

# Exploring perceptions of AI-generated job advertisements: evidence from three experimental studies

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## Abstract

**Purpose** – This study explores the use of generative artificial intelligence (AI) in the pre-hiring stage of recruitment, focusing on the design of job advertisements. As AI tools become more prevalent in human resources management, understanding their perceived effectiveness and neutrality is essential to support informed integration into recruitment practices. Grounded in signalling theory, we conceptualize job advertisements as signals that shape perceptions of job appeal, job fit, job-pursuit intentions and ad informativeness.

**Design/methodology/approach** – Three experimental studies were conducted. Studies 1 and 2 surveyed business students in Sweden and the UK, who were randomly exposed to a real, expert-written, or AI-generated job advertisement. Their perceptions of job appeal, fit and informativeness were analyzed. Study 2 examined how respondents' characteristics influenced their perceptions. Study 3 assessed how HR professionals evaluated and identified the advertisement creator.

**Findings** – Results show that AI-generated job advertisements are perceived as equally effective and informative as human-written advertisements by both students and HR professionals. Human-written advertisements were more appealing to applicants with specific personality traits, while AI advertisements showed no such pattern, suggesting neutrality. HR professionals were sceptical but often failed to identify AI-generated content.

**Research limitations/implications** – The study relies on relatively modest sample sizes and self-reported measures.

**Practical implications** – Generative AI can support fairer, more effective recruitment communication, though human oversight and targeted design remain important.

**Originality/value** – This research investigates the application of AI in job advertisements, a key stage in the recruitment process and provides empirical evidence in the form of tangible findings. We contribute to signalling theory by showing the ability of AI-generated job advertisements to accurately portray the content and tone of an organization and how receiver characteristic differences influence the interpretation of job advertisements generated by different methods. It offers novel insights into how AI-generated advertisements are perceived by applicants and HR professionals, and their potential for bias reduction. The multi-study design enables comparison across applicant and professional perspectives.

**Keywords** Recruitment, Job advertisements, Personality traits, Bias in hiring, Artificial intelligence, Perceptions

**Paper type** Research article



## Introduction

As in many other business processes, organizations are increasingly using Artificial Intelligence (AI) in human resources management (HRM). Within the HRM function, recruitment is an activity where a broad range of AI applications have been developed and are being used (Gonzalez *et al.*, 2022). AI-enabled tools are being used in pre-hiring activities for the communication of and engagement with job vacancies (Deepa *et al.*, 2024), in the hiring process for analyzing application packages and first-round screening of candidates (Figueroa-Armijos *et al.*, 2023), interviewing (Suen *et al.*, 2019) and assessing candidates' fit for a company (Van Den Broek *et al.*, 2021). While such applications can assist human resource practitioners in automating monotonous tasks, reducing costs, working more efficiently and making more informed decisions based on objective data or predictive analytics (Alsaif and Sabih Aksoy, 2023), experts are worried about the ethical consequences, as tools may introduce bias in candidate attraction or evaluation, potentially resulting in discrimination or unfair treatment (Ferrer *et al.*, 2021; Gonzalez *et al.*, 2022), or that the data analyzed by AI might be misinterpreted and that there is a lack of transparency in the algorithms (Mori *et al.*, 2025). The field's understanding of the impact of AI usage in HRM remains incomplete at both the organizational and employee levels (Vrontis *et al.*, 2022).

AI can be applied in many ways in the recruiting process, for example, in the outreach stage, which aims at targeting job openings at the right audience by having a clear and attractive job advertisement and posting these on the right channels such as social media or job sites. Snyder (2023) claims that an increasing number of job advertisements are being created by AI, generated from prompts by HR experts. Generative AI tools, such as ChatGPT, can produce highly human-like text; however, they can also be deeply problematic, raising critical issues such as racial and gender bias, data privacy breaches and the use of outdated, inaccurate and misleading data, which can have significant consequences if adopted by HRM teams (Budhwar *et al.*, 2023). Our study explores the application of generative AI in crafting job advertisements and examines how job applicants and HR professionals perceive these advertisements compared to those created by humans.

Wesche and Sonderegger (2021) showed that applicants' reaction to the use of AI in recruitment is negative in general, but it depends on the stage of the hiring process (i.e. job interview vs screening). We extend their work regarding job applicants' perceptions and reactions to the use of AI in recruitment to the first stage of recruitment: in the pre-hiring stage, with a focus on the crafting and use of job advertisements. Our study focuses on utilizing the generative capabilities of AI, rather than its decision-making capabilities. Specifically, we investigate the effect of individual differences (e.g. job applicants' personality traits, gender and age) on the perception of AI use. Our research also analyses HR professionals' experiences with using generative AI in designing job advertisements. By surveying HR professionals, our research explores the extent of AI usage, the feasibility of its application and their evaluation of the quality of AI-generated job advertisements.

This research is significant because attracting applicants is the first and, therefore, a critical stage of the recruitment process. Crafting attractive and suitable job advertisements can significantly influence recruitment outcomes by ensuring a range of suitably qualified candidates apply and that unsuitable ones are deterred from engaging in the process, which will reduce HRM resource usage. Previous research has shown that job advertisements' messages affect the levels of elaboration and persuasion (Jones *et al.*, 2006) and that the amount of information provided (Feldman *et al.*, 2006) affects the number and profile of applicants to the vacancy. Therefore, recruitment communication acts as an organizational signal as job advertisements convey both instrumental and symbolic information that signal job and organizational attributes to potential applicants. Building on signalling theory (Spence, 1973) and research on employer attraction (e.g. Celani and Singh, 2011), we conceptualize job advertisements as signals that shape perceptions of job appeal (symbolic), perceived fit (congruence with values/requirements) and job-pursuit intentions (behavioural inclinations). In recruitment contexts, these signals are often evaluated through cues, such as content

features of the advertisement. The aim of our study is therefore to investigate job applicants and HR professionals' responses to AI (vs non-AI) job advertisement designs.

