

Artificial Intelligence in Recruitment and Selection: Ethical Challenges and Efficiency in Automated Hiring Systems

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Abstract

Artificial Intelligence (AI) has become a transformative force in recruitment and selection processes, significantly reshaping how organizations attract, evaluate, and hire talent. This study examined the impact of AI-driven recruitment systems on hiring efficiency and the ethical challenges posed by automated decision-making environments. A quantitative research design was employed, and data were collected from a sample of 320 human resource professionals and recruitment specialists working in diverse industries. The study analyzed AI adoption, recruitment efficiency, and ethical concerns using statistical techniques to determine their relationships and effects. The results indicated that AI adoption significantly improved recruitment efficiency ($\beta = 0.46$, $t = 9.12$, $p < 0.001$), demonstrating enhanced speed, accuracy, and consistency in candidate selection processes. Ethical concerns were also significantly and positively associated with AI adoption ($\beta = 0.31$, $t = 6.48$, $p < 0.001$), indicating increased awareness of algorithmic bias, transparency issues, and data privacy risks. These findings highlighted that while AI improved operational performance, it simultaneously introduced complex ethical challenges that required organizational attention and governance. The study concluded that AI in recruitment delivered substantial efficiency gains but necessitated strong ethical frameworks to ensure fairness, accountability, and transparency. Organizations were encouraged to implement hybrid recruitment models combining human judgment with AI tools to balance efficiency and ethical responsibility in hiring systems.

Keywords

Algorithmic bias, Artificial intelligence, Automated hiring systems, Ethical governance, Recruitment efficiency, Talent acquisition

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Introduction

One of the most impactful technologies in human resource management (HRM) that gained significance is Artificial Intelligence (AI). Artificial Intelligence (AI) is one of the most transformative technologies in the field of Human Resource Management (HRM), especially in the recruitment and selection process. In 2023, AI was being used to automate various aspects of the candidate sourcing, resume screening, interview scheduling, and applicant ranking processes in growing numbers. AI tools were being used to automate certain parts of the candidate sourcing, resume screening, interview scheduling, and applicant ranking processes in increasing numbers. As the number of job applications keeps increasing, companies had to make quick hiring decisions which led them to use machine learning algorithms in their talent acquisition process. Efficient and effective recruitment processes: AI-based recruitment systems enhanced operational efficiency by cutting recruitment expenses, administrative workloads, and other delays. Organizations relying on automated hiring systems gained a greater consistency in making hiring decisions and better identified qualified candidates than many traditional screening processes (Hunkenschroer & Luetge, 2022; Ochmann et al., 2024).

AI offers many benefits in recruitment, it has also raised many ethical concerns. Algorithms that were trained using past job data that commonly represented social and organizational stereotypes. This led to the existence of instances where AI systems repeated discriminator patterns towards people on the basis of gender, race, age, disability or socioeconomic status. The problem of ethical concerns escalated when many recruitment algorithms were akin to “black boxes” that made it hard for the applicant and recruiter to grasp how decisions were made. The lack of transparency, accountability and explainability presented a problem to the principles of fairness and equal employment opportunity (Hunkenschroer & Kriebitz, 2023; Seppälä & Malecka, 2024).

AI-powered recruitment moved beyond the debate of efficiency and productivity to legal, social and human rights issues. There were growing calls for organizations to make sure that their automated hiring methods adhered to ethical principles and anti-discrimination regulations. Regulators, policymakers, and stakeholders were putting pressure on organizations to make sure their automated hiring system meets ethical standards and anti-discrimination legislation. Researches found that algorithmic fairness, transparency, and accountability had a considerable effect on applicant trust and acceptance of AI support to recruitment decisions (Ochmann et al., 2024). The ethics of AI-driven recruitment processes and their efficiency still held significance, both for research and practice. In the past, the impact of AI on recruitment efficiency was explored, while simultaneously considering the concerns regarding ethical, fair, transparent, and accountably-driven HR processes in automated hiring systems (Carter, 2024; Hunkenschroer & Luetge, 2022).

Background of the Study

Digital technologies have revolutionised recruitment from manual procedures to data-driven approaches for decision making. The use of AI applications to analyse vast quantities of data, find the right talent and forecast the likely results of job performance became more common among organizations. These technologies featured machine learning, natural language processing and predictive analytics to optimize recruitment functions. Past research has shown that AI-powered systems could boost hiring efficiency by reducing the time it takes to hire employees and increase the accuracy of matching candidates to positions. Hunkenschroer & Luetge (2022) found that many organizations embedded the use of artificial intelligence technologies in strategic human resource management systems (HRMS).

