

Năstase, Marian; Croitoru, Gabriel; Valentina, Florea Nicoleta; Cristache, Nicoleta; Lile, Ramona

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THE PERCEPTIONS OF EMPLOYEES FROM ROMANIAN COMPANIES ON ADOPTION OF ARTIFICIAL INTELLIGENCE IN RECRUITMENT AND SELECTION PROCESSES

Marian Năstase^{1*}, Gabriel Croitoru², Nicoleta Valentina Florea³,
Nicoleta Cristache⁴ and Ramona Lile⁵

¹⁾ Bucharest University of Economic Studies, Bucharest, Romania.

²⁾³⁾ Valahia University of Targoviste, Targoviste, Romania.

⁴⁾ Dunarea de Jos University of Galati, Galati, Romania.

⁵⁾ Aurel Vlaicu University of Arad, Arad, Romania.

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Abstract

Managers increasingly want to improve the efficiency of human resources processes, and a solution with real results is Artificial Intelligence (AI), which provides real results in a virtual world for human resources managers, for companies, and also for candidates. The purpose of this article is to investigate the perception of employees in Romanian companies to adopt and use AI in recruitment and selection processes, analysing the factors that influence this acceptance intention using Technology Acceptance Model (TAM). The study aimed to determine the benefits of AI adoption in recruitment and selection processes, the perceived usefulness of adoption, and the ease of use in these processes. The results obtained showed that almost all the variables proposed for the model positively influenced the intention to accept and use AI in the recruitment and selection process. Non-discrimination and the utility of using (PU) AI in recruitment and selection had little influence. The findings should contribute to understanding the acceptance of artificial intelligence in the two processes proposed for analysis and observe its impact on its adoption among employees in different fields.

Keywords: artificial intelligence, human resources, Romanian companies, recruitment, selection, efficiency.

JEL Classification: O15, P42, C52.

*Corresponding author, **Marian Năstase** – e-mail: nastasem1@yahoo.com



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Introduction

Due to globalisation, the increased use of technology, business complexity, IT-based technologies, and artificial intelligence (AI) is increasingly used in various fields of activity. AI is used in human resources (HR) processes such as: recruitment (Horodyski, 2023) and acquisition of new talent (Madeline Laurano, Co-founder & Chief Research Office), selection and interviewing (Gheeta and Bhanu Sree Reddy, 2018), processes employment (Kelan, 2023), training and communication (Ore and Sposato, 2021), improving the work climate (De Obesso Arias, Pérez Rivero and Carrero Márquez, 2023), bringing various benefits (Yadav and Kapoor, 2023).

Almost 30% of companies use AI for the recruitment process to reduce time and bring the right employee with the right talent to the right place at the right cost: reduce time-consuming activities, automate CV evaluation, match candidate skills to job requirements, eliminate pauses between processes, make decisions much easier using big data, predict future results, easily connect candidates with specialists, easily manage candidate files or quickly extract key information about candidates. Many companies have already implemented AI in these processes and are measuring its acceptance among their future employees (Vedapradha, Hariharan and Shivakami, 2019). AI is about thinking quickly and logically based on a lot of knowledge at its disposal (Geetha and Bhanu Sree Reddy, 2018), reducing time and cost in meeting the right candidate with the vacancy.

In the pandemic and post-pandemic period, AI in recruitment and selection increased in utility for individuals and also for specialists who want a more competitive profile of the candidate (Anghel, 2023). Machines have already changed many contents of jobs, but now a human-technology cooperation is being established based on natural language processing (NLP), voice recognition (VR), machine learning process, deep learning, neural networks (Eurbanks, 2018), problem solving, automation of recruitment and selection (Ore and Sposato, 2021). All these benefits are making AI attractive for organisations who look for talented multi-skills employees.

AI was used for the first time in 1956 by the father of AI, John McCarthy, and now AI has offered the opportunity to use recruitment and selection functions as being conducted in smart ways (Ore and Sposato, 2021), bringing new opportunities and challenges, and achieving important objectives. However, even if enterprises use AI in many processes, the human element will remain a vital component of the process.