This paper is structured as follows: the next section presents a brief literature overview of AI usage in HR and job advertisements. This is followed by a methodology section, which describes the three experimental studies, including the generation of the advertisements. Finally, results, research contributions, practical implications, future research and limitations are discussed.

### *Artificial intelligence in human resource management*

The literature highlights that the recruitment process is one of the most dominant HRM activity areas to have garnered a lot of attention from researchers and practitioners focusing on the adoption and leveraging of AI (Budhwar *et al.*, 2023; Malik *et al.*, 2023; Narzary *et al.*, 2025). However, research on the use of AI in recruitment is mainly focused on the assessment, shortlisting, interviewing and selection of candidates (e.g. applicants' reactions to the AI evaluation of interviews (Mirowska and Mesnet, 2022) and applicants' reactions to AI-based screenings and interviews (Wesche and Sonderegger, 2021)). The use of AI in the first stage of recruitment (i.e. the job advertisement) is a less studied area, to which our research makes its contributions. In this part of the recruitment process, AI is used in job advertising primarily through augmented writing that makes job advertisements more interesting to attract candidates, reflect job requirements and/or to avoid bias (e.g. based on gender or ethnicity) by using neutral wording appealing to a diverse group of applicants (e.g. Albert, 2019; Deepa *et al.*, 2024; Lüersmann, 2023). Some applications and service providers have also started to provide AI-generated job advertisement writing services. The discussion of AI-generated job advertisements primarily appears in HR practitioners' literature and blog posts (e.g. Snyder, 2023), focusing on key themes such as: (a) the potential for bias in generated content, as it is based on pre-existing job advertisements, while also highlighting the possibility of promoting fair recruitment as AI models lack preconceived notions or unconscious bias in wording job ads; and (b) the efficiency gains of generative AI, which can save time and resources by automating HRM tasks. While the potential impact of AI in job advertisements is discussed in the practitioner literature, there is a need for more scientific research and empirical evidence on the use of generative AI in crafting job advertisements. Empirical data regarding the perception of applicants is limited due to the novelty of AI-enabled tools and their currently relatively low adoption levels. However, given the expected diffusion of this technology (e.g. DeRose, 2024) and its significant implications, further research is needed.

In addition, the evidence regarding the perception of the use of AI by users (applicants and HR professionals) is mixed. Figueroa-Armijos *et al.* (2023) claim that applicants perceive the use of AI in recruitment as ethical if it leads to higher performance, and this positively impacts whether they trust the organization that uses AI. Li *et al.* (2021) and Presbitero and Teng-Calleja (2023) show that HRM experts think that, while AI can be useful (increase efficiency of the hiring process while decreasing its costs), HR professionals still need to be involved in the process (by for example, assessing a random sample of candidates rejected by the AI to spot potential biases and discrimination) and that this level of control needs to be effectively balanced with the recruiter's ease of use. Potential negative aspects of AI usage have also been reported. Wesche and Sonderegger (2021) find that applicants perceive information that AI/automation is used in the interview and screening stage negatively. There is a knowledge gap regarding our understanding of the use of generative AI in job advertisements, their effectiveness and the perception and reactions of job applicants.

Signalling theory explains how individuals or organizations convey information in contexts of information asymmetry, where one party (the sender) possesses knowledge that the other (the receiver) lacks (Spence, 2002) and includes the signaller, signal, receiver and feedback loop. Job advertisements are strategic signals (Ganesan *et al.*, 2018) as observable

cues which communicate underlying qualities or intentions and therefore shape perceptions of job fit, organizational culture and values and attractiveness (Celani and Singh, 2011; Guest *et al.*, 2021; Vogel *et al.*, 2024). The message in the job advertisements is a salient organizational cue that may alter how signals (i.e. the job advertisement) are interpreted and how individuals' behavioural intentions are shaped as a result of receiving the message. Our research focuses on two key aspects of signalling theory. First, we explore how AI-generated job advertisements can accurately portray the content and tone of an organization (Vogel *et al.*, 2024). Second, by differentiating between specific individual characteristics (i.e. gender, age group and personality traits), we assess how receiver characteristics influence the interpretation of job advertisements, as signals are not interpreted uniformly with individual differences shaping how signals are decoded (Celani and Singh, 2011).

While signalling theory provides our main lens, complementary perspectives also inform our study. Person-organization fit theory (Kristof, 1996) underlines our use of job fit as a signal of value congruence, and the attraction-selection-attrition framework (Schneider, 1987) explains how applicants self-select into organizations based on perceived signals. These additional perspectives help frame signalling theory within the broader recruitment literature, increasing its relevance as our central lens. This study, therefore, applies signalling theory not only to describe how job ads communicate but also to examine how AI-mediated authorship may alter the signalling process itself.

Using an explorative approach, we investigate the possibility and consequences of using generative AI in developing job advertisements and the way it will be perceived by applicants and HR professionals, and how it shapes the behavioural intentions of job applicants.

### Research questions

Based on the discussion and arguments above, we study the use of AI for writing job advertisements. The research questions (RQs) of the study are as follows.

- RQ1. How do job applicants perceive AI-generated job advertisements compared to human-written advertisements?
- RQ2. How do individual differences among job applicants (i.e. gender, age, personality traits) impact their perceptions and reactions?
- RQ3. How do HR professionals perceive AI-generated job advertisements compared to human-written advertisements?

