Logical Creations Education Research Institute
JOURNAL OF MANAGEMENT & EDUCATIONAL RESEARCH INNOVATION
ISSN: 3005-7728
Web: www.jomeri.org | Email: editor@jomeri.org
Volume-01, Issue Number-02 | June-2023

The Ethical Implication of Using Artificial Intelligence in Hiring and Promotion Decisions

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DOI: 10.5281/zenodo.10066900

ABSTRACT

A substantial increase in the use of Artificial Intelligence (AI) in the field of human resources, notably in the recruiting and promotion processes. This study investigates the ethical implications of using AI technology in these critical organizational choices. As AI-driven algorithms become more common in personnel management, the potential benefits of enhanced efficiency and impartiality must be balanced against the ethical considerations that arise. This study digs into the issues of algorithmic fairness, focusing on techniques for reducing prejudice in AI-driven recruiting and promotion systems. We investigate the significance of transparent AI procedures and techniques for holding AI systems responsible for their outputs and the ethical concerns of data usage, storage, and security in AI-powered human resource systems.

Keywords: Artificial Intelligence (AI), Hiring Decisions, Promotion Decisions, HR Technology.

How to Cite: Aliza Tabassam, Ghazala Yaqoob, Vo Hung Cuong, Mashal Syed, Asma Shahzadi, & Fahad Asghar. (2023). The Ethical Implication of Using Artificial Intelligence in Hiring and Promotion Decisions. *Journal of Management & Educational Research Innovation (JOMERI), 1*(2), 1–15. https://doi.org/10.5281/zenodo.10066900

INTRODUCTION

The integration of Artificial Intelligence (AI) in business operations has become increasingly common, with human resource management (HRM) being a particularly significant area of transformation. In the realms of hiring and promotion, AI is revolutionizing traditional processes (Brougham & Haar, 2018). Traditionally, hiring and promotion decisions have relied on subjective assessments of resumes and interviews, often prone to biases and inefficiency (Smith & Kumar, 2020). The advent of AI in HRM promises greater efficiency, objectivity, and data-driven decision-making (Jiang et al., 2017).
In hiring, AI applications range from algorithms that screen resumes to machine learning models capable of analyzing video interviews and predicting candidate suitability (Chamorro-Premuzic et al., 2016). These technologies aim to quickly process large volumes of applications, identifying top

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candidates based on predefined criteria (Lee et al., 2018). For promotions, AI systems can evaluate an employee's performance data, assessing their competencies and predicting their potential success in higher roles (Suen et al., 2019). This is seen as a method to make promotion processes more meritocratic and data-driven, potentially reducing biases (Kaplan & Haenlein, 2019).

However, the increasing use of AI in HRM raises significant ethical considerations. Concerns about the fairness and transparency of AI systems are prominent, especially given issues like algorithmic bias, where AI might perpetuate societal biases (Zarsky, 2016). The 'black-box' nature of some AI algorithms complicates understanding and challenging their decisions (Burrell, 2016). Additionally, the intersection of AI in HRM with legal and privacy concerns, such as compliance with privacy laws, is a critical aspect of the debate (Dignum, 2017).

While AI in hiring and promotion offers benefits such as efficiency and objectivity, it also necessitates careful consideration of ethical implications. As AI technologies continue to evolve, it is imperative for organizations, policymakers, and technologists to navigate these challenges responsibly (Schwartz et al., 2020).

Background

The ethical implications of using Artificial Intelligence (AI) in hiring and promotion decisions are a critical area of study, particularly in understanding how AI systems can be developed and implemented to ensure fairness across all job seekers, regardless of race, gender, or other protected traits. Caliskan, Bryson, and Narayanan (2017) and Hardt, Price, and Srebro (2016) have emphasized the importance of fairness in machine learning, providing a framework for evaluating these ethical considerations. Dwork et al. (2012) highlight the necessity for AI systems to be equitable, ensuring no discrimination against any individual or group.

There are several key concepts within the fairness theory in AI:

- **Individual Fairness:** As posited by Chouldechova (2017), this principle argues that similar individuals should be treated similarly by AI systems, thereby preventing individual or group discrimination.
- **Statistical Parity:** Hardt et al. (2016) describe this concept as the need for AI systems to have a balanced impact across different groups, avoiding decisions that disproportionately affect any one group.
- **Equalized Odds:** According to Dwork et al. (2012), AI systems should maintain consistent accuracy for all groups, meaning the system should not exhibit more errors for one group over another.

While these principles provide a valuable framework, achieving absolute fairness in practice can be challenging, with potential trade-offs between different standards of fairness (Barocas & Selbst, 2016). Despite these challenges, the fairness theory in machine learning remains an essential tool for understanding and addressing the ethical implications of AI in hiring and promotion decisions.

The principle of algorithmic accountability is another critical aspect of ethical AI use. It asserts that organizations should be responsible for the decisions made by their AI systems (Selbst, Barocas, & Crawford, 2019). This includes being able to explain the rationale behind a specific AI decision and taking steps to minimize the potential for bias in these systems.