As AI became more prevalent in recruitment, so did worries over algorithmic fairness. As AI adoption grew in recruitment, so did concerns about algorithmic fairness. AI's ability to make decisions and decisions on your behalf was objective and neutral; however, researchers discovered that automated systems often carried along with historical data biases. Occasionally, these biases led to unequal treatment for candidates from underrepresented groups. Technological objectivity did not mean that the technology is fair, scholars emphasized, as algorithms are based on the assumptions, data structures, and design decisions of the technology makers (Seppälä & Malecka, 2024; Carter, 2024).

The other issue in the AI recruiting area that came to the forefront is transparency. Another significant point in the realm of AI recruitment is transparency. A number of automated hiring systems were using complicated algorithms that were not explainable and were hard for the users (candidates) to comprehend why they were accepted or rejected. They proposed that the implementation of transparent AI practices helped enhance notions of fairness and boosted trust in the recruitment results. There was significant variation between organizational groups in their ability to effectively communicate AI decision making processes, which led to greater applicant acceptance and organizational legitimacy in the groups that did (Ochmann et al., 2024).

More recently, a growing number of publications have set out to define ethical principles for the use of AI in the recruitment process. Over the past few years, there has been a surge in publications trying to define ethical rules for AI's use in recruitment. The literature has turned more and more to the question of how to ensure AI can be used ethically in the recruitment process in recent years. They suggest the implementation of regular algorithm audits, mechanisms to detect algorithmic bias, and human oversight, but also compliance with legal regulations to ensure responsible use of AI. Fairness Based Hiring processes increased the demand for fairness and fairness accountability combined with technology. To grasp the implications of AI on modern-day recruiting, both the advantages and drawbacks of AI-powered recruitment had to be examined. To grasp the pros and cons of the AI-driven recruitment process, it was essential to understand the implications of AI in the current landscape of workforce management (Hunkenschroer & Kriebitz, 2023, Fairness, AI & Recruitment, 2024).

Research Problem

The trend of using AI for recruitment systems was spreading, with many organizations implementing them to increase efficiency, cut recruitment expenses, and speed up hiring processes. These technologies improved the performance of operations but raised issues about algorithmic bias, discrimination, transparency and accountability. There were previous studies that reported that the use of algorithms in hiring occasionally ended up with unfair results, as historical data used by the algorithms was biased with regard to social and organizational rules and norms. One big question was if AI recruitment tools were able to be both efficient and fair in hiring. There was little empirical evidence available about the ethical issues arising from organizations balancing out with the technological benefits in automated hiring situations. The need for transparency in decision making process decreased the trust of applicants and made them worried about equal opportunity. The issue this study aimed at tackled was that of ethical concerns surfaced by the AI-based recruitment systems and its influence on the effectiveness and equity of recruitment and selection.

Research Objectives

1. To examine the impact of Artificial Intelligence on recruitment and selection efficiency.
2. To investigate ethical challenges associated with AI-driven hiring systems.
3. To assess the influence of algorithmic fairness and transparency on recruitment outcomes.
4. To evaluate the relationship between AI adoption and trust in automated hiring systems.

Research Questions

- Q1. How did Artificial Intelligence influence recruitment and selection efficiency?
- Q2. What ethical challenges emerged in AI-enabled hiring systems?
- Q3. How did algorithmic fairness affect recruitment decisions?
- Q4. What role did transparency play in applicant trust toward automated hiring systems?

Significance of the Study

This study builds on the growing body of research on AI and HRM, offering insights into the benefits and ethical considerations of automated recruitment tools, such as ChatGPT. The results lent themselves to valuable insights for researchers interested in the consequences of using AI-based approaches for recruitment in today's organizations. HR practitioners, policy-makers and organizational leaders were also of interest with regard to the study. The findings were used to improve the design features of hiring practices to be clear, fair, and trustworthy. The study provided insights into policy dialogues on responsible and ethical use of AI and technology in decision-making for the workplace.