### Methodology

Three experimental studies are conducted in this research to examine how AI-generated job advertisements are perceived compared to those created by humans, focusing on the perspectives of job applicants and HR professionals. Studies 1 and 2 investigate RQs 1 and 2 and use business students in Sweden and the UK as samples of job applicants, measuring their perceptions of the job advertisements and their reactions. Study 3 addresses RQ3 and uses a sample of HR professionals from the UK and measures their perceptions of the job advertisements. The United Kingdom and Sweden were selected to capture meaningful contrasts in labour market institutions while maintaining high comparability in digital recruitment infrastructures. The UK represents a more market-driven and flexible employment context (Bryson and Frege, 2010), whereas Sweden follows a consensus-oriented labour model emphasizing equality and collective agreements (Berglund *et al.*, 2023). Both countries are highly digitalized and increasingly integrate AI tools into recruitment, making them suitable for examining perceptions of AI-generated versus human-written job advertisements.

To compare both human and AI advertisements, we used a real (i.e. one advertised in the job market) job advertisement, an expert-written job advertisement and an AI-generated job advertisement. All studies followed the same procedure: we randomly assigned participants to

one of the three advertisement designs (i.e. real, expert and AI), asked them to read it and they were subsequently surveyed about their perceptions of the assigned advertisement and their behavioural intentions. To operationalize behavioural intentions and perception of the advertisement, we used several well-established constructs related to job advertisements as dependent variables. Based on signalling theory, job appeal and job-pursuit intention operationalize attraction and behavioural intention central to employer choice models (Collins and Han, 2004). Perceived fit reflects Person–Job/Person–Organization alignment (Kristof, 1996). Advertisement informativeness captures instrumental content that enhances clarity, supports informed decision-making and reduces uncertainty (Feldman *et al.*, 2006). These variables capture how applicants interpret and respond to recruitment signals. In line with signalling theory, job pursuit intention (JPI) reflects applicants' behavioural intentions to engage with the organization, while job appeal, perceived fit and advertisement informativeness represent key perceptual outcomes of message-based signalling. Before analysis, all dependent-variable items were coded so that higher values indicate more positive perceptions or stronger behavioural intentions.

- (1) *Job Pursuit Intention* (based on Feldman *et al.*, 2006), comprising five observable variables (e.g. *How likely would you be to contact the company for more information about the job being offered?*) measured on a 7-point Likert scale (1 = *Very likely* and 7 = *Very unlikely*).
- (2) *Job Appeal* (based on Gaucher *et al.*, 2011), comprising six observable variables (e.g. *This job is appealing*) measured on a 7-point Likert scale (1 = *Agree completely* and 7 = *Disagree completely*), out of which one is reverse-coded (*This is not a job I would want*).
- (3) *Job Fit*, (based on Walton and Cohen, 2007) with four variables such as *My values and this company's values are similar*, measured on a 7-point Likert scale (1 = *Very likely* and 7 = *Very unlikely*), with one reverse-coded (*The type of people who would apply for this job are very different from me*).
- (4) *Advertisement Informativeness* (based on Feldman *et al.*, 2006), measured on a 7-point Likert scale (1 = *Agree completely* and 7 = *Disagree completely*).

To measure personality traits in Study 2, we used a simplified version of the Big five personality test with ten questions in total, two for each of the five dimensions (*extraversion, agreeableness, conscientiousness, neuroticism and openness to experience*) on a 5-point Likert scale (1 = *Agree strongly* and 5 = *Disagree strongly*) based on Rammstedt and John (2007). Individual differences were examined only among job applicants, as signalling theory and person–environment fit frameworks conceptualize perception as a function of the receiver's characteristics. Accordingly, variations in applicants' personality traits and demographics can influence how they interpret recruitment signals. In contrast, Study 3 focused on HR professionals' evaluations of job advertisements, where such individual-level variation was less central to the research aim.

In Study 3, we also asked the HR professionals about their previous use of AI for creating or improving a job advertisement (with options ranging from *Never* to *Always*) and the extent to which they think the task of writing job advertisements can be done with AI (from *Not at all* to *Almost always*). Finally, we asked the HR professionals, who or what they believed had developed the advertisement (i.e. *Human, AI or Can't tell the difference*), and to briefly explain if or why they were able to recognize whether the advertisement was developed by human or AI.

We also asked for demographics of the respondent: gender (including non-conforming/prefer not to say as variants), age in years, experience in industry (no experience, 0–2 years, 3–6 years, 7–12 years and more than 12 years) and previous job application experience (yes/no) in Studies 1 and 2. In Study 3, we asked for respondents' gender, age, years of experience in HRM and their involvement in recruitment and selection of candidates

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(measured by number of years). The range of questions is shown in the questionnaire that was used in [Appendix A](#). Personnel Review

We used SPSS Statistics software for analysis. One-factor analysis was used to calculate scores for the reflective variables. Reliability of measures was checked by calculating Cronbach's alpha. A one-way ANOVA test was used to determine whether there was any difference in the dependent variables across the three advertisements. Finally, multivariate linear regression was used to measure the effects of individual differences.

### *Context of the study*

To ensure a consistent and clearly defined job area, this study focuses on advertisements for a *Junior Buyer* position within the field of supply chain management (SCM). SCM roles offer a relevant and comparable occupational context, as they combine technical and interpersonal competencies and have been extensively studied through job advertisement analyses ([Bals et al., 2019](#); [Klézl et al., 2022](#); [Stek and Schiele, 2021](#)). This focus provides a realistic and standardized basis for testing perceptions of AI- versus human-written job advertisements across countries, while the specific sector itself is not central to the study's theoretical contribution.