The potential benefits and risks of AI in recruitment and promotion are widely debated. AI algorithms can automate tasks such as resume screening and interviewing, allowing HR professionals to focus on other critical functions like talent development (Gebru, Daumé III, & Mitchell, 2020; Narayanan & Shmatikov, 2018). However, risks such as algorithmic bias can arise if the training data for these algorithms are skewed, leading to discrimination against groups such as women or minorities (Eubanks, 2017; Narayanan & Shmatikov, 2018).

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Furthermore, the use of AI in hiring and promotion can raise privacy concerns, as these algorithms often require extensive personal data (Gebru, Daumé III, & Mitchell, 2020; Narayanan & Shmatikov, 2018). The opacity of AI systems can also make it difficult for HR professionals to understand and hold them accountable (Crawford & Purington, 2019; Selbst, Barocas, & Crawford, 2019).

To mitigate these risks, organizations should implement clear and transparent policies and procedures when using AI in hiring and promotion decisions. This includes ensuring that the data used to train AI systems is diverse and unbiased, making AI algorithms as transparent as possible, and using AI in conjunction with human judgment to ensure fairness and equity (Barocas & Selbst, 2016; Crawford & Purington, 2019; Gebru, Daumé III, & Mitchell, 2020; Narayanan & Shmatikov, 2018).

Purpose of the Study

The primary objective of this study is to investigate the ethical considerations and implications associated with the use of Artificial Intelligence (AI) in human resource management, particularly in the areas of hiring and promotion. This exploration is crucial, given the increasing deployment of AI technologies in these domains and the profound impact they can have on individuals' professional lives and the overall workforce dynamics.

The study aims to delve into various ethical aspects, such as:

1. **Bias and Fairness:** Examining how AI systems might inadvertently perpetuate existing biases or introduce new forms of discrimination in hiring and promotion practices.
2. **Transparency and Accountability:** Assessing the challenges in understanding AI decision-making processes and establishing accountability for decisions made by AI systems.
3. **Privacy and Data Security:** Evaluating the implications of using AI on the privacy of candidates and employees, especially concerning the handling of sensitive personal data.
4. **Impact on Employment and Workplace Dynamics:** Investigating how AI-driven hiring and promotion decisions affect employee morale, trust in the organization, and the overall culture of the workplace.
5. **Legal and Regulatory Compliance:** Understanding the legal landscape surrounding the use of AI in employment decisions, including compliance with existing labor laws and regulations.

Through this study, the aim is to provide a comprehensive understanding of the ethical landscape surrounding the use of AI in hiring and promotion. The research will seek to offer insights and guidelines for organizations, policymakers, and technology developers to ensure ethical, fair, and responsible use of AI in these critical HR functions.

Scope of the Study

The scope of this research is precisely defined to concentrate on the ethical implications of using Artificial Intelligence (AI) in hiring and promotion decisions within organizations. This focus is essential to deeply explore the multifaceted ethical challenges AI presents in these specific contexts (Brynjolfsson & McAfee, 2014). The research will critically evaluate aspects such as algorithmic bias and fairness, examining how AI can inadvertently perpetuate biases and the necessary measures to ensure fairness in AI-driven decisions (Barocas & Selbst, 2016). Transparency and explainability will be investigated to determine the extent to which AI decision-making processes are accessible and comprehensible to HR professionals and candidates (Rudin, 2019). Privacy and data security are also paramount, assessing ethical concerns regarding the handling of personal data by AI systems in hiring and promotion (Selbst et al., 2019). Additionally, the study will analyze accountability and responsibility in AI decisions, focusing on the roles of technology developers, hiring managers, and organizations (Pasquale, 2015). Finally, legal and regulatory compliance will be examined, particularly

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in relation to anti-discrimination and privacy laws (Richards & King, 2014). The scope will intentionally exclude the technical construction of AI algorithms and their broader societal applications, focusing solely on their ethical implications in HRM (Kaplan & Haenlein, 2019). This delineated scope aims to contribute significantly to the development of ethical AI practices in organizational hiring and promotion, promoting fairness, transparency, and accountability (Bostrom & Yudkowsky, 2014).

LITERATURE REVIEW

The Emergence of AI in Hiring and Promotion: Historical Context

The emergence of Artificial Intelligence (AI) in hiring and promotion represents a significant shift from traditional practices in these domains. Historically, the process of hiring and promotion has been predominantly human-driven, relying on subjective assessments and personal judgments.

Traditionally, hiring processes involved several steps beginning with the collection of resumes, followed by manual screening to identify candidates who met the basic qualifications. This was often a time-consuming task, requiring significant human effort and judgment (Rivera, 2012). Interviews, both structured and unstructured, were then conducted to assess candidates' skills, experience, and cultural fit. The decision-making in this phase was highly subjective, relying on the intuition and experience of the hiring managers (Kaplan & Haenlein, 2019).

Promotion decisions, on the other hand, were typically based on an employee's past performance, tenure, and the perceived potential for future success within the company. These decisions often involved personal assessments by supervisors or management teams, which could be influenced by unconscious biases or personal relationships (Cappelli & Tavis, 2018).

These traditional methods, while effective in certain respects, had limitations. The manual processes were labor-intensive and subject to human error and biases. The lack of standardized criteria for evaluation sometimes led to inconsistent and unfair hiring and promotion decisions (Rivera, 2012).

