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Ethical Considerations of Using Artificial Intelligence (AI) in Recruitment Processes

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Abstract

The use of artificial intelligence technology in recruitment and selection procedures has become commonplace in business practice. As a result, there has been a significant increase in research on AI recruitment in recent years. However, these studies focus primarily on the considerations of skills and the effectiveness of AI tools. Only recently have analyses emerged presenting these procedures from an ethical perspective. The purpose of the article is to fill this gap and explore the opinions of both HR professionals and employees themselves regarding the use of artificial intelligence-based recruitment solutions. The article contains a systematic review of the literature and the results of a qualitative pilot study. The interview study was conducted in one organisation with the participation of four managers.

Widely accepted assumptions about the objectivity of learning algorithms contribute to a seemingly positive image of AI-powered recruitment among practitioners, but the research conducted showed a number of ethical concerns raised by managers regarding AI recruitment requirements. The contrast between this positive image and the ethical concerns raised by critics of AI recruitment requires an assessment necessary to gain a more scientifically grounded perspective on the ethical status of AI recruitment.

Keywords: HRM, artificial intelligence (AI), recruitment, ethics

JEL Classification Codes: M15, M54, M51

Introduction

There are many challenges in implementing artificial intelligence in human resource management functions. Artificial intelligence (AI) is being increasingly applied in decision-making processes by corporate management, assisting managers in their repetitive and monotonous daily tasks (Jainh, 2021). It provides advanced tools in the form of databases as well as analytical tools, allowing managers to step away from routine tasks and focus on more critical responsibilities. Artificial intelligence has thus recently gained a reputation as a more strategic tool, linked to organisational values, goals, and visions (Al Qahtani and Alsmairat, 2023; Malo, 2011).

The first stage of the research was a systematic review of the literature, which was conducted to identify and confirm the chosen research topic (Duren and Amico, 2015) of the use of artificial intelligence tools in human resource management processes, with a particular focus on employee recruitment processes. The literature review used full-text publications included in the ProQuest, Emerald, and SCOPUS databases. This enabled the identification of research areas that could contribute to the field, the contextualisation of the research in the literature (Higgins et al., 2019; Rowley and Slack, 2004) and the identification of a research gap. To minimise potential errors and biases in this study, data extraction methods were used for the systematic review, which required documentation of all diagnostic stages. Data extraction included general information such as title, author or authors, and publication details (Jabbour, 2013). Only scientific articles, monographs, chapters from monographs, and review articles were retained. The data extraction process that included individual analyses of the collected references according to the adopted coding system was used.

The use of AI technology in recruitment and selection procedures has become commonplace in business practice. Consequently, in recent years, there has been a significant increase in research on AI recruitment. However, these studies

predominantly focus on considerations regarding the skills and effectiveness of using AI tools. Only recently have analyses emerged presenting the above procedures from an ethical perspective (Lambrecht and Tucker, 2019; Tambe et al., 2019; Vemuri, 2014). Increasingly, business ethics researchers are explicitly calling for future research to explore perceptions of ethical decision-making (Jagger and Siala, 2015), and in particular how AI applications are integrated into organisations (Haenlein et al., 2022).

The aim of the article is to fill this gap and understand the opinions of both HR professionals and the employees themselves in companies regarding the use of AI-based recruitment solutions.

As artificial intelligence has transitioned from the exploratory stage to mainstream reality, it is essential to note that AI tools differ from other innovative IT products in that they are designed to operate intelligently, acting autonomously based on the information they gather and process through interactions with the environment (González García et al., 2017).

Artificial intelligence

Artificial intelligence, as a discipline, lacks a uniform and universally accepted definition, reflecting its dynamic character and evolutionary nature since the term first appeared in scientific discourse in 1956. The development of AI is characterised by cyclicality, oscillating between periods of intense progress and moments of stagnation. Revolutionary changes occurred with the paradigm shift from expert systems to deep neural networks, which revolutionised the field through complex learning processes, using backpropagation algorithms and machine learning (Bostrom, 2014). The failures in developing artificial intelligence (AI) based on expert systems have led to a paradigm shift towards deep neural networks as the dominant architecture in the field. Deep neural networks, characterised by multilayered neurons and using backpropagation algorithms, successively transmit signals through a hierarchy of levels, making the learning process gradual and iterative. The mechanism implies automatic optimisation of the computer algorithm through the accumulation of experience, a phenomenon referred to as machine learning. The effectiveness of this process requires the analysis of millions of cases, enabling the system to learn effectively. The system's functionality is task-based, limiting its applications to specific contexts. Among its main strengths are significant data processing speed and exceptional efficiency, often surpassing human capabilities in certain areas (Horowitz, 2018).