### *Designing the advertisements*

For practical purposes, we used the real job advertisement to serve as a guide for the AI-created and expert-written ones (like [Oldford and Fiset, 2021](#)). We scanned a job advertisement board (<http://Glassdoor.com>) using the keywords Junior Buyer to find a representative advertisement in both length (junior level advertisements are around 500–700 words long, e.g. [Klézl et al. \(2022\)](#), which is also an overall recommendation, e.g. [Bradshaw \(2024\)](#)). This hierarchical level was chosen, as junior jobs are generally aimed at recent graduates with limited previous experience and this fits with the student respondents in Studies 1 and 2.

For the real advertisement used in the studies, we aimed for as few changes as possible, only changing the name of the company and localizing the advertisement to fit the geographical locations of our studies (e.g. Sweden and the UK).

To design the AI-created job advertisement, we utilized the Open AI ChatGPT API (GPT-3.5; [OpenAI, 2023](#)), beginning with asking the AI to “pretend that you're a member of the human resources department and I'm the director of supply chain management department” and to “generate an ad for a junior buyer position”. A few subsequent prompts were needed to further tailor the advertisement, such as making it longer, including the salary range and adding some specific skills and requirements.

Finally, we made use of an expert in SCM to design an expert-written advertisement. The expert has previously worked with the author's team on research and has over 20 years of relevant industrial experience in management positions at various companies in several European countries. The expert is familiar with the extant HRM literature that focuses on job advertisement design and that on knowledge, skills and abilities in the SCM field. They were shown the real advertisement and asked to develop it into an “ideal” advertisement, keeping the same requirements, but they could restructure it freely and they chose to write in full paragraphs, rather than the usual bullet point structure. The content of each of the job advertisements, their characteristics (e.g. length and structure) and a comparison are presented in [Appendix B, Table B1](#).

We formatted all advertisements so that they would mimic the appearance of a job advertisement board, with a fictitious name (<http://JobScope.com>), which can be seen in [Figure B1](#) in [Appendix B](#). Headings of the advertisement (e.g. Job Summary, About the Company, etc.) were formatted in bold. We used the OpenAI ChatGPT tool to find a fictitious name for a company in the field, settling on GVT Ltd. (standing for Green Vehicle Tech) and localized the advertisements, so that the headquarters of the company would be in a nearby city to the respondent groups and the salary was shown in a common format.

*Analysis and results of studies*

*Study 1. Design.* Junior job advertisements are aimed at recent graduates or candidates with lower experience levels, allowing us to utilize students in the courses at the author’s universities as the respondents. We recruited students in both graduate and undergraduate courses in Sweden (with the limitation of completing at least one business administration course in, e.g. organization, marketing or accounting and before participating in the study) business administration programs at our institutions and this established 163 respondents in total. The students were randomly assigned one advertisement to read and then complete the survey about. Under the Elaboration Likelihood Model (Petty and Cacioppo, 1986), when applicants process advertisements, salient source cues (e.g. generated by AI) can disproportionately shape judgements. When AI authorship is not recognized, responses would be driven primarily by the linguistic and job ad content signals themselves. This justifies our design choice not to reveal the source (i.e. AI vs Human) of the job advertisement.

*Results.* Out of 163 respondents, 54, 52 and 57 students were assigned to read, expert-written and AI-generated advertisements, respectively. The sample was nearly balanced in terms of gender, with 49.1% male respondents. 27.2% had no job experience, 27.8% had up to 2 years, 25.9% had 3–6 years and finally 19.2% had more than 7 years of experience. 36.6% of respondents had previous experience applying for jobs. Finally, 34.2% of respondents were 19–23 years old, 32.2% were 24–29 and 33.6% were 30 years and older. The correlation among the main variables is shown in Table 1. Reliability analysis led to the deletion of the reverse item in Job Appeal and one item of Job Fit.

We tested for homogeneity of variance in ANOVA using Levene’s test and the assumption was met. The results of the ANOVA test for detecting significant differences among three designs are shown in Table 2. Since all *p*-values are greater than 0.05, there is not sufficient evidence to claim that there is a statistically significant difference between the mean scores among the three advertisements (i.e. real, expert, AI). This indicates no clear difference in reaction to and perception of either of them. Since significance levels in some cases were close to 0.05 (e.g. JPI), we conducted a post-hoc analysis using the Bonferroni test. This post-hoc test was selected as it controls Type I error well. The results of the post-hoc analysis confirmed the lack of significant differences among the three types of advertisements. Only regarding JPI, the AI-generated advertisement results in a marginally significant lower level of JPI compared to the real advertisement ( $M_{AI} = 3.47$ ,  $M_{expert} = 4.31$ ,  $p = 0.06$ ).