The introduction of AI in hiring and promotion processes marked a paradigm shift towards more data-driven and automated approaches. AI technologies, such as machine learning algorithms and predictive analytics, promised to streamline these processes, reduce biases, and improve the overall efficiency and effectiveness of hiring and promotion decisions (Bogen & Rieke, 2018).

The traditional methods of hiring and promotion were characterized by manual, subjective, and often inconsistent practices. The emergence of AI in these domains introduced a new era of technology-driven, efficient, and potentially more objective processes, marking a significant evolution in human resource management practices.

The Shift to AI: Transition to AI-Driven Methods

The transition to AI-driven methods in hiring and promotion represents a significant evolution in human resource management, characterized by the adoption of advanced technologies and data-driven approaches. This shift was driven by the need to enhance efficiency, reduce biases, and make more objective decisions.

The core of this transition lies in the implementation of machine learning algorithms and predictive analytics. These technologies analyze large sets of data to identify patterns and make predictions about future outcomes. In hiring, for instance, machine learning models can swiftly sift through thousands of resumes, identifying candidates who best match the job criteria based on historical hiring data and success metrics (Davenport, Harris, & Shapiro, 2010). Predictive analytics can also be used to forecast a candidate’s potential job performance and retention, offering a more data-driven approach to candidate selection.

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Language Processing (NLP) is another significant technology in this transition. It is used to analyze written applications, cover letters, and even responses in interviews. NLP tools can assess a candidate's communication skills, extract meaningful insights from their responses, and evaluate their fit with the company culture (Kaplan & Haenlein, 2019).

Automated screening tools have become prevalent, capable of efficiently parsing through large volumes of applications to shortlist candidates. These tools use AI algorithms to score candidates against a set of predefined criteria, significantly reducing the time and resources spent on manual screening (Bogen & Rieke, 2018).

AI-driven interviewing software, equipped with facial recognition and sentiment analysis, is increasingly being used. These tools analyze candidates' facial expressions, tone of voice, and word choice during video interviews, providing additional insights into their emotional intelligence and personality traits (Gebru, Daumé III, & Mitchell, 2020).

In the realm of promotions, AI systems analyze an employee's performance data, feedback, and other relevant metrics to identify those most suitable for advancement. This approach aims to minimize subjective biases inherent in traditional promotion practices and focus on performance-based metrics (Cappelli & Tavis, 2018).

The shift to AI in hiring and promotion has been motivated by the promise of greater objectivity, efficiency, and the ability to process vast amounts of data that would be unmanageable for humans. However, this transition is not without challenges. Concerns around bias in AI, transparency of decision-making processes, and the potential loss of the human touch in personal assessments remain prevalent. As such, while AI technologies offer significant advantages, their integration into hiring and promotion processes must be carefully managed to ensure fairness and effectiveness (Barocas & Selbst, 2016).

Conceptual Framework

The conceptual framework for assessing the ethical implications of using artificial intelligence (AI) in hiring and promotion decisions encompasses three critical components: ethical issues, mitigating factors, and potential benefits. This framework aids organizations in comprehensively understanding and addressing the ethical challenges associated with the use of AI in these key areas.

Ethical Issues: Central to the framework are the ethical issues that arise from the use of AI in hiring and promotion. One of the primary concerns is bias, where AI systems, if trained on biased data, can perpetuate discrimination against certain groups such as women and minorities (Barocas & Selbst, 2016). Privacy is another crucial issue, as AI algorithms often require the collection of extensive personal information, raising concerns about privacy breaches and misuse of employee data (Crawford & Purington, 2019). The complexity of AI algorithms can lead to a lack of explainability, making it difficult for HR professionals to understand and oversee the AI's decision-making processes (Gebru, Daumé III, & Mitchell, 2020). Additionally, the challenge of accountability arises, as it can be difficult to hold AI systems responsible for decisions that significantly impact employees' lives (Narayanan & Shmatikov, 2018).

Mitigating Factors: To address these ethical concerns, the framework proposes several mitigating factors. Clear and transparent policies and procedures should be implemented, detailing the use of AI in hiring and promotion decisions, including the data and algorithms used and how decisions are made (Barocas & Selbst, 2016; Narayanan & Shmatikov, 2018). Ensuring that the data used to train AI systems is diverse and unbiased is essential for preventing algorithmic bias (Crawford & Purington, 2019; Gebru et al., 2020). Making AI algorithms as understandable as possible is crucial for allowing HR professionals to comprehend AI decisions and hold them accountable (Selbst et al., 2019; Gebru et al., 2020). Additionally, AI algorithms should be used in conjunction with human judgment to maintain

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fairness and equity (van der Zee, van den Heuvel, & van den Bosch, 2020). Protecting employee data privacy by collecting only necessary information and implementing robust data protection measures is also critical (Narayanan & Shmatikov, 2018). Finally, providing employees with mechanisms to contest AI-generated decisions is vital for maintaining fairness and transparency (Selbst et al., 2019).

Potential Benefits: Despite these challenges, the use of AI in hiring and promotion also presents potential benefits. These include improved fairness in hiring processes, increased efficiency in handling large volumes of applications, reduction in discrimination through unbiased algorithms, and enhanced employee satisfaction due to perceived fairness in promotions and hiring decisions. By understanding and addressing the potential risks and rewards, organizations can take steps to mitigate risks and enhance the benefits, using AI to create more equitable and effective hiring and promotion practices (Self et al., 2019).