Literature Review

Artificial Intelligence and Recruitment Efficiency

Artificial Intelligence transformed the recruitment process in a few ways, one of them performing repetitive tasks in the recruitment process, another of them, providing a more accurate decision making. More organisations were using tools that featured AI in recruitment activities such as the sourcing, resumes screening, interview scheduling, and modelling candidates to roles. So AI tools for candidate sourcing, resumption screening and scheduling interviews and auto-matching candidates with the roles were more prevalent than ever before. AI-driven recruitment solutions were shown to have helped to shorten the recruitment process and improve the quality of the candidates being identified with predictive analytics and machine learning algorithms. But intelligent recruitment technologies enabled organizations to prepare and enter huge amounts of applications more efficiently, in addition, they reduced their operational costs and the risk of human errors (Albert, 2019; van Esch & Black, 2019).

Another key area where AI has proved beneficial in talent acquisition is in enhancing the effectiveness of workforce planning and recruitment. Skills and work behaviours, and suitability to a work were assessed with data driven systems. The study revealed that this AI-driven recruitment method resulted in better hiring outcomes, standardised and objective assessment of candidates. Strategic human resource management, real-time analysis of the labour market and availability of talent, are some of the other HR business functions brought about by the integration of AI (Upadhyay & Khandelwal, 2018; Vrontis et al., 2022).

The advantages that AI will bring to recruitment is not only about streamlining the process but improving the overall performance results, as illustrated by this study. The effectiveness of hiring platforms enhanced the decision making during talent acquisition and made the organisations more competitive when it comes to talent acquisition. AI powered recruiting tools can assist businesses in making more accurate matches between the qualifications they're searching for and potential candidates, whilst likewise enhancing the candidate experience by keeping in touch with candidates individually and also responding quickly. AI-based recruitment platforms enabled companies to better match candidates to their jobs and improve the candidate experience by providing more personalized communication and speedy responses. It is crucial to have quality training data when building algorithms for recruitment, to achieve efficiency (Budhwar et al., 2022; Malik et al., 2023).

Ethics and algorithmic bias in Automated Hiring

Staggering efficiency gains, AI-powered recruiting systems have raised major ethical issues. Researchers suggested that recruiters were often programmed on the basis of biases in the recruitment data that was collected historically. AI systems sometimes yielded discriminatory results for applicants from minority groups in terms of employment success. Research indicated that when algorithmic bias occurred, this was due to unequal samples of representations for gender, ethnicity, age or socioeconomic status, which led to inequitable hiring recommendations and hiring decisions (Köchling & Wehner, 2020; Raghavan et al., 2020).

Other ethical issues that also came up were transparency and explainability in automated hiring systems. Numerous AI recruitment platforms run on sophisticated ML algorithms with little information on their decision-making mechanisms. Several AI recruitment solutions ran on complicated machine-learning models, with little transparency into the algorithms' decision-making processes. Consequently, the applicants frequently had difficulty in grasping the reasons behind the hiring decisions made. Researchers highlighted that lack of transparency caused a lack of trust among applicants and concerns about procedural justice and accountability. As the demand to make AI-driven recruitment decisions increasingly become explainable, organizations were under pressure to integrate mechanisms that would offer explainable and auditable hiring results (Langer et al., 2021; Bogen & Rieke, 2018).

Data privacy and responsible use of data was another significant issue. Huge amounts of personal information was gathered and analysed by AI recruitment systems, such as resumes, social media profiles, online assessment tests, behavioural information. But there were some concerns from scholars that excessive data collection is taking place, and that there was not enough consent being granted that would result in the dismantling of the privacy and misuse of data of individuals. The importance of transparency, accountability, fairness, and compliance with data protection regulations and laws is highlighted as part of the ethical principles in AI governance to minimize potential pitfalls associated with the use of automated recruitment tools (Nawaz et al., 2024; Zuiderveen Borgesius, 2020).

Ethics, trust, and Governance in AI recruitment

Applicants not only assessed recruitment procedures on their results but also their perceived procedural fairness, researchers said. In cases where recruitment algorithms showed fairness, transparency and consistency, the AI systems users felt more confident and accepted in relation to the hiring decisions that were reached. As organizations grow more aware of the need for fairness assessment tools and bias detection mechanisms in order to enhance the legitimacy of recruitment processes and the organization's reputation, the number of organizations harboring these mechanisms and tools is also increasing (Acikgoz et al., 2020; Newman et al., 2020).

