between AI-based recruitment and candidate experience in Pakistan's banking sector. An analytical cross-sectional study was carried out for 6 months employing a stratified random sampling design. 150 applicants enrolled (20-40 years) who have experienced AI-based recruiting. The study was conducted in the banking recruitment websites and centers in Pakistan. Information was obtained through a questionnaire and Candidate Experience Assessment Form (CEAF). SPSS used for data analysis with descriptive statistics, Chi-square test and independent t-test. The findings revealed 68% of candidates were satisfied with AI-based recruitment, and 32% dissatisfied. There was a strong link between AI usage and candidate satisfaction ($p = 0.002$) and a significant difference in satisfaction scores between candidates using AI ($p < 0.001$). These results suggest that the use of AI enhances efficiency and candidate satisfaction, but raises issues of transparency and human engagement.

Keywords: Artificial Intelligence, Human Resources, Management, Banking Sector

Introduction

In recent years, the use of Artificial Intelligence (AI) has revolutionised practices within organisations, especially in Human Resource Management (HRM). The adoption of AI technologies like machine learning, natural language processing and predictive analytics has led to more efficient and effective HR practices. In particular, AI is making significant contributions to the areas of recruitment and selection, by automating routine processes and enhancing decision-making processes [1][2].

Conventionally, recruitment has been a time-consuming process involving significant manual work in screening resumes, shortlisting candidates and scheduling interviews. In industries like banking, where accuracy and speed of hires are essential, these traditional practices can be time-consuming and costly. AI-powered recruitment platforms overcome these limitations by automating resume screening, candidate shortlisting and predictive matching of candidates, thus accelerating the hiring process and enhancing recruitment effectiveness [3][4].

The banking industry has embraced AI given its data-driven approach and the focus on efficiency. Organisations are now increasingly using AI-driven systems to source, screen, and select candidates based on skills and performance. These tools not only improve efficiency but also

enable data-driven recruitment, which is key to keeping up with the competition in the banking sector [5][6].

Perhaps one of the most important factors in AI-powered recruitment is its impact on candidate experience, defined as the overall satisfaction and perception of candidates during the recruitment process. A good candidate experience is crucial for employer branding and candidate attraction. AI-powered tools, like chatbots and automated messaging platforms, enable instant communication and up-to-date information, leading to higher levels of engagement and satisfaction for candidates [7][8].

But while using AI has many benefits, it also has some drawbacks. One concern is the opacity of AI decision-making, which can create confusion and doubts in the mind of the applicants. Moreover, the lack of human interaction in AI-based recruitment may have a negative impact on candidates who prefer personal interactions in the recruitment process [9].

Another key aspect of using AI in HRM is ethics. Without careful design and training, AI algorithms can be biased, possibly leading to discrimination in the hiring process. To ensure trust and ethical compliance, fairness, accountability and transparency in AI systems is therefore crucial [10][11].

Additionally, research indicates that although AI enhances efficiency and fairness in hiring processes, its effect on job applicant satisfaction is ambivalent. Candidates are divided in their opinions, with some valuing the efficiency and convenience of AI, while others are concerned about the lack of personal interaction in automated screening. This suggests a need for a combination of technological efficiency and human considerations in the recruitment process [12][13].

The use of AI in HRM is nascent in developing nations like Pakistan. There is a growing trend towards using AI-based recruitment in the banking industry; however, there is little empirical evidence on the effects of AI-based technologies on candidate experience in this industry. The majority of research is in developed countries, suggesting a research gap in this area [14][15].

Thus, this research seeks to assess the effect of the use of AI-based recruitment on candidate experience in the Pakistani banking sector. This study aims to understand this relationship to inform recruitment practices to achieve better outcomes for employers and a positive and equitable experience for candidates.

Methodology

The present study used an analytical cross-sectional research design to assess the contribution of artificial intelligence (AI) in human resource management, with a focus on the association between AI-based recruitment and candidate experience in the banking industry of Pakistan. Data was collected over six months from those who have recently participated in recruitment processes that involved AI.

The target population for this study were job candidates for various banking positions in public and private sector banks in Pakistan. A sample of 150 was recruited for the study based on practical considerations and previous related research in HRM and AI recruitment. Participants were also limited in age to 20-40 years to include those who are most likely to use online technologies. A stratified random sampling method was employed for better representation of the population, in which participants were first stratified on the basis of age, gender, and experience and then random sampling was performed.

The research environment covered both online banking recruitment systems (such as careers portals, and AI-based recruitment systems) and physical recruitment offices where AI-based technologies such as automated screening, chatbots and video interview systems were used. Participants were included if they had experience with at least one type of AI-driven recruitment

process. Those who had no exposure to AI-based recruitment process or who refused to provide data were not included.

A self-administered questionnaire developed for this study was used for data collection. The questionnaire had two sections: (1) demographic details (age, gender, education, and work status) and (2) Candidate Experience Assessment Form (CEAF) that assessed several aspects of recruitment experiences including efficiency, transparency, quality of communication and human interaction. The scale of responses was measured on a Likert scale to assess satisfaction and attitudes towards the use of AI.

The questionnaire was pre-tested with a smaller group (n=15) before the data collection to check its clarity, validity and reliability. Any required changes were incorporated. All ethical guidelines were followed, including obtaining informed consent from participants, and maintaining anonymity of responses.