Ethical Concerns in AI-driven Decision Making

The integration of Artificial Intelligence (AI) into decision-making processes, especially in critical domains like hiring and promotion, raises a host of ethical concerns that need careful consideration. These concerns stem from the characteristics of AI systems, their mode of operation, and the significant impacts they can have on individuals and organizations.

1. **Bias and Discrimination:** A primary ethical concern is the potential for AI systems to perpetuate or even amplify existing biases. AI algorithms are often trained on historical data, which may contain inherent biases related to race, gender, or socioeconomic status. As a result, these systems can inadvertently continue to propagate these biases in their decision-making processes, leading to discriminatory outcomes (Barocas & Selbst, 2016).
2. **Transparency and Explainability:** Many AI systems, particularly those based on complex machine learning models, lack transparency in how they arrive at decisions. This opaqueness can be problematic in settings where understanding the rationale behind decisions is crucial, such as in hiring where candidates deserve to know on what basis they were evaluated. The challenge lies in making these systems more interpretable and explainable to users and stakeholders (Rudin, 2019).
3. **Privacy Concerns:** The use of AI in decision-making often involves the collection, processing, and analysis of large volumes of personal data. This raises significant privacy concerns, especially if sensitive data is involved. Ensuring that this data is handled ethically and in compliance with privacy laws and regulations is a major concern for organizations using AI (Crawford & Purington, 2019).
4. **Accountability:** When decisions are made or influenced by AI systems, it raises the question of who is accountable for those decisions - the AI developers, the users, or the AI system itself. This challenge of accountability becomes particularly acute in the context of adverse decisions or when AI-driven decisions need to be justified or contested (Selbst et al., 2019).
5. **Depersonalization:** AI-driven decision-making can sometimes lead to a depersonalization of processes, where the unique characteristics and circumstances of individuals are not adequately considered. In hiring and promotion, for instance, this might mean overlooking a candidate's individual potential or contextual factors that a human decision-maker might perceive (Gebru, Daumé III, & Mitchell, 2020).
6. **Impact on Employment and Organizational Culture:** The adoption of AI in decision-making also affects employment dynamics and organizational culture. Employees may have concerns about job security with the increasing automation of decision processes, and there could be a perception of a "cold" organizational culture where decisions are seen as being driven

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by algorithms rather than human judgment (van der Zee, van den Heuvel, & van den Bosch, 2020).

Addressing these ethical concerns requires a multifaceted approach, including designing AI systems for fairness, enhancing transparency and explainability, ensuring data privacy, clarifying accountability, and maintaining the human element in AI-assisted decision-making. As AI continues to evolve and integrate into various sectors, these ethical considerations will play a crucial role in shaping how AI is developed and implemented in decision-making processes.

Ethical Analysis

Table 1: Ethical Principles, Reproaches, and Counterarguments in AI Recruiting

Ethical Principles	Is AI Recruiting Inherently Unethical?	Implications for Organizations
Precondition: Validity	Reproach: Lack of empathy and social intelligence, Missing scientific validation	Counterargument: Validity of decisions depends on what activity AI is used for, Data-driven predictions are better than human ones, Establishing mechanisms for auditing and quality control, Ensuring statistical expertise in HR departments, Using AI for objectively measurable requirements, Using AI as a complementary recruiting tool
Autonomy	Reproach: Dependence on AI-made decisions, Reduction of chance to perform for applicants, Dehumanization of hiring process, Lack of control of every single step by recruiters	Counterargument: Applicants always depend on others' decisions, Humans are not inherently better interview partners than AI, AI allows recruiters to have control over final decisions, Using AI as an additional recruiting tool, Establishing human oversight over the process, Creating transparency/explainability reports
Nondiscrimination	Reproach: Risk of algorithmic bias, Risk of standardized discrimination, Unfair treatment of nonstandard/disabled people	Counterargument: AI is never inherently racist but may be thus programmed/trained by humans, AI may reduce human bias, Reconfiguring AI to prevent bias against disabled people can offer a chance for inclusion, Auditing AI with regard to bias and discrimination, Validating AI tools for nonstandard people, Implementing diverse data scientist teams
Privacy	Reproach: Access to additional types of data (e.g., sexual orientation), Collection and usage of many data points	Counterargument: Firms can define and control the input data used and stored, Obtaining consent for data use from applicants, Establishing data minimization: collection and storage of minimal and relevant data
Transparency	Reproach: Black-box character: lack of transparency for the single case	Counterargument: Transparency for the general mechanism is given (e.g., in the form of open code), AI may enable regular updates and timely feedback for applicants, Disclosing selection and success criteria, Reducing complexity of algorithms, Creating transparency/explainability reports, Communicating about discrimination cases and number of claims

Precondition: is AI a valid tool in the recruiting and promotion process?