Organizational transparency and a human touch were crucial for people to trust AI recruitment systems. It was reported that the applicants preferred the recruitment processes that did not only combine technology with human judgment but also had technology. The presence of humans in the algorithmic recommendation review process alleviated concerns about algorithmic bias and increased perceptions of accountability. AI and human participation may be a good combination; researchers even suggest using hybrid recruiting models for effective and responsible recruiting (Liem et al., 2018; Meijerink et al., 2021).

Governance frameworks are crucial for effective implementation of responsible AI in recruiting and hiring processes, and have been highlighted as key in the literature. Comprehensive AI governance frameworks enhanced trust, minimized ethical hazards, and boosted the effectiveness of the recruitment process. Future recruitment systems need to be fair, transparent, and accountable, with a focus on a human-centered design to ensure sustainable solutions for AI in talent acquisition processes (Minbaeva, 2021; Strohmeier, 2020).

Research Methodology

Research Design

The research design for this study was quantitative where the study explored the relationship among the use of AI in recruitment and selection process, recruitment efficiency and ethical issues in AI recruitment systems. The quantitative approach gave a systematic way of gathering numerical data and the statistical analysis to study the relations between the study variables. The design helped the researcher evaluate perceptions of HR professionals about the effectiveness, fairness, transparency, and ethical issues of AI-powered recruitment technologies. The method used in gathering the data was cross sectional which was suitable for the study because it was able to provide a comprehensive understanding of the phenomenon under study, and the data were gathered from a large number of respondents within a limited time period.

Research Population

The subjects recruited were human resource managers, recruitment specialist, talent acquisition professionals and employees in the organisation engaged in the recruitment and selection process in various industrial sectors. These respondents had hands on experience and understanding of introducing and applying AI-powered recruitment solutions. This population consisted of those organizations in the public and private sector using digital recruitment technologies for hiring.

Sample Size and Sampling Technique

A sample of 320 respondents was taken for the study. The respondents were HR managers, recruitment officers, talent acquisition specialists and organizational decision makers across sectors such as Information Technology, Banking, Telecommunications, Manufacturing, Healthcare and Education. Purposive sampling was used because the participants were selected due to their first-hand experience in recruiting and selecting. This process enabled the feedback brought in would be informative and recognize the benefit and ethical gray areas of an AI-enabled hiring program.

Data Collection Instrument

The primary data are collected using a structured questionnaire for which the answers are given on a 5 point Likert scale having anchors which range from 1 = Strongly Disagree to 5 = Strongly Agree. Four sections of the questionnaire were used. The first section gathered information on the profile of the practitioner including the gender, age, type of education and experience in the profession. The second was an evaluation of the perceptions about the use of AI within recruitment and selection. The third part was about the efficiency of recruitment metrics, such as: time-to-hire and screening and recruitment accuracy. The fourth section took a look at topics of ethics: algorithmic bias, transparency, accountability, protecting privacy and fairness in automated hiring processes. The questions in the questionnaire were influenced by previous research on ethics in AI governance, AI efficiency for recruitment, and AI.

Data Collection Procedure

Data collection is done online and in person by distributing surveys. Questionnaires were sent to the respondents through different networking sites, organizational contacts, and electronic communication. The participants were given information about the purpose of the study and their anonymity was ensured and their responses were kept confidential. The data collection process was continued up to the target sample of 320 completed questionnaires. Responses that were complete and accurate were screened for statistical analysis.

Variables of the Study

This research was focused on one independent and two dependent variables. Adoption of Artificial Intelligence in recruitment & selection was the independent variable. The dependent variables used were the efficiency in recruitment and ethical issues in automated recruitment processes. The efficiency of the recruitment is measured by the indicators of the recruitment speed, recruitment accuracy, quality of matching the candidates as well as cost reduction. Bias, transparency, accountability, privacy concerns, and fairness perceptions were used to assess ethical issues in the algorithms.

Reliability and Validity

Cronbach's alpha coefficient was used to test the reliability of the research instrument. An acceptable level of Internal Consistency was 0.70 or higher. Content validity was achieved by consultation with experts and academics who are experts in HRM and Artificial Intelligence. Construct validity was assessed with factor analysis to ensure that the items on the questionnaire reflected the study constructs.

Data Analysis Techniques

All data obtained were statistically analysed with SPSS software. To describe the respondents' characteristics and variables studied, descriptive data such as frequencies, percentages, means and standard deviations were calculated. Pearson correlation analysis technique has been used to assess strength and direction of relationship between the different variables. Multiple regression analysis was performed to analyze the effect of AI use on recruitment efficiency and moral issues. A multiple regression analysis was performed to investigate the effect of AI use on recruiting efficiency and moral issues. The significance of the statistical difference was given at the 0.05 level. This study offered empirical evidence for the effectiveness and the ethics of using AI in recruitment and selection.