The study is structured as follows: in Section 1 is the literature review is presented, along with some important advantages of recruitment and selection processes based on using AI. Moreover, the research hypothesis and the conceptual model of the analysis also are established. In Section 2 the research methodology is presented, with a focus on research design and context, consisting in the process of data collection and analysis. The results and research discussion are presented in Section 3, which contains, in the final part, the theoretical and managerial contributions of the article; the limitations and future research proposals are also presented.

1. Literature review and research hypothesis

1.1. AI and recruitment process

According to Upadhyay and Khandelwal (2018), the application of AI in HR management has been one of the most notable trends among recruitment professionals. There are many advantages of using AI in the recruitment process, so we mention only a few, based on which some research hypotheses have been established.

These advantages mainly refer to the reduced time, where the software used in today's recruitment markets uses AI to scan the best possible candidates in a short time (Collins, 2018), providing a shortlist and a ranking of the most promising candidates (Fernández and Fernández, 2019). Another advantage would be the low cost and easy ranking of the candidates. There are many applications for finding a job, but using AI companies can easily rank candidates or shorten the hiring process (Faliagka et al., 2012), ranking candidates and recognising candidates with the best scores and reducing environmental impact (Lepri et al., 2018).

Improved speed using AI makes recruitment faster (Collins, 2018), becoming attractive and more cost-effective and performed at high speed (van Esch and Black, 2019) and efficiently (Lamikanra and Obafetni-Ajayi, 2023). The "anywhere anytime" principle and the website can provide different information, anytime it can be accessed from anywhere, and create the ability to attract and retain the right people (Cohen, 2001), providing 24/7/365 accessibility based on just-in-time systems to attract new candidates (Nawaz and Gomes, 2019) considered an asset in today's "talent war" (Leicht-Deobald et al., 2019). Using AI in R&D provides equal opportunities and non-discrimination. Using AI, resumes are screened fairly, giving equal chances to all candidates (Upadhyay and Khandelwal, 2018). Thus, non-discrimination is reduced (Kelan, 2023) and ethics-based vision increases (Tambe, Cappelli and Yakubovich, 2019). Work diversity and reliability are other perks that talented employees want. Non-judgmental is the biggest advantage (Horodisky, 2023), AI ignores the background of candidates and helps to find the right talent, better evaluations, diversify the employee portfolio and a greater diversity of candidates (Lewis, 2018), or an inclusion more effective socio-economic of future employees. Focusing on skills and extracting information makes the process of scanning data on skills and knowledge a beneficial process, and by detecting and collecting them (Stuart and Norvig, 2016), they lead to an effective recruitment process. CV updating using AI provides the possibility to check the skills of the employees and also provides the possibility to update the data for other jobs (Gheeta and Bhanu Sree Reddy, 2018). Thus, we can develop the following research hypotheses:

H1- Recruitment process based on AI has a positive effect on Intention to adopt AI in R&S processes and also other hypothesis as:

H1a-H1j- Time saving/ cost saving/ speed/ anywhere/ anytime/ equal chances/ non-discrimination/ work diversity/ focus on competency/ continuous CV updating have a positive impact on Intention to adopt AI in recruitment processes.

1.2. AI and selection process

The literature on AI and the selection process has already been analysed since the early 2000s, and the perceptions of the use of new technologies in the selection process and the job interview have offered numerous advantages. Reducing the costs of interviewing using AI is a real benefit: the amount of manual work decreases and the time to focus on the right candidates increases (Guchait et al., 2014), recruiters can instantly relate to talented

candidates (Leong, 2018), using interviews at distance that are very effective in helping to achieve specific goals through flexible adaptation. Data privacy becomes very important, and data mining must be done based on AI regulations, and data protection must be perceived as an ethical issue (Oswald et al., 2020), according to the European General Data Protection Regulation (GDPR).

Using data mining and AI, predictions can be made and decisions can be made (Hmoud and Laszlo, 2019), or information can be extracted based on CV scanning, but based on data confidentiality. Data security, using AI provides a safe environment (Tilmes, 2022), where candidates can, for example, have different questions and answers in a secure platform, regarding benefit coverage, vacation leave, or pay level evaluation. AI handles all types of query using chat box, email form, or a virtual conversation in a meeting room (Gheeta and Bhanu Sree Reddy, 2018). Quick feedback leads to a quick response for candidates because automated emails are used, so the relationship with the candidate is quick and the response is time and cost efficient (Gheeta and Bhanu Sree Reddy, 2018).