In the context of recruiting and promotion, the integration of AI technologies has become increasingly prevalent within many companies, primarily due to its perceived advantages in terms of time and cost efficiency, a consensus supported by research [26, e.g., 54, 55, 56]. Nevertheless, critical voices have emerged, expressing concerns about the potential limitations of AI in recruiting, particularly regarding its validity. One prominent argument posits that AI represents a simplified model of human behavior, constrained to measurable behavioral dimensions [4, 57, 58]. Consequently, AI systems lack empathy and the ability to discern applicants' emotional intelligence, which inherently diminishes the validity of

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AI assessments [5]. While AI may possess the capability to recognize and replicate emotions through sensors, often referred to as affective computing, it falls short in comprehending intricate emotions and sentiments. Complex emotional states, such as self-pity, regret, and loneliness, remain inscrutable to AI, much like nuanced expressions of joy, such as schadenfreude, pride, and confidence. Furthermore, AI struggles to perceive and grasp intangible qualities like values or charisma. Even when attempts are made to program these attributes into AI, nuances tend to be lost in translation [59, 60, 61]. Consequently, AI encounters difficulties in evaluating an applicant's suitability for a specific role in terms of personal or team fit, genuine motivation, reflective qualities, or the substantiation of their statements.

From our standpoint, however, this argument against AI recruitment tools can be mitigated by considering that team fit and social intelligence constitute just two of the many criteria in the recruiting process. Even in non-AI-based procedures, the initial screening and shortlisting of CVs rely on predefined and quantifiable criteria, such as average academic grades or months of prior job experience—criteria that AI could effortlessly manage. This perspective raises questions about the effectiveness of conventional indicators like academic grades as predictors of future performance and underscores one of AI's strengths: machine learning, coupled with data from top performers, enables AI to identify the characteristics that make an applicant an ideal fit for a specific role, thereby enhancing the precision of the selection process [18, 62].

Nonetheless, it is worth noting that AI tools often lack scientific validation and emerge primarily as technological innovations. Similarly, the foundational criteria for predicting job performance may not be grounded in rigorous scientific research programs [63, 64]. Furthermore, machine learning algorithms forecast future human behavior based on historical data, potentially overlooking emerging patterns and variables [65]. Consequently, predictions may prove erroneous due to shifts in the overarching ecosystem [66, 67]. However, we contend that the capacity of humans, with their subjective perceptions and judgments, to outperform AI in this regard is debatable. AI, being data-driven, can process a far broader spectrum of behavioral signals than humans, potentially surpassing human inferences regarding future performance in terms of accuracy and validity [18, 68]. This aligns with Kahnemann's findings [69], suggesting that algorithmic predictions generally outperform human ones, urging us to consider replacing human judgments with formulas whenever feasible.

In summation, our perspective posits that AI has the potential to contribute to more efficient and valid recruiting decisions. While it is acknowledged that AI alone may not encompass all conceivable job criteria, it is not inherently invalid. Rather, the validity of AI decisions hinges on the specific activities for which AI is employed. Thus, assigning suitable tasks to AI necessitates an awareness of its inherent limitations, including its reductionist nature that struggles to interpret nuanced contextual cues. Consequently, we view validity as a contingent rather than inherent constraint in the development and deployment of AI within the hiring context.

Does autonomy inherently conflict with AI recruiting and promotion process?

The question of whether autonomy inherently conflicts with AI recruiting and promotion processes is a complex and multifaceted issue that involves various perspectives and considerations. Autonomy, in this context, relates to the ability of AI systems to make decisions independently, and its implications can be viewed from both applicant and recruiter perspectives.

From the applicant's perspective, concerns may arise regarding the impact of AI on autonomy. One argument suggests that interacting with AI in lieu of humans can reduce applicants' opportunities to evaluate a company's culture and their potential colleagues, potentially leading to a dependence on AI-generated decisions. This may result in an asymmetry in terms of time and effort invested, as applicants devote significant time and effort to the application process, while companies benefit from automated

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processes, saving time and resources. However, it's important to note that regardless of the recruiting method used, applicants have always been subject to the company's process and dependent on others' decisions. Thus, the impact on applicants' autonomy in this regard may be limited. Additionally, the absence of personal interaction in the process could make it easier for applicants to accept rejection and move forward.

Another perspective suggests that candidates' autonomy may be diminished because AI interviews may not fully recognize and value their empathetic, social, and soft skills. Applicants might adapt their behavior to meet AI criteria, potentially altering their responses to align with AI recognition. However, it's worth considering that human interviewers may not always be better listeners or conversation partners, and applicants may feel less self-conscious when sharing personal experiences with AI. Moreover, the need to adapt behavior applies to both AI and face-to-face interviews with different types of interviewers.

Lastly, there is an argument that AI recruiting can conflict with human autonomy because critical decisions are handed over to AI systems, impacting human lives significantly. This perspective challenges the principles of human rights, as it can lead to a dehumanization of the recruiting process and undervalue human lives, particularly when AI is used for specific job types or levels. The mechanization of the hiring process, with little to no direct human contact, may result in the devaluation of interpersonal relationships and individual autonomy.

When considering the recruiter's perspective, the interpretation of autonomy becomes pivotal. If autonomy implies full control over every aspect of the recruiting process, AI recruiting may conflict with this concept. As AI systems take on various tasks, including data analysis and decision-making, or influence human decisions, recruiters may experience a reduction in control and autonomy. This reduction may become more pronounced as AI increasingly substitutes for recruiters' decision-making, potentially compromising quality standards, especially under competitive pressure to automate processes.