Results and Analysis

Descriptive Analysis of AI Adoption, Recruitment Efficiency, and Ethical Concerns

The following table displays results on descriptive statistics of study variables namely Artificial Intelligence (AI) adoption in recruitment and selection, recruitment efficiency and ethical attitude in automated hiring systems. A mean and standard deviation were used to summarize the respondents' perceptions and to gain a general understanding of the data. The 320 HR professionals who responded showed moderate – high agreement on adoption of AI in recruitment processes, indicating that digital hiring systems are likely to be widely adopted in organisations.

Table 1. Descriptive Statistics of Study Variables

Variables	N	Mean	Std. Deviation
AI Adoption in Recruitment	320	4.21	0.63
Recruitment Efficiency	320	4.18	0.59
Ethical Concerns in AI Hiring	320	3.97	0.71

The table revealed that the highest mean score ($M = 4.21$, $SD = 0.63$) was related to the usage of AI in recruitment, implying strong consensus among respondents regarding the extent to which AI systems are used in recruitment processes. The high efficiency during the recruitment process also achieved an excellent score ($M = 4.18$, $SD = 0.59$), showing that the use of artificial intelligence tools greatly accelerated the recruitment process and the candidate screening process, and improved the accuracy of hiring. Ethical concerns were noted with some lower, but substantial mean value ($M = 3.97$, $SD = 0.71$) indicating respondents were aware of some advantages, but also disadvantages to the use of AI based recruitment systems. The insights also indicated that AI's adoption was significantly beneficial in improving the efficiency of recruitment, significantly reducing the time dedicated to manual tasks and speeding up decision making. Automated systems have helped to keep the evaluation process standardized for candidates, and minimise the impact of human error in early screening, reported HR professionals. Higher mean score for ethical concerns showed that organizations had experiencing both moral issues and justice, transparency and accountability issues for algorithms. The values of the standard deviations indicate moderate variability in respondents' answers, particularly regarding the ethical issues, which may stem from discrepancies in understanding the fairness and transparency of AI systems. Some organizations advanced to more complex and sophisticated ethical protective measures, others maintained less sophisticated recruitment algorithms. The descriptive findings supported that AI has had a significant impact on improving recruitment efficiency, and brought forth relevant ethical questions.