AI enables rapid feedback about a candidate's rejection, his training programmes, knowledge and skills that an employee can develop in the future (Upadhyay and Khandelwal, 2018). Thus, AI facilitates rapid communication as the Web, social media, or mobile communications are used (Upadhyay and Khandelwal, 2018). By reducing favouritism using AI in the selection process, many advantages can be achieved: less nepotism and favouritism (Langer et al., 2019; Langer, König and Papathanasiou, 2019; Langer, König and Hemsing, 2020; Suen, Chen and Lu, 2019), highly qualified candidates (Persson, 2016), process correctness and precision due to prediction algorithms (Polli, 2019) and variables that do not need to be predefined by RU specialists (Polli, 2019).

By screening candidates, companies can easily check candidate skills and knowledge (Forbes, June, 2018), and using the chat box, they can interact with candidates by helping answer questions or providing feedback and requested information (Gheeta and Bhanu Sree Reddy, 2018). Chatbots, as AI tools, help in screening and updating the candidate base using chat, email, or text messages (Upadhyay and Khandelwal, 2018). Job skill matching leads to an efficient AI-based selection process and is when a suitable candidate is found based on the matching principle and less paper is used (Dickson and Nusair, 2010). A rapid assessment using AI of the candidate is based on the data posted on social media, so the selection specialists have access to their values, attitudes, and personality traits (Upadhyay and Khandelwal, 2018).

The video interview is very popular, uses a short set of predetermined questions, and can analyse the candidate's competences, skills, but also non-verbal communication, such as body language, facial expressions, or voice (inflection, tone, rhythm, speed) (Tambe, Cappelli and Yakubovich, 2019; van Esch and Black, 2019). The application compares each interviewed candidate with the most talented employees in the company, and then the best one is suggested (HireVue, 2018). Rapid assessment of the right candidate consists of pre-screening and sorting CVs and then matching them to vacancies. The managers' task is now to find qualified candidates based on increased speed and efficiency (Dickson and Nusair, 2010). A rapid assessment of their skills and knowledge is used based on AI (Faliagka et al. 2012). When we talk about talent management, we are talking about a system that can support the organisation's objectives and that facilitates the development of a system of control and measurement of results and that reveals the strong correlations between efforts and performances (Sitnikov, Mihalcea and Romanescu, 2023). By mining data, the system may

gather information related to availability, contact information, skills, knowledge, attitudes, training programmes, and experiences, residency or net salary expectations. Thus, AI can provide the ability to book a meeting, schedule one, or order food without the involvement of a recruitment specialist (Gheeta and Bhanu Sree Reddy, 2018). Thus, the following hypotheses were developed:

H2- Selection process based on AI has a positive effect on Intention to adopt AI in R&S processes and also:

H2a-H2j- Reduced costs/ privacy/ security/ instant feedback/ lack of favouritism/ rapid screening/ match skills and job/ efficient video interviewing/ quick evaluation/ data extraction have a positive impact on intention to adopt AI in selection processes.

1.3. Technology Acceptance Model (TAM)

The technology acceptance model (TAM) proposed by Davis is explaining the impact factors necessary for adoption of new technologies (Davis, 1989) and is very used in information systems research. The TAM relies on two factors: perceived usefulness (PU) and perceived ease of use (PEU). PU refers to the increase in performance based on the use of new technologies and PEU to the acceptance of new technologies without much effort (Na et al., 2022).

TAM is a model that measures the degree of acceptance and use of technology in human-computer interaction (Grani and Maranguni, 2019) and is considered a very important model used to determine the degree of adoption of its use in various fields of innovative activity (Lai, 2017). The main idea of this model is to analyse the user's current relationships, behaviour, intentions, attitudes, beliefs, and norms. In 1993 it was rethought to understand its utility and acceptance of IT systems used in certain processes (Chen et al., 2016). Many researchers use TAM, adding various other variables such as gender, educational level, or participation in various training programs (Martono et al., 2020); therefore, in addition to researchers who used it in recruitment and selection processes, it was also used in this study precisely to highlight the role, importance, and benefits brought by the use of AI in the recruitment and selection processes among employees in Romanian companies.

The model states that a person's attitude towards using technology in certain processes is influenced by their perception of the ease and usefulness of using technology (Byun