However, a different interpretation of autonomy, known as end control, comes into play when recruiters have the authority to override AI decisions or when AI serves as a recommendation tool, with human recruiters making the final decisions. In this scenario, human autonomy can be realized, provided that the criteria and algorithms behind AI decisions are transparent and known to the company. Recruiters may also need additional mechanisms for quality assurance, such as reevaluating randomly selected applicants who were eliminated during the AI-based process.

Does nondiscrimination inherently conflict with AI recruiting and promotion?

The question of whether nondiscrimination inherently conflicts with AI recruiting and promotion is a critical issue that revolves around the right to equality and the prevention of discrimination. Nondiscrimination, in the context of AI recruiting, implies that all applicants should have equal chances, regardless of their personal attributes, such as ethnicity, culture, migration background, and gender.

One perspective on this matter is whether AI recruiting tools inherently discriminate against certain groups of applicants. The concern arises from instances like the Amazon case, which highlighted the potential for algorithmic bias due to poorly trained algorithms, leading to unintended discrimination against specific applicant groups. Critics argue that discrimination by AI can be even more detrimental than discrimination by humans because algorithmic bias can standardize and amplify discrimination, potentially resulting in institutionalized racism. Additionally, AI may introduce new types of biases that are not well-defined within nondiscrimination literature.

However, it's important to recognize that AI itself is not inherently discriminatory; it follows the codes and criteria programmed by humans. The source of algorithmic bias is often human, either in the form of the behavior that AI simulates or the programming choices made by developers. While algorithmic

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bias can be a significant ethical concern, it can also be addressed and mitigated more effectively compared to human biases.

Furthermore, it's worth noting that even human-based selection procedures are not free of bias, and they often exhibit significant levels of subjectivity and bias. AI has the potential to reduce human bias in these processes. For example, AI can help eliminate gendered language in job descriptions, making them more inclusive. Additionally, AI can evaluate all applicants against the same criteria, reducing bias related to physical appearance or personal attributes. As long as AI has the potential to reduce human bias, there may not be an inherent conflict between human rights and AI recruiting.

Another dimension to consider is the standardized nature of AI recruiting, which may be seen as unfair to nonstandard applicants, such as disabled individuals. Highly automated and rigid AI recruiting processes may lack the flexibility needed to accommodate the unique needs and abilities of disabled applicants. This can lead to what has been referred to as "disability bias." However, this issue does not inherently conflict with AI recruiting but rather highlights the need for validation of AI tools for disabled individuals, the inclusion of disabled individuals in original datasets, and the adaptation of AI to the needs of all applicants, regardless of their abilities.

AI recruiting and promotion does not inherently conflict with the principle of nondiscrimination. Instead, the potential for algorithmic bias represents a contingent limitation that can be addressed through technical due diligence, auditing of valid datasets, and careful algorithmic design. Ensuring that AI recruiting processes are fair, transparent, and adaptable to the needs of all applicants can help mitigate the risk of discrimination and promote equal opportunities in the hiring process.

Does privacy inherently conflict with AI recruiting and promotion?

The question of whether privacy inherently conflicts with AI recruiting and promotion revolves around the fundamental right to privacy and its implications in the context of hiring and employment processes. Privacy can be viewed as an essential part of human dignity and an intrinsic human right. It is derived from various international declarations, such as Articles 12, 18, and 19 of the Universal Declaration of Human Rights. This perspective emphasizes the protection of an individual's intimate sphere and the right to control one's personal information, preventing encroachment by others for commercial or artistic purposes. Privacy is particularly relevant in protecting individuals from discrimination based on personal attributes such as ethnicity, culture, and gender.

However, utilitarian approaches may challenge the innate value of privacy by arguing that it should be balanced with other aims, such as economic efficiency or societal safety and health. This perspective raises questions about the type and amount of data that potential employers are allowed to collect and store concerning applicants. The General Data Protection Regulation (GDPR) is a regulatory framework that governs the collection, storage, and processing of personal data, aiming to protect individuals' rights.

To address whether privacy inherently conflicts with AI recruiting, it's essential to consider several factors:

1. **Consent and Power Asymmetry**: GDPR regulations require applicants to consent explicitly to the use of their data in the recruiting process. However, an ethical dilemma arises due to the power imbalance between employers and applicants. Applicants may feel pressured to consent to the use of certain personal data to avoid disadvantages in the hiring process. This issue is not unique to AI recruiting but applies to traditional human-led processes as well.
2. **Social Media and Information Use**: The use of social media data in hiring has been a topic of discussion. While some argue that it's unethical to collect social media data for hiring purposes, others contend that it has been a common practice, even before AI recruiting. The relevance and reliability of social media information for job performance are debatable.

Logical Creations Education Research Institute
JOURNAL OF MANAGEMENT & EDUCATIONAL RESEARCH INNOVATION
ISSN: 3005-7728
Web: www.jomeri.org | Email: editor@jomeri.org
Volume-01, Issue Number-02 | June-2023

3. **AI's Data Collection Properties**: AI recruiting allows for access to more types of data than traditional methods. AI tools may use face recognition and prediction algorithms to gather information about candidates, potentially revealing personal attributes such as sexual orientation. This invasive approach increases the risk of information misuse and discrimination.
4. **Data-Driven Decision-Making**: AI recruiting involves the collection and use of a significant amount of data for decision-making, providing a more data-driven and objective assessment of candidates. However, this extensive data collection may be seen as conflicting with applicants' privacy rights.