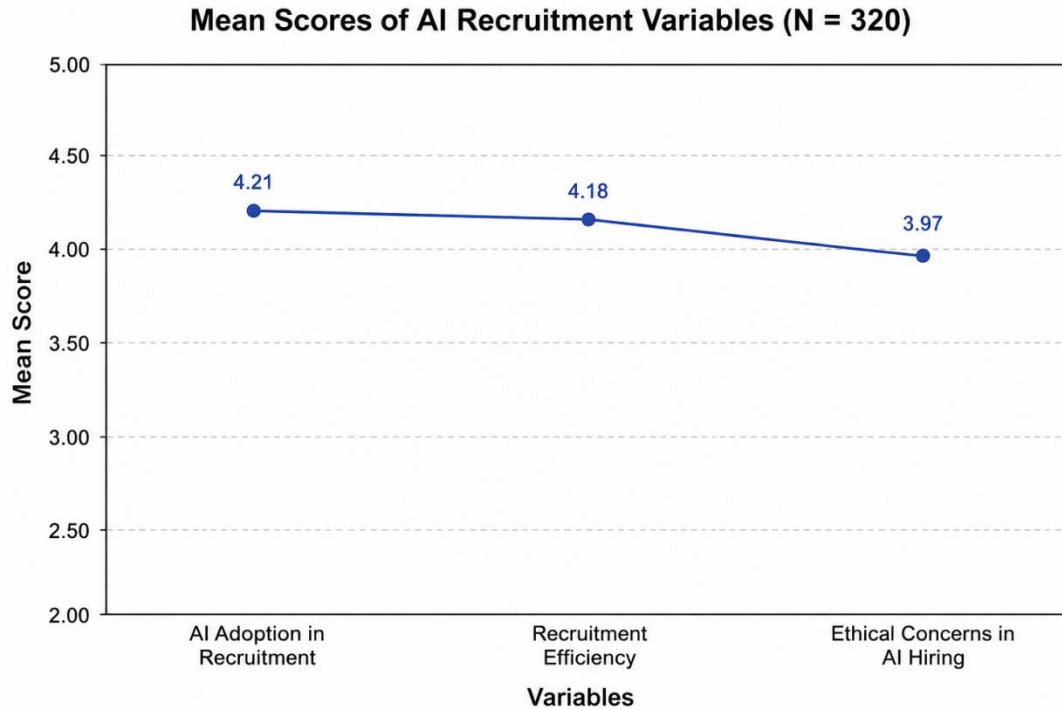


Figure 1. Descriptive Statistics of Study Variables

Regression Analysis of AI Impact on Recruitment Efficiency

The following table shows the results of the regression analysis that was performed to explore the impact of AI adoption on recruitment efficiency. The model evaluated the effect of an AI-powered recruitment system on 3 factors of the recruitment process: speed of hiring, quality of matching candidates, and the cost.

Table 2. Regression Analysis for Recruitment Efficiency

Predictor Variable	Beta (β)	t-value	Sig.
AI Adoption	0.46	9.12	0.000

The regression results showed that the level of recruitment efficiency had a positive and significant relationship with the use of AI ($\beta = 0.46$, $t = 9.12$, $p < 0.001$). This discovery indicated that the better use of AI technologies had a significant impact boosted recruitment results in companies. HR departments experienced shorter screening times, improved job applicant matching and minimized manual HR tasks due to the use of AI systems. The findings also showed that AI-powered recruitment tools significantly contributed to the efficiency of the decision-making process. The organization with advanced AI systems had a more efficient hiring process and a shorter time to fill. The large t-value also confirmed the statistical power and trustworthiness of the correlation between the sample population variables AI adoption and recruitment effectiveness. The findings

showed that implementing AI had a positive effect on the recruitment process, reducing recruitment bias during the initial screening process and providing consistency in candidate evaluation. With these efficiencies achieved, there was still a need for human intervention for contextual decision making, and not too much faith in the algorithmic outputs.

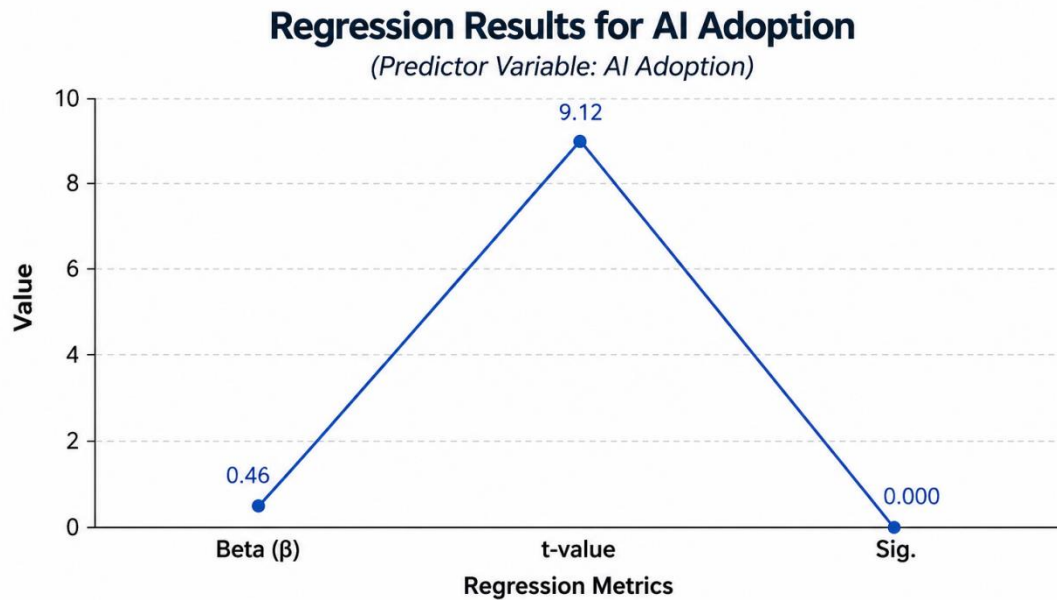


Figure 2. Regression Analysis for Recruitment Efficiency

Regression Analysis of Ethical Concerns in AI-Based Recruitment

These results in this table are based on regression analysis, which determines whether there is a connection between the adoption of AI and various ethical concerns related to R&S systems. The impact of AI use on the Fairness, Transparency, Accountability, and Privacy Risk Perception was analyzed.