M. Cummings characterises artificial intelligence as the ability of computer systems to perform tasks that typically require human intelligence, such as image processing, speech recognition, or decision-making (Albassam, 2023). M. Horowitz, on the other

hand, characterises artificial intelligence as the use of computers to mimic human behaviour that exhibits features of intelligence (Horowitz, 2018). Another, much broader perspective defines AI as the programming of computer-controlled devices in a way that enables them to perceive, reason, and act, leading to the automation of intelligent behaviour (Albassam, 2023).

Employee recruitment and AI

Recruitment is a crucial aspect of HR activities, serving as the foundation for organisational effectiveness by selecting the most suitable employees for specific positions. In the digital era, as pointed out by M.F.M. Saad et al., the recruitment process has undergone a significant transformation, shifting towards innovative methods of candidate acquisition, which is crucial for maintaining company's competitive edge (Aydın and Turan, 2023). The COVID-19 pandemic has further accelerated this trend, compelling Human Resource Management (HRM) to further digitise traditional recruitment methods. Job selection processes can be automated and integrated through the secure use of state-of-the-art technology (Kaur, Gandolfi, 2023). This shift from conventional methods to digital recruitment platforms using advanced tools and algorithms enables better selection and more efficient matching of candidates to job requirements. This evolution in HRM not only optimises the recruitment process, but also fosters a more strategic approach to talent management within the organisation (Aydın and Turan, 2023).

At its core, artificial intelligence has the potential to optimise and objectify the recruitment process (Figueroa-Armijos et al., 2023) and can have a positive impact on employee engagement and performance (Nyathani, 2023). AI applications support HR in analysing, predicting, diagnosing, and decision making.

In the context of utilising artificial intelligence (AI) in recruitment processes, it is crucial to recognise and analyse the limitations that may impact the effectiveness and fairness of these systems. Despite potential benefits, AI-based recruitment strategies may encounter fundamental barriers, especially concerning complex factors influencing candidate's professional success. For instance, AI algorithms may lack the ability to assess the cultural fit of candidates within an organisation or their teamwork skills. These non-quantifiable but important aspects may result in the oversight of highly qualified candidates who do not align with the algorithmically determined criteria (Ahmad et al., 2023).

Additionally, these strategies may inadvertently perpetuate and reproduce existing biases if they are based on data containing biased information. A study conducted by Gupta et al. in 2021 sheds light on how cultural values influence the

perception of AI and its line of questioning, especially in the context of national cultural values related to collectivism, masculinity, and uncertainty avoidance. The results of this quantitative study, based on data collected from 387 respondents in the United States, suggest that individual cultural values significantly impact the degree to which AI commands are biased. This study contributes substantially to the current scholarly discussion on AI responsibility and understanding the impact of cultural values on the line of questioning by artificial intelligence due to perceived biases (Gupta and Mishra, 2022).

In light of these findings, it becomes crucial for organisations to make conscious efforts to ensure that the data used to train AI algorithms are diverse and representative of the candidates they intend to hire. Monitoring and continuous evaluation of the effectiveness and fairness of AI-based recruitment strategies are essential to prevent the perpetuation of biases and ensure equal opportunities for all candidates (Albassam, 2023).

Ethical implications of recruitment strategies based on artificial intelligence

In a world where recruitment strategies increasingly rely on artificial intelligence, attention must be given to the ethical challenges associated with their implementation. A study by A.L. Hunkenschroer and C. Luetge in 2022 emphasised that while AI offers significant benefits in streamlining recruitment processes, it is equally important to consciously manage privacy and integrity risks in their implementation (Hunkenschroer and Luetge, 2022). Given that these strategies rely on collecting and analysing voluminous sets of candidates' personal data, there is an increased risk of cyberattacks and misuse. Therefore, as noted by S. Du and C. Xie, organisations should employ rigorous data security methods to ensure being protected against unauthorised access. At the same time, establishing transparency in data collection processes and informing candidates about the privacy policy and data protection measures is a crucial aspect (Du and Xie, 2021).