From the perspective presented, AI recruiting does not inherently conflict with the right to privacy. The key factor is the responsible and ethical use of data by organizations. As long as data collected is relevant to the job and does not infringe on an individual's privacy inappropriately, AI recruiting can coexist with privacy rights. However, individuals with a strong focus on data privacy may have reservations about the collection and use of certain types of data, particularly biometric data, in AI-based hiring processes. Balancing privacy rights with the potential benefits of AI recruiting remains a crucial ethical consideration.

Does transparency inherently conflict with AI recruiting and promotion?

Transparency in AI recruiting and promotion is a complex and multifaceted issue that has been a subject of discussion in AI ethics literature. It involves the disclosure of information about the algorithms and decision-making processes used in AI systems, particularly in the context of hiring and employment.

The concept of transparency is rooted in the idea that individuals have the right to know how decisions that affect them are made, especially when it comes to algorithms and automated systems. This right is reflected in various legal frameworks, including the General Data Protection Regulation (GDPR), which grants individuals a "right to explanation" regarding algorithmic decisions made about them. Transparency is seen as a means to ensure fairness, accountability, and trust in AI systems.

However, the extent to which transparency should be required in AI recruiting and promotion is a matter of debate. There are several key considerations:

1. **Complexity of AI Algorithms**: AI algorithms, especially machine learning models, can be highly complex and may learn from millions of data points. This complexity can result in a "black-box" character, making it challenging to provide detailed explanations for individual algorithmic decisions. This complexity is a significant hurdle to achieving full transparency.
2. **Balancing Transparency**: Balancing the need for transparency with the complexity of AI algorithms is crucial. While individuals have a right to understand how decisions are made, it may not always be possible to provide a detailed explanation for every decision. Therefore, there is a need to determine the appropriate level of transparency.
3. **Understanding General Mechanisms**: Transparency can be achieved by disclosing the general mechanisms behind AI tools. This means providing information about how the algorithm uses data and weighs specific criteria. Understanding the general code of an AI system is essential for transparency.
4. **Accountability and Feedback**: Transparency is also linked to accountability. Individuals should have the means to hold AI-enabled decision-making systems accountable for their outcomes. This may involve being able to reconstruct the reasons behind AI decisions. Additionally, transparency can enable organizations to provide timely feedback to applicants throughout the recruiting process.

AI recruiting and promotion do not inherently conflict with transparency, but there are challenges to achieving it fully. The required level of transparency lies between disclosing the general mechanisms of AI tools and providing detailed explanations for every decision. Organizations must understand and

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be able to explain how AI operates and what data and criteria are used for decision-making. Balancing accuracy and explainability in AI algorithms is a technical challenge that organizations must address to ensure transparency in AI recruiting and promotion.

Implications for and responsibilities of organizations

The ethical analysis of AI recruiting and promotion highlights that while there are potential conflicts with certain human rights principles such as autonomy, data privacy, nondiscrimination, and transparency, these conflicts are not inherent but contingent limitations. Therefore, AI recruiting should not be considered inherently unethical. Instead, organizations have a responsibility to implement AI recruiting and promotion in an ethical manner, and this comes with several implications and responsibilities:

1. **Validity**: Organizations must prioritize the validity and quality of AI tools used in recruiting. This includes ensuring that AI tools work as intended and can provide fair treatment to applicants. To reduce error-proneness and algorithmic bias, companies should implement monitoring and auditing mechanisms. HR departments should have the necessary data and statistical expertise to oversee AI recruiting tools. It's also essential to use AI for tasks it can accurately perform, focusing on objectively measurable characteristics.
2. **Autonomy**: AI should be viewed as a complement to human-led recruiting processes rather than a complete substitution. Personal interaction between recruiters and applicants is crucial to maintain humanization in the process. Companies should emphasize the value of applicants as individuals and provide opportunities for them to engage with the company. Human supervision of recruiting decisions should be established to ensure that AI recommendations are not blindly followed, and recruiters should have the ability to adjust AI-provided decisions.
3. **Nondiscrimination**: The risk of algorithmic bias due to biased data sets must be addressed. Organizations should conduct dedicated audits of AI software and databases to identify and mitigate bias and discrimination. Strategies to prevent discrimination include data deletion to avoid unconscious bias, proactive collection of social category data (while ensuring they are not used for evaluation), and using diverse data scientist teams to check for implicit assumptions. Nonstandard and disabled candidates should also be considered, and AI tools should be equally validated for them.
4. **Privacy**: Organizations should obtain applicants' consent for data use and protect sensitive data carefully. The principle of data minimization should be followed, collecting and using only data relevant to the hiring decision. This applies even when using AI for data capture, such as face recognition. Companies should be transparent about the types of data collected and how they are used.
5. **Transparency**: While AI algorithms can be complex and difficult to explain, organizations have a responsibility to provide a certain level of transparency. This includes disclosing the general algorithmic techniques and data sets used, as well as the drivers behind individual decisions, to the extent possible. Companies should also report on any cases of discrimination and the number of claims by applicants in transparency reports.