*Study 2. Design.* Study 2 replicates Study 1; however, it includes data on personality traits of respondents. To examine how individual differences influence the perception of job ads, respondents’ personality traits were considered. We used the Prolific platform to recruit samples from the UK. Like Study 1, we focused on business students, as the job advertisement was for an entry-level job. Using a randomizer link, respondents were assigned to one out of

**Table 1.** Correlation analysis of the main variables in Study 1

Variable	Mean	Std. Dev	(1)	(2)	(3)	(4)
(1) JPI	3.85	1.32	(0.88)			
(2) JA	4.76	0.51	0.53**	(0.90)		
(3) JF	4.54	0.84	0.60**	0.37**	(0.88)	
(4) AdInf	3.49	1.12	0.54**	0.44**	0.34**	(0.84)

**Note(s):** \*\*Correlation is significant at the 0.01 level (2-tailed)

Std. Dev.: Standard Deviation

JPI: Job Pursuit Intention, JA: Job Appeal; JF: Job Fit; AdInf: Ad Informativeness (1–7 Scale)

Numbers in parentheses are Cronbach’s alpha

**Source(s):** Authors’ own work

**Table 2.** One-way ANOVA test results in Study 1

Dependent variable Job ad type	Job pursuit intention Mean	Job appeal Mean	Job fit Mean	Ad informativeness Mean
Real (n = 54)	3.81	3.57	4.40	3.33
Expert-written (n = 52)	4.31	3.75	4.41	3.88
AI-written (n = 57)	3.47	3.23	3.85	3.25
ANOVA test results	F = 2.82 Sig. = 0.063	F = 1.71 Sig. = 0.18	F = 2.57 Sig. = 0.080	F = 1.92 Sig. = 0.15

**Source(s):** Authors' own work

three job advertisements. In total, 263 complete responses were collected. Out of 263 respondents, 83, 91 and 89 students were assigned to real, expert-written and AI-generated ads, respectively.

*Result.* Most respondents (58%) were female. As expected, the sample included a lot of respondents with low levels of work experience (22% had no job experience and 41% had up to 2 years). The sample included younger people, as 44% of respondents were 19–23 years old and 37% were 24–29 years old.

As per Study 1, the reliability analysis by checking Cronbach's alpha led to the deletion of the reverse item in job appeal and one item of job fit. Since measures of personality traits included only two items, a lower alpha (less than 0.70) is acceptable for this variable. The correlation among the main variables and reliability results are shown in Table 3. The results show that the dependent variables have no statistically significant difference among the three advertisement designs.

Following the procedure in Study 1, an ANOVA test was used to determine whether significant differences exist among three designs and these results are shown in Table 4. In line with Study 1, the result indicates no significant difference in perception of job advertisements between the three designs.

**Table 3.** Correlation analysis of the main variables in Study 2

Construct	Mean	Std. Dev	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) JPI	4.63	1.48	(0.92)								
(2) JA	4.05	1.12	0.70**	(0.91)							
(3) JF	4.59	1.22	0.70**	0.75**	(0.86)						
(4) AdInf	3.23	0.86	0.15*	0.44**	0.29**	(0.87)					
(5) Ex	4.23	1.01	0.09	0.12	0.22**	0.10	(0.60)				
(6) A	3.28	0.93	0.15*	0.20**	0.22**	0.06	0.22**	(0.41)			
(7) C	2.83	0.86	0.21**	0.23**	0.25**	0.06	0.26**	0.30**	(0.52)		
(8) Em	4.03	1.04	0.20**	0.20**	0.22**	0.14*	0.30**	0.12*	0.22**	(0.62)	
(9) O	3.32	0.89	0.09	0.06	0.07	0.012	0.08	0.02	0.23**	0.07	(0.31)

**Note(s):** \*\*Correlation is significant at the 0.01 level (2-tailed). \* Correlation is significant at the 0.05 level (2-tailed)

Std. Dev.: Standard Deviation

Numbers in parentheses are Cronbach's alpha

JPI: Job Pursuit Intention, JA: Job Appeal; JF: Job Fit; AdInf: Ad Informativeness (1–7)

Ex: Extroversion; A: Agreeableness; C: Conscientiousness; Em: Emotional stability; O: Openness to new experiences (1–5)

**Source(s):** Authors' own work

**Table 4.** One-way ANOVA test results in Study 2

Dependent variable Job ad type	Job pursuit intention Mean	Job appeal Mean	Job fit Mean	Ad informativeness Mean
Real ( <i>n</i> = 83)	4.66	4.13	4.42	3.08
Expert ( <i>n</i> = 91)	4.42	3.81	4.68	3.32
AI ( <i>n</i> = 89)	4.84	4.23	4.66	3.29
ANOVA test results	F = 0.89 Sig. = 0.41	F = 1.83 Sig. = 0.16	F = 0.58 Sig. = 0.55	F = 1.04 Sig. = 0.35

**Source(s):** Authors' own work

Furthermore, to determine the influence of individual differences on perception of job ads, the effects of age, gender and personality traits on dependent variables were tested using regression analysis. The regression was done by dividing the sample into three subgroups based on the job advertisement design. For each group, the effects of gender, age and five personality traits on dependent variables were measured by regression analysis.

The results are presented in Table 5. The results show that individual differences can affect JPI, JA and JF of applicants only in the case of real and expert-written job advertisements. The real job advertisement appeared more attractive to younger applicants and those with conscientious personality traits. The expert-written job advertisement was more attractive to applicants with agreeableness and emotional stability personality traits. Regarding human-written job advertisements (i.e. real and expert-written), individual differences can explain from 15 to 24% of the variance of dependent variables (*r*<sup>2</sup> values in Table 5). Conversely, the effect of individual differences in the case of the AI-generated job advertisement is non-significant and therefore the AI-generated job does not attract respondents of any specific gender, age group or personality traits.

*Study 3. Design.* This study is aimed at HR professionals and their perceptions of the job advertisement designs (AI or human). Prolific platform was used to recruit the sample, requesting participants to be in the UK, and their “Employment Role” to be “Human Resources”. The sample size was 214. Using a randomizer link, respondents were assigned to one out of three job advertisements. Only Ad Informativeness and Job Appeal were used as dependent variables, as measuring Job Fit and JPI is not applicable, as the HR experts are not applying for the job themselves, but are rating the advertisements from a professional standpoint.