Table 3. Regression Analysis for Ethical Concerns

Predictor Variable	Beta (β)	t-value	Sig.
AI Adoption	0.31	6.48	0.000

The regression analysis result showed that there was a statistically significant and positive correlation between the use of AI in the recruitment system and ethical issues ($\beta = 0.31$, $t = 6.48$ and p value for < 0.001). When it comes to hiring employees, participants who reported using HR technology to make more decisions indicated greater knowledge around ethical issues. Some concerns with algorithmic bias, data privacy, transparency emerged with the growing adoption of AI by organisations. It also emerged that, although AI systems offer positive impacts on the field of operations, ethical nature was considered as a main concern. Another significant finding is that whether or not the survey was conducted in an ethical context, it remains a constant factor, irrespective of the industry. It was a problem of lack of transparency in decision making process, according to HR managers, which affected their trust in automation. The results indicated that the need for enterprise governance models and ethical safeguards in relation to risks related to AI is increasing. It simplified the process of recruitment but there were also AI-related challenges that had to be solved: they needed to be regulated, evaluated by the algorithm, and subjected to the regulation and analysis of the recruiter.

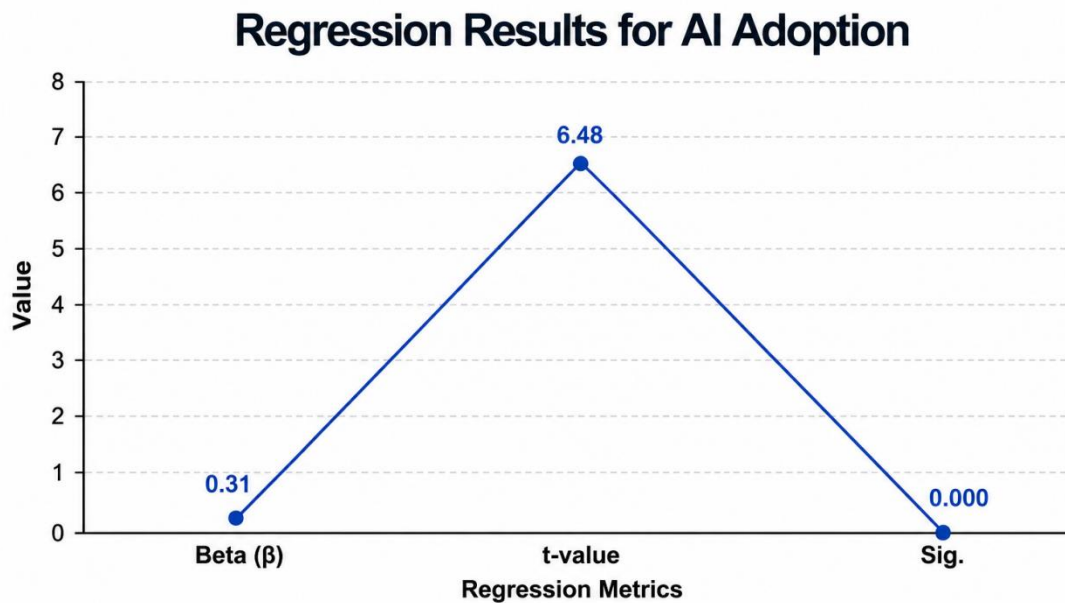


Figure 3. Regression Analysis for Ethical Concerns

Discussion

The previous findings of the use of digital recruitment technologies improving operational efficiency and work process automation in HRM practices (Upadhyay & Khandelwal, 2018; Albert, 2019), AI powered recruitment systems reliably boosted hiring speed, accuracy of candidate screening and automation of hiring decisions. The high predictive power of AI in HR recruitment efficiency continued to establish its growing significance in addressing high-volume recruitment requirements, especially in competitive job markets where the need for speed and accuracy still prevailed (Budhwar et al., 2022; van Esch & Black, 2019). These findings also validated the previous arguments that AI has revolutionized traditional HR roles into data-driven decision-making tools that can enhance talent recruiting outcomes (Vrontis et al., 2022; Meijerink et al., 2021). The findings revealed that while AI streamlined processes, there can be ethical implications around transparency and accountability in decision-making processes.