The Statistical Package for Social Sciences (SPSS) version 26 was used to enter and analyse data. Frequencies, percentages, means and standard deviations were calculated to describe the demographic characteristics and candidate experience. The Chi-square test was used to explore the relationship between AI-based recruiting and candidate experience. Additionally, an independent sample t-test was conducted to assess the difference in mean satisfaction scores for candidates who had AI-driven recruitment experience, compared to those who had a conventional experience. A p-value of ≤ 0.05 was adopted as the level of significance.

Results:

Table 1: Demographic Characteristics of Participants (n = 150)

Variable	**Category**	**Frequency (n)**	**Percentage (%)**
Age	20–25	42	28.0
Age	26–30	48	32.0
Age	31–35	36	24.0
Age	36–40	24	16.0
Gender	Male	88	58.7
Gender	Female	62	41.3
Education	Bachelor's	79	52.7
Education	Master's	61	40.7
Education	Others	10	6.6
Employment	Fresh	67	44.7
Employment	Experienced	83	55.3

Table 2: AI-Driven Recruitment Exposure

Variable	**Category**	**Frequency**	**Percentage**
AI Screening	Yes	112	74.7
AI Screening	No	38	25.3
Chatbots	Yes	98	65.3
Chatbots	No	52	34.7
Automated Interviews	Yes	87	58.0
Automated Interviews	No	63	42.0

Table 3: Candidate Experience

Experience	Frequency	Percentage
Positive	102	68.0
Negative	48	32.0
Total	150	100.0

Table 4: Association Between AI Use and Candidate Experience

AI Use	Positive	Negative	Total
Yes	88	24	112
No	14	24	38
Total	102	48	150

Table 5: Independent t-test for Satisfaction Scores

Group	Mean ± SD	t-value	p-value
AI Recruitment	4.12 ± 0.68		
Traditional	3.45 ± 0.74	4.85	<0.001

Table 6: Factors Affecting Candidate Experience

Factor	Mean ± SD
Efficiency	4.25 ± 0.62
Transparency	3.21 ± 0.80
Communication	3.58 ± 0.71
Human Interaction	3.05 ± 0.88

Discussion

This study examined the role of AI-based recruitment in enhancing candidate experience in the banking industry of Pakistan and found that while 68% of candidates were satisfied with AI-based recruitment, 32% were dissatisfied. The results are in line with recent studies which show that AI-driven recruitment improves the efficiency and effectiveness of the hiring process by automating and accelerating the process [16][17]. This satisfaction rate could be linked to the speedy processing, efficient application processes and regular communication enabled by AI systems.

The strong correlation between the use of AI in recruitment and candidate experience ($p = 0.002$) suggests that AI technologies significantly influence candidate perceptions. This finding is consistent with recent research, where AI-based recruitment was linked to higher applicant satisfaction rates as a result of efficient and consistent responses, and structured applicant assessment processes [18]. Furthermore, the significantly greater mean satisfaction scores of candidates who experienced AI-driven recruitment ($p < 0.001$) also confirm the benefits of AI in enhancing candidate experience.

A major positive factor in AI-enabled recruitment identified in this study is increased efficiency. The use of AI technologies like resume screening and virtual interviews enables companies to quickly screen and assess a large pool of candidates, expediting the hiring process. Earlier research has also highlighted the role of AI in improving decision accuracy by reducing human biases and inconsistencies in recruitment decisions [19][20]. Such speed is crucial in the banking industry where timely recruitment of competent staff is critical for business success.

While these are benefits, the study also found concerns over transparency and human interaction. A significant number of respondents were unhappy with the opacity of AI-driven decision-making. This echoes recent research which suggests that candidates may view AI

systems as "black boxes" - creating uncertainty and a lack of confidence in hiring decisions [21]. Moreover, the lack of human interaction in AI recruitment may not be suitable for candidates who prefer human interaction in the recruitment process.

Ethics is a significant concern in the use of AI in HRM. Algorithmic bias and discrimination have been well documented, with research showing that AI may inadvertently discriminate a group if the algorithms are trained on a biased data set [22]. While AI can help bring an objective approach, it is only as good as the data and algorithms used. So, companies need to ensure that AI systems are audited for potential bias and discrimination to avoid inequitable practices.

Another key insight of this research is the trade-offs between speed and personalisation. AI enhances the efficiency and fairness of the hiring process, but it can also affect the personalised aspect of candidates' experience. Studies indicate that an "augmented" approach that uses AI technologies in combination with human input can improve recruitment outcomes by harnessing the best of both worlds [23][24]. This can allow organisations to achieve efficiency while providing a positive experience for the job candidate.

The use of AI in recruitment in Pakistan is still in its infancy. The benefits reported in the current study suggest that candidates are embracing AI technologies. But challenges identified point to the need for companies to take a strategic stance in using AI. This includes increasing transparency, effective communication and incorporating humanistic aspects into the recruitment process to enhance candidate trust and satisfaction [25].

In summary, the results of this study add to the emerging literature on AI in HRM by offering empirical insights from a developing country. This study highlights that although AI-driven recruitment can improve the efficiency and candidate experiences, it also comes with challenges that need to be addressed for successful adoption.

Conclusion

Overall, this research shows that AI-powered recruitment positively affects the candidate experience in Pakistan's banking industry, by increasing efficiency, speeding up the process and facilitating communication. But issues with transparency, lack of personal interaction and potential bias underline the importance of maintaining a human-centred approach. By combining AI with human intervention, companies can leverage the advantages of AI and ensure that the recruitment process is equitable, transparent and candidate-friendly.

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