**Table 5.** The effects of individual differences on perception of the job ads in Study 2

Dependent variable	Job pursuit intention Influential personality traits and demographics	Job appeal	Job fit
Real ( <i>n</i> = 83)	<i>r</i> <sup>2</sup> = 0.19 C ( <i>b</i> = 0.40 <sup>**</sup> )	<i>r</i> <sup>2</sup> = 0.15 C ( <i>b</i> = 0.30 <sup>*</sup> ) Age ( <i>b</i> = -0.31 <sup>**</sup> )	<i>r</i> <sup>2</sup> = 0.24 C ( <i>b</i> = 0.40 <sup>***</sup> ) Age ( <i>b</i> = -0.25 <sup>*</sup> )
Expert ( <i>n</i> = 91)	<i>r</i> <sup>2</sup> = 0.21 A ( <i>b</i> = 0.37 <sup>***</sup> ) Em ( <i>b</i> = 0.24 <sup>*</sup> )	<i>r</i> <sup>2</sup> = 0.20 A ( <i>b</i> = 0.28 <sup>**</sup> )	<i>r</i> <sup>2</sup> = 0.19 A ( <i>b</i> = 0.34 <sup>***</sup> ) Em ( <i>b</i> = 0.24 <sup>*</sup> )
AI ( <i>n</i> = 89)	<i>r</i> <sup>2</sup> = 0.0 ns	<i>r</i> <sup>2</sup> = 0.0 ns	<i>r</i> <sup>2</sup> = 0.0 ns

**Note(s):** A: Agreeableness; C: Conscientiousness; Em: Emotional stability; (1–5)  
ns: No significant predictors were identified

**Source(s):** Authors' own work

**Results.** In this study, there are more females in the sample (64.5%), which roughly corresponds to most HR professionals being female according to current statistics (over 75%, [U.S. Bureau of Labor Statistics, 2024](#)). Understandably, the HR professionals in this sample are also older than the students in Studies 1 and 2, with 24.8% being 30 years and younger, 30.4% age 31–40 years old, 23.8% age 41–50 years old and 21% age 51 and older. 60.3% have six or fewer years of experience working in the field, and finally 91.2% of respondents have been involved in at least one process of the advertisement, recruitment and selection of a candidate (with 37.4% being involved in more than five recruitments). Please see [Table 6](#) for the correlation table of dependent variables.

As with Studies 1 and 2, we used a one-way ANOVA test to determine whether there is a difference in perception of the advertisements and the reverse item in Job Appeal was removed to improve scale reliability. As in the other two studies, there was not a statistically significant difference between advertisements for either Ad Informativeness ( $F(2, 211) = 0.021, p = 0.979$ ) or Job Appeal ( $F(2, 211) = 0.746, p = 0.453$ ), see [Table 7](#). Therefore, we conclude that the HRM experts, similar to the job seekers in previous samples, do not show a clear preference for one of the advertisements.

Respondents' opinions on AI usage in recruitment were mostly negative, as 48.1% thought it should never be used, 40.7% thought it could be used sometimes and 11.2% reporting that it could be used often. This opinion was consistent, as tested by Chi-square tests, for gender, experience, past involvement with recruitment and age, yielding no significant differences.

To answer [RQ3](#), we also included a question on who/what, according to the expert, developed the advertisement that they read (see [Table 8](#)). We then compared this to who/what developed the advertisement in a Chi-square test (note that we merged the real and expert-created advertisement for this analysis and omitted the respondents who said they couldn't tell), leading to a final sample size of 77. We find that there is a statistically significant difference with  $\chi^2(df = 1, N = 77) = 4.962, p = 0.026$ . The experts are more often wrong in their assumptions: 71.4% of respondents assumed that the advertisements written by humans

**Table 6.** Correlation analysis of the main variables in Study 3

Variable	Mean	Std. Dev	(1)	(2)	(3)	(4)
(1) JA	5.08	1.12	(0.88)			
(2) AdInf	5.68	1.16	0.66**	(0.90)		

**Note(s):** \*\*Correlation is significant at the 0.01 level (2-tailed)

Std. Dev.: Standard Deviation

JA: Job Appeal; AdInf: Ad Informativeness (1–7 Scale)

Numbers in parentheses are Cronbach's alpha

**Source(s):** Authors' own work

**Table 7.** One-way ANOVA test results in Study 3

Dependent variable	Job appeal Mean	Ad informativeness Mean
Real ( $n = 73$ )	4.95	5.67
Expert ( $n = 66$ )	5.11	5.67
AI ( $n = 75$ )	5.18	5.70
ANOVA test results	$F = 0.796$ Sig. = 0.45	$F = 0.021$ Sig. = 0.98

**Source(s):** Authors' own work

**Table 8.** Job advertisement actual and perceived creator in Study 3

		Actual creator		AI	
		Human		N	%
		N	%	N	%
Perceived creator	Human	22	28.6%	18	50.0%
	AI	55	71.4%	18	50.0%
Chi-square test results		$\chi^2$ (df = 1, N = 77) = 4.962, Sig. = 0.026			
<b>Source(s):</b> Authors' own work					

were, in fact, generated by AI. For the AI-created advertisement, the sample was equally split and the respondents assumed correctly in 50% of cases.

Since we also asked respondents to provide a brief explanation of why they thought the advertisement was created by an AI or by a human, we could also analyze these arguments (summarized in [Table C1](#) in [Appendix C](#)). The responses revealed three recurring themes: (1) many participants explicitly stated they could not tell; (2) AI authorship was associated with monotony, keyword overuse, or “too perfect” structure and (3) human authorship was linked to creativity, personal tone, or idiomatic expressions. However, these cues were applied inconsistently, as respondents used similar reasoning to justify both correct and incorrect attributions. To make these patterns more transparent, we provide a thematic summary with illustrative quotes in [Table C2](#) in [Appendix C](#). Taken together, the qualitative evidence shows that while professionals attempted to rely on surface-level cues to detect authorship, these were unreliable, which is consistent with our quantitative finding that overall evaluations were driven more by content than the source.