Another important ethical issue is the inevitable biases that may be embedded in AI algorithms. Such biases can lead to discrimination against certain groups of candidates, especially if algorithms are trained on data containing biased information, such as gender or ethnic origin. M. Wei and Z. Zhou, as well as M.W. Sari et al., point out that AI algorithms may reproduce these biases in their recruitment decisions. To counter this phenomenon, it is imperative that organisations ensure that their recruitment processes are free from bias (Liu et al., 2023; Marta Widian Sari et al., 2023). This means that AI algorithms should be trained on diverse and representative

datasets, and recruitment teams should regularly review and make adjustments to the results of algorithmic operations to eliminate systemic errors.

Recruitment strategies using AI include a range of methods based on machine learning and natural language processing that aim to automate various stages of the recruitment process. These strategies seek to reduce bias, improve outcomes, and increase the overall efficiency of recruitment processes. In this context, it is important to understand and analyse the most promising AI-based recruitment practices that can contribute to a more sustainable and equitable recruitment process.

Methodology

There are many challenges to implementing artificial intelligence in human resource management functions. The literature on the subject suggests that there is always a concern about automation affecting the deployment of technology in the workplace (Spencer, 2018). Despite the observed influx of new technologies in the HR field, practitioners themselves emphasise caution in implementing AI (Kaur and Gandolfi, 2023). This field is particularly new for Polish enterprises, and even global experience still lacks theoretical foundations and a clearly defined paradigm (Hain et al., 2023). The research results available to date on the application of AI to HR often lack a solid conceptual basis (Prikshat, 2022). Following the principles of scientific research design (Creswell, 2013; Schwarz et al., 1999) and referring to previous investigation (Albassam, 2023) the research problems were formulated:

- Implementation and use of AI in HR processes by HR departments.
  Contemporary HR departments are increasingly implementing AI to optimise HR processes. These tools support talent management by automating tasks such as screening resumes, analysing candidate data, and even conducting preliminary interviews. With the help of AI, human resource services can better match candidates to jobs, improving recruitment efficiency and reducing the risk of bias. However, it is important that AI is implemented with both the needs of the organisation and the candidates in mind, maintaining a balance between automated processes and a personalised approach.
- Recruitment process using AI – advantages and problems of implementation.
  AI in the recruitment process offers numerous benefits, including faster data processing, increased objectivity, and the ability to identify talent based on advanced algorithms. However, there are also challenges, such as the risk of losing personal contact with candidates, potential errors in algorithms leading to unfair treatment, and concerns about data privacy. Therefore, it is crucial for

organisations to strive for the creation of a balanced recruitment process that harnesses the advantages of AI while maintaining a human approach to candidates.

Ethics and artificial intelligence.

Ethical considerations in the context of using AI in recruitment are extremely important. This requires ensuring that algorithms are free from bias, respect the privacy of candidates, and are transparent in their operation. Companies should implement policies and procedures regulating the use of AI, including regular audits and evaluations of algorithms, to ensure their fairness and accuracy. It is equally important to train HR staff on the ethical use of AI, ensuring that the technology is used responsibly in accordance with the organisation's values.

The focused interviews method was applied, which is a technique involving in-depth interviews, during which the selection of participants is based on purposiveness, though not necessarily representing a specific population (Thomas et al., 1995). The chosen group for the study consisted of managers employed at Media Expert, responsible for preparing and conducting recruitment for new jobs. The participants in the study were selected on the basis of criteria that were the result of a systematic literature review conducted earlier (Rabiee, 2004). They are knowledgeable in the field of the issues under study. This approach to selecting interviewees is associated with the concept of "applicability", whereby subjects are selected based on their knowledge of the area under study (Nyumba et al., 2018).

The individual stages of the research process are presented in Table 1.

Table 1. Research procedure

Stages of the research procedure		Tasks
Research project	Defining research objectives	Defining specific research objectives Developing a list of key questions
	Identifying and informing research subjects	Ensuring a homogeneous composition of research subjects Determining the target number of research subjects
Data collection	Interview with individual research subjects	Getting acquainted with the research subjects Presenting them with the list of questions
Analysis	Coding	Key ideas, topics
	Ranking	Content analysis
Results	Report	Descriptive and visual reporting of obtained results

Source: own study.