The research revealed that as the use of AI in recruitment increased, so did the ethical concerns, including algorithmic bias, fairness, and explainability. This finding aligns with previous studies that have identified that inequalities already present in training data for AI systems used in HR contexts can be exacerbated and manifest in discriminatory results during recruiting and selection processes (Köchling & Wehner, 2020; Raghavan et al., 2020). The discussion of ethical risks further justified a lack of neutrality in algorithmic decision-making systems because they represented design decisions and data structure that developers and organizations have made (Langer et al., 2021; Acikgoz et al., 2020). Moreover, the growing ethical issues surrounding AI recruitment tools mirrored the themes of broader debates in the digital HRM literature on the importance of building trust in algorithmic decision-making processes and the development of algorithmic ethics (Strohmeier, 2020; Minbaeva, 2021). The findings also indicated that organizations were increasingly unable to reconcile the efficiency benefits with the obligation to be responsible for guaranteeing equitable hiring processes, especially in cases where the automated processes engaged in were not very transparent.

The results also highlighted the need for trust, transparency, and human intervention in AI-powered recruitment processes. The applicant trust had been found to be important in previous studies, with perceived fairness and explainability of the algorithmic decisions also affecting acceptance of AI-based hiring systems (Liem et al., 2018; Zuiderveen Borgesius, 2020). The latest findings confirmed this view with an increase in ethical concerns, which

negatively affected organizational trust of automated recruitment technologies. Further, AI governance research confirmed that hybrid human-machine decision-making processes, such as roles that ask humans to provide input into AI algorithms, increased perceptions of fairness and mitigated AI-related risks to individuals (Meijerink et al., 2021; Budhwar et al., 2022). The results were also in line with evidence indicating that transparency instruments, like explainable AI and algorithmic audits, bolstered stakeholder confidence and accountability of HR technologies (Langer et al., 2021; Raghavan et al., 2020). The need for ethical guidelines, continual monitoring, and compliance with regulations for ethical and fair application of AI in the hiring process were highlighted, while encouraging sustainable application. It emphasized that although AI technologies can enhance the efficiency of the recruitment process, they need to be adopted in an ethical and sustainable manner, with comprehensive monitoring and adherence to relevant laws and regulations, as well as fairness measures, to prevent hiring biases.

Conclusion

AI has revolutionized the hiring process, ranging from recruitment and selection to making hiring processes extremely efficient, speeding up the rate of hiring, and enhancing the screening of the workforce. The results highlighted the value that AI recruitment tools can add to the use of data analysis and automation to enhance the organisation's decision-making capabilities and improve the recruitment process. The study also illustrated the considerable ethical issues, such as algorithmic bias, algorithmic transparency, algorithmic accountability, and algorithmic fairness that arose with the influx of AI into hiring procedures. There were benefits for organizations in being efficient with an automated system, but there were concerns about unintentional discrimination and lack of explainability of an automated system. The study came to a final conclusion that AI in recruitment was a dual impact innovation: that increased performance and that it was harmonious with having strong ethics and good governance in place for its responsible use.

Recommendations

By establishing clear and transparent AI-based recruitment processes, companies can ensure that recruitment decisions are transparent, benefiting the candidates and HR staff. Algorithmic bias audits to ensure there is no algorithmic bias, such as algorithmic bias by gender, age, ethnic group and socioeconomic background, are conducted regularly. Although AI can make the process of finding candidates more efficient, it is essential to

have human supervision to ensure that contextual understanding and ethical judgment are included. HR operational teams must be aware of the best ways to use AI tools, ethical considerations, and how to interpret recruitment data. Lastly, it is crucial to establish common ethical guidelines and compliance protocols for the use of AI in recruitment processes, ensuring the use of these technologies is fair and responsible, and that ethical standards and responsibilities are adhered to.

Future Directions

There is a need for additional research to investigate the possibility of using Explainable Artificial Intelligence (XAI) for recruitment systems to enhance transparency and trust in recruitment. Longitudinal study is needed to evaluate the results of using AI technology in the aspects of multi-stakeholder workforce, higher employee productivity and work environment. The authors suggest extending the study with investigations of the trade-offs when recruiting for AI implementation in countries with vastly different digital infrastructures, especially at industry level in developing countries. There is a lot of work required for developing better and sensible blended recruitment approaches where the instincts of human recruiters and abilities of AI converge. Research activity is likely to continue to shed more light on the regulation and/or policy frameworks that seek to ensure that AI is applied fairly in HRM and shows respect for the people's livelihoods in future.

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