## Discussion

Our aim was to investigate job applicants and HR professionals' responses to AI (vs non-AI) job advertisement designs with three RQs: [RQ1](#) (Study 1): How do job applicants perceive AI-generated job advertisements compared to human-written ads? [RQ2](#) (Study 2): How do individual differences among job applicants (i.e. gender, age and personality traits) impact their perceptions and reactions? [RQ3](#) (Study 3): How do HR professionals perceive AI-generated job advertisements compared to those written by humans?

The results from Studies 1 and 2 both show that applicants perceive the effectiveness of real job, AI-generated and expert-customized advertisements in a comparable manner. Regarding [RQ1](#), samples from Sweden and the UK showed no differences across the three types of job advertisements in any of the four dependent variables (i.e. Job Pursuit Intention, perceived Job Appeal, perceived Job Fit and perceived Job Informativeness). While previous research has predominantly reported negative perceptions of AI in recruitment and other HR processes among the workforce (e.g. [Balcioglu and Artar, 2024](#); [Bankins et al., 2022](#); [Tong et al., 2021](#); [Wesche and Sonderegger, 2021](#)), our analysis revealed a similar (and therefore positive) perception of AI-generated advertisements compared to those written by humans. From a signalling theory perspective, we show that AI-generated job advertisements demonstrate broadly equal levels of interpretability and therefore credibility ([Connelly et al., 2011](#)) and can accurately portray the content and tone of an organization ([Vogel et al., 2024](#)). This finding suggests that AI can be just as effective as human experts in crafting job advertisements and that this may present resource management opportunities for those involved in this stage of the recruitment process. This is particularly important as job advertisements are initial touchpoints in the recruitment process, where clarity and credibility of information are essential for effective signalling ([Walker and Hinojosa, 2014](#)). However, there is still a need for a nuanced approach to both the implementation of AI technologies into organizational processes and how their usage is presented to job applicants and wider organizational stakeholders.

In addressing RQ2, we found that individual differences in job applicants can affect job pursuit intentions, job appeal and job fit only in the case of the real and expert-written job advertisements. The real job advertisement is attractive mainly to younger applicants and those with conscientious personality traits. The expert-written job advertisement attracts mainly applicants with agreeableness and emotional stability personality traits. However, the effect of individual differences in the case of the AI-written job advertisement is non-significant and therefore does not attract any specific gender, age group or personality traits. This confirms aspects of signalling theory that show how receiver characteristics influence the interpretation of job advertisements signals, such as tone, structure and content, are not interpreted uniformly, as individual differences shape how signals are decoded (Celani and Singh, 2011) and reinforce that job advertisements are strategic tools rather than neutral texts (Ganesan *et al.*, 2018). However, our finding that AI advertisements showed no such pattern suggests a signal neutrality, which has heightened importance in the impact of gendered and EDI-related language which can reproduce or disrupt segregation, highlighting the non-neutrality of signals and the gatekeeping role of advertisements (Hu *et al.*, 2024). Job advertisements can be used to attract those applicants whose personality traits fit more closely with the culture of the recruiting organization will apply. The neutrality of AI-generated ads may reduce bias but also dilute personalized resonance, suggesting a trade-off between signal consistency and emotional salience (Vinayak *et al.*, 2017).

A comparison of patterns across two countries (i.e. the UK and Sweden) indicates some similarities and differences. Both samples of job applicants perceive advertisement informativeness as the least satisfactory among the four dependent variables (Ad Informativeness is perceived the least in Table 1 and Table 3:  $M_{UK} = 3.23$  and  $M_{SW} = 3.49$ ). This suggests that HR professionals and recruitment companies need to find ways to provide a clearer and more comprehensive picture of the organization and the role to job seekers. Interestingly, there is use of AI in the HRM activity of pre-hiring through intelligent chatbots to enhance pre-hire communication and engagement (Deepa *et al.*, 2024). Complementing the more standard approach of job advertisements with an AI-powered chatbot to offer additional insights about the organization and the position could help job seekers and applicants obtain a more satisfactory level of information.

Further differences between the two countries in Studies 1 and 2, as in Sweden, the effectiveness of AI-generated job advertisements is perceived less positively than that of the real and expert-written advertisements by students (e.g. in Table 2, JPI-SW:  $M_{AI} = 3.47$  is smaller than  $M_{expert} = 4.31$  and  $M_{real} = 3.81$ ). Conversely, in the UK, the effectiveness of AI-generated job advertisements is perceived as more positive than real and expert-written advertisements by students (e.g. in Table 4, JPI-UK:  $M_{AI} = 4.84$  is larger than  $M_{expert} = 4.42$  and  $M_{real} = 4.66$ ). Although the differences are small, this might indicate the effects of the context and culture on the perception of AI usage and therefore, further study of cultural and country-level factors could be an interesting area for future research. While not our primary focus, these small cross-national variations may reflect contextual moderators of signalling environments, suggesting that institutional and cultural settings can shape how recruitment signals are interpreted. Future studies could therefore explore how national or organizational contexts condition the impact of AI in recruitment communication.