A significant advantage of the applied research method compared to other methods (Ho, 2006) is a more refined understanding and knowledge of the use of AI in recruitment processes as a more effective technique for generating ideas and

determining the prevalence of a particular HR attitude or experience. To ensure scientific rigor – the validity and reliability of the research, principles of predicting causal relationships were adhered to, and clear rules were formulated for analysing and reporting the results obtained, which can guide the replication of the research (Cassell et al., 2006).

Research results

Focused interviews were conducted with four managers, the obtained responses were organised according to the adopted research procedure, and the results are presented in Table 2. The individuals selected for the interview are managers responsible for conducting recruitment processes within their scope of duties, and they perform such activities quite regularly.

The main benefits of using artificial intelligence, noticed by few, include increased efficiency and reduction of bias. Challenges included ethical concerns and privacy issues. AI, when applied, complements traditional working methods and requires human verification. Most respondents do not use AI in their recruitment processes, and the organisation lacks formal policies regarding the ethical use of AI in recruitment.

The analysis of focused interviews in the context of the implementation and utilisation of AI in recruitment processes, as well as ethical issues related to AI, highlights several important issues:

1. It should be noted that the use of AI in recruitment processes is limited and perceived differently. Some managers recognise the benefits of automation, but at the same time emphasise the importance of retaining the human element in these processes. One can see diversity in the perception of AI, which can be understood both as a tool for optimisation as well as a potential threat to the quality of work and interpersonal relationships. The majority of managers do not use AI in their work, indicating a lack of a uniform approach to the use of AI, as well as existing concerns and challenges related to its implementation.
2. Managers emphasise the potential benefits of using AI in recruitment, such as facilitated candidate selection and increased efficiency. However, concerns about ethics, data confidentiality and lack of complete trust in AI remain significant. Attention was drawn to the potential of using AI to analyse large datasets of employee information, which can contribute to a better understanding of team needs. Respondents also noted potential benefits, such as increased efficiency and reduced bias, but also express concerns about lack of trust, insufficient knowledge, and potential ethical issues.

Table 2. Detailed research results

Topic	Interview 1	Interview 2	Interview 3	Interview 4
Application of AI in recruitment	Used GPT chat to personalise questions to candidates based on their resume	We don't use AI in these processes	Don't know	I don't use AI
Main benefits and challenges of AI in recruitment	Preliminary selection of candidates	Preliminary selection of candidates	Don't know	Challenges – maintaining data confidentiality
The impact of AI on HR roles	If AI was permanently present in the organisation, it would certainly facilitate candidate selection, but it would definitely not fully replace traditional working methods	It is a complementary tool; however, on the other side, there is always a human being, and an individual approach must be applied	It is a complementary tool	I don't use AI in my role, but if I were to use it and had the need, it would make my job easier by using patterns and templates in responses to candidates
Confidence in AI in recruitment	AI cannot be trusted 100%, just like humans, everyone makes mistakes	Moderate	Lack of confidence as an aid	I don't use AI in my professional role, but I work with AI extensively in my personal life and studies, and I have great confidence in what I need and use
The future of AI in recruitment	At the moment, it's for preliminary selection, but over time, with the expansion of AI capabilities, I see its potential	Preliminary selection of applications. Presenting the job to the candidate. Facilitating the process of forwarding documents to employees	Don't know	I don't have knowledge about its expansion; there are certain things that AI cannot do at the moment, but I see potential in the preliminary selection
The impact of AI on recruitment effectiveness	Matching candidates to a given employee profile	Hasn't affected it	Don't know	I don't use AI in my role
Changes in regulations regarding AI in recruitment	None – because the company as a whole does not use AI	None	Don't know	I don't use AI in my role
AI and the elimination of bias in recruitment	It is not used to select candidates	None	Don't know	I don't use AI in my role
The main benefits of AI in recruitment	Greater efficiency, better matching of candidates, reduction of bias	Greater efficiency, reduction of bias	Reduction of bias	Greater efficiency, better matching of candidates, reduction of bias