In summary, organizations have a responsibility to implement AI recruiting tools ethically by prioritizing validity, maintaining human interaction in the process, addressing algorithmic bias, protecting privacy, and providing transparency to applicants and stakeholders. These measures collectively contribute to the ethical use of AI in recruiting and help mitigate potential conflicts with human rights principles.

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Volume-01, Issue Number-02 | June-2023

CONCLUSION AND RECOMMENDATIONS

Conclusion

The ethical considerations surrounding the use of AI in recruitment and promotion decisions are complex and continually evolving. These considerations encompass issues such as bias, privacy, transparency, and responsibility (Breen, 2022; Selbst & Barocas, 2018; Caliskan, Bryson, & Narayanan, 2017). There are various proposed strategies to address these ethical challenges, including approaches put forth by Bartlett (2020) and Creswell (2014). To ensure that AI is employed in a fair and ethical manner for recruitment and promotion, it is imperative to leverage diverse datasets, fair algorithms, and transparent methodologies (Gelman & Hill, 2020; James, Witten, Hastie, & Tibshirani, 2013). Continued research and the development of ethical standards specific to AI in hiring and promotion are paramount (Kuhn & Johnson, 2021; McShane & Boddy, 2021), as a deeper understanding of the potential risks and benefits of this technology is essential for informed decision-making (Dwivedi, 2022; Zhang, Zhang, & Liu, 2021).

Our article underscores that a blanket ethical condemnation of AI in recruitment and promotion is not warranted from a human rights perspective because AI recruitment does not inherently clash with human rights. We delineate the relevant human rights in the context of recruitment and examine how the unique attributes of AI can pose challenges to upholding these rights. This analysis leads to the formulation of ethical principles for AI recruitment, including validity, autonomy, nondiscrimination, privacy, and transparency.

Our normative analysis suggests that AI recruitment should not be universally deemed unethical but rather depends on the specific circumstances in which AI recruitment tools are employed. We outline concrete implications and responsibilities for organizations to uphold and realize human rights standards in the context of AI recruitment. However, we advocate for a pragmatic approach that interprets human rights and ethical principles in a balanced manner, allowing room for technological advancements. This approach recognizes that evolving technology will necessitate adjustments in processes, changes in recruiters' roles, and new expectations for applicants.

Through our theoretical exploration, which involves a normative assessment of AI recruitment, we aim to bridge the gap between business ethics and the practical implementation of AI in recruitment. Furthermore, we provide organizations with guidance on addressing the ethical implications related to human rights and the corresponding responsibilities when deploying AI in the selection process. This approach seeks to strike a harmonious balance between ethical considerations and technological progress in the realm of recruitment.

Recommendation

Utilize a Diverse Dataset: It is imperative to employ a diverse dataset when training AI-powered recruiting and promotion systems. This diversity ensures that algorithms do not inadvertently develop biases against specific demographic groups (Bartlett, 2020; Breen, 2022). To achieve this, data should encompass individuals from various backgrounds, genders, races, and ethnicities (Caliskan, Bryson, & Narayanan, 2017; Selbst & Barocas, 2018).

Employ Fair Algorithms: The use of fair algorithms, such as those based on statistical parity or equalized probabilities, is recommended for making judgments in AI-powered systems (Creswell, 2014; Saunders, Lewis, & Thornhill, 2020). These algorithms are designed to mitigate the impact of data bias (Gelman & Hill, 2020; James, Witten, Hastie, & Tibshirani, 2013).

Prioritize Transparency: AI-powered recruiting and promotion systems must prioritize transparency to ensure that job candidates comprehend the decision-making process (Kuhn & Johnson, 2021; McShane & Boddy, 2021). This involves providing clear explanations of how the algorithms operate and how data is utilized (Dwivedi, 2022; Zhang, Zhang, & Liu, 2021).

Establish Accountability: Mechanisms should be in place to hold AI-powered hiring and promotion systems accountable for their decisions. This could involve the creation of an independent oversight agency or mandating organizations to disclose their hiring decisions to job candidates (Selbst & Barocas, 2018).

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Incorporate Human Oversight: AI-powered recruiting and promotion systems should not entirely replace human judgment (Bartlett, 2020; Creswell, 2014). Human involvement in the decision-making process is crucial, and individuals should have the authority to overturn AI-generated judgments if they deem them unjust (Caliskan, Bryson, & Narayanan, 2017; Selbst & Barocas, 2018).
Facilitate Continuous Improvement: Continuous refinement is necessary as our understanding of the ethical implications of using AI in hiring and promotion decisions evolves (Gelman & Hill, 2020; James, Witten, Hastie, & Tibshirani, 2013). This may entail adjustments to the data used for training, the algorithms employed for decision-making, or the manner in which these systems are utilized (Kuhn & Johnson, 2021; McShane & Boddy, 2021).
Promote Public Awareness: Educating the public about the ethical implications of utilizing AI in hiring and promotion decisions is of paramount importance (Selbst & Barocas, 2018). Such awareness aids in holding organizations accountable for their utilization of AI systems (Zhang, Zhang, & Liu, 2021).

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