Study 3 confirmed that the HR experts, similar to the students in Studies 1 and 2, do not demonstrate a clear preference for one of the advertisements over the other, but when asked directly, most HR experts believed that AI in recruitment should never or only sometimes be used. These results seem somewhat contradictory, suggesting there may be a misalignment between HR professionals' perceptions and their actual ability to discern the difference between AI-generated and human-written job advertisements. Despite the professionals' scepticism, AI performs comparably with humans, challenging traditional assumptions about the role of human expertise in job advertisement creation. This aligns with previous research on the increasing role of AI in professional communication (Newman and Gopalkrishnan, 2023), and raises questions about potential cognitive biases in HR professionals' resistance to AI-driven tools.

### Theoretical contribution

Our research extends the literature on AI in HRM by focusing on the pre-hiring stage and empirically examining how AI-generated job advertisements are perceived by both job applicants and HR professionals. This study refines the application of signalling theory (Spence, 1973; Celani and Singh, 2011) into a fast-emerging area of practice/technological development and the context of recruitment. Our multi-study approach demonstrates that AI-generated advertisements can be as effective as human-written ones in influencing key applicant perceptions and behavioural intentions, such as job appeal, perceived fit, job-pursuit intentions and job advertisement informativeness. Beyond documenting performance parity, we introduce the signal source (i.e. the production source of a message as AI vs human) as a theoretically meaningful, yet often implicit attribute of recruitment signals. Our results indicate that when the source is not disclosed (Studies 1 and 2), content-level signals dominate evaluations; thus, while source matters contingently, it becomes influential primarily when it is salient and credibly recognized. The qualitative evidence from HR professionals' explanations supports this, showing that respondents relied on unreliable surface-level cues (e.g. perceived monotony or professional tone) that were not diagnostic of actual authorship, reinforcing that the signal source remains ambiguous unless explicitly highlighted. This shows the capability of AI-generated job advertisements to demonstrate broadly equal levels of interpretability and therefore credibility (Connelly *et al.*, 2011) to those developed by humans and that they can accurately portray the content and tone of an organization (Vogel *et al.*, 2024).

Our findings that the signals within human-authored job advertisements are not interpreted uniformly support research that individual differences shape how signals are decoded (Celani and Singh, 2011). However, finding that AI-generated job advertisements exhibit signalling neutrality is a refinement of the theory in this area. This aligns with recent evidence that algorithmic decision-making can sometimes be perceived as fairer and more consistent than human judgement (Choung *et al.*, 2024), reinforcing the notion of signal neutrality. In addition, the neutrality of AI-authored advertisements contrasts with the attraction-selection-attrition framework (Schneider, 1987), which would predict that job advertisement signals selectively attract applicants whose traits or values align with those signals. The limited role of authorship cues is consistent with the Elaboration Likelihood Model (Petty and Cacioppo, 1986), which predicts that source cues only influence evaluations when they are made salient. Our finding that job fit perceptions did not differ across AI-generated and human-written advertisements also aligns with person-organization fit theory (Kristof, 1996), which suggests that applicants judge their compatibility with an organization on the substantive content of a message (e.g. values, requirements) rather than on the style in which it is written or the author of the advertisement.

### Practical implication

Our findings offer several important implications for HR professionals and AI developers. First, the results demonstrate that AI-generated job advertisements can serve as an effective and efficient resource for drafting recruitment communications, without compromising perceived job appeal or job ad informativeness. Second, the findings deepen our understanding of AI implementation in HRM by highlighting the nuanced influence of personality traits on the perception and behavioural intention of job applicants. As shown in Table 5, the AI-generated job advertisements were less biased as they were not appealing to job seekers with specific personality traits. While using a generalized tone is often valued for promoting equality and inclusiveness (e.g. ensuring job advertisements appeal to all genders), a more targeted approach is advantageous when a role requires distinct attributes or values. For instance, our expert preferred candidates with high levels of agreeableness and conscientiousness in an entry-level position. In such cases, it is advisable for recruiters to use AI as an augmentation tool and supplement the AI-generated content with targeted human edits to enhance person-job fit while maintaining inclusiveness.

Developers of generative AI tools may want to consider incorporating this level of adaptability in their AI algorithms. To achieve higher levels of AI integration into HRM processes and ways of working, technological advancement should consider candidate/human experience, automation of administrative work and routines and strategic alignment of HR with business strategy. A deeper understanding of how AI tools are perceived could help HR practitioners and developers focus on what may improve the candidate's experiences and behavioural intentions. At the same time, organizations could redirect HR professionals' efforts to more strategic and interpersonal aspects of recruitment, such as alignment of needs in cross-functional teams. However, we argue that transparency and training are necessary to overcome the scepticism and resistance towards AI, ensuring that the HR professionals feel confident in integrating it into their routines and do not feel that their jobs are under threat.

### Limitations

While this study provides valuable insights into AI in HRM, specifically in the recruitment process, several limitations must be acknowledged. The study relies on a relatively small sample size, which may not be representative of HR professionals or job applicants. The experiments were conducted over a limited time frame, which could imply that only short-term effects are examined, whereas attitudinal, behavioural and technological changes in AI and human could lead to different recruitment processes. The studies utilize self-reported measures for dependent variables and job applicants' behaviour (i.e. applying to the advertised job or recommending the job to their network) was not included in the studies.

In sum, this study contributes to the growing body of research on AI in HRM by demonstrating that generative AI can produce job advertisements perceived as equally effective as those written by humans. By highlighting AI's neutrality in appealing across applicant characteristics, the findings support its role as a fair and resource-efficient tool in early-stage recruitment. Future research can build on these insights by examining behavioural outcomes and long-term effects of AI-driven recruitment communication.

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### Supplementary material

The supplementary material for this article can be found online.

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