cont. Table 2

Topic	Interview 1	Interview 2	Interview 3	Interview 4
The impact of AI on candidate diversity	No	No	No	No
Informing candidates about the use of AI	No	No	No	No
AI-based training for HR professionals	No	No	No	No
Candidates' reactions to the use of AI in recruitment	Don't know	Don't know	Don't know	Don't know
Objectivity of AI compared to human assessment	No	Not sure	Not sure	Not sure
Plans to develop AI in recruitment	Talking to management to introduce AI across the entire network	Don't know	Maintaining the current level	I don't use AI in my role
The impact of AI on candidate satisfaction	Don't know	Don't know	Don't know	Don't know
Using AI to personalise communication	Not sure	Not sure	Not sure	Not sure
Satisfaction of HR employees with the use of AI	Neutral	Neutral	Neutral	Neutral
The future role of AI in recruitment processes	Yes	Don't know	No	Don't know
The impact of AI on recruitment decisions	At the moment there is none	Requires verification	Requires verification	I don't use AI in my role
The main goals of using AI in recruitment	Personalised questions based on candidate's CV	Additional questions that can be asked	Don't know	I don't use AI in my role
The impact of AI on relationships with candidates	The questions proved difficult for candidates to understand	None	Don't know	I don't use AI in my role
AI tools used in recruitment	CV screening, skills tests	CV screening	CV screening, skills tests	I don't use AI in my role

Topic	Interview 1	Interview 2	Interview 3	Interview 4
Types of data analysed by AI	Demographic data, social media data	Demographic data, employment history	Social media data	I don't use AI in my role
Measures to ensure the impartiality of AI	Don't know	Don't know	Don't know	I don't use AI in my role
Areas of greatest effectiveness of AI in recruitment	Selection, evaluation of competencies	Evaluation of competencies	Preliminary selection	I don't use AI in my role
Autonomous hiring decisions by AI	No	No	No	No
Using AI to monitor and evaluate employees	No	No	No	No
AI in identifying unique skills of candidates	Yes	Not sure	Not sure	Not sure
The impact of AI on the duration of the recruitment process	Shortens	Shortens	Doesn't change	Doesn't change
Ethical issues in using AI in recruitment	None	Don't know	Don't know	I don't use AI in my role
The biggest challenges of AI in recruitment	Data confidentiality and unbiasedness	Ethical issues	Don't know	Maintaining the confidentiality of company data
Important ethical aspects of AI in recruitment	Eliminating bias and ensuring equal treatment of all candidates	Sometimes the willingness to learn and self-development is more important than experience. AI tools seem to me to work in a black or white manner	Don't know	I don't use AI in my role
The main obstacles to implementing AI in recruitment	Lack of knowledge, lack of specialists, ethical concerns	Costs, ethical concerns, lack of knowledge	Lack of specialists, ethical concerns	Ethical concerns

Source: own study.

3. In the context of using AI in recruitment, ethical issues such as ensuring equal treatment of candidates are crucial. There is an emphasis on the need for human verification of AI decisions to prevent them from being fully autonomous. Managers in the focused interview highlighted the importance of impartiality and bias elimination, pointing out the necessity of developing formal ethical policies regarding the use of AI in recruitment processes. They underscore the significance of ethical aspects in this field.

The survey revealed a gap between the potential benefits and the actual use of AI in recruitment. Other aspects related to AI also emerged in the interview, raising questions about the potential for personalising HR processes through AI, which can contribute to better alignment of talent management and employee development strategies. However, the challenges of integrating AI into existing HR systems along with the need to train employees to use new technologies effectively were also highlighted. There was an emphasis on the necessity of creating transparent algorithms to avoid potential biases and discrimination.

Conclusion

The implementation of artificial intelligence in human resource management processes, such as recruitment and selection, is gradually becoming widespread, reducing the time and costs associated with performing these functions.

The research presented was of a pilot nature. It confirmed the validity of the topic analysed and allowed improvement of the prepared interview tool. The next stage will be extensive research in selected companies that declare the use of AI in recruitment processes.

When using AI technology in HR functions, issues related to data security and privacy are the most crucial aspects to consider. Organisations must develop guidelines for technical processes, data entry processes, and related legal and ethical issues.

Although most companies are pursuing automation with the best intentions, integrating artificial intelligence into the hiring process can have unintended consequences. Many of the ethical issues surrounding the use of artificial intelligence have highlighted instances of discrimination and bias across the spectrum of intelligent systems. Artificial intelligence systems in HR should be designed to address ethical issues and ensure that applications are aligned with broader societal values to be upheld and goals to be achieved. The implementation of artificial intelligence is not sufficiently regulated, and as a result, there is no enforcement mechanism to ensure the ethical implementation of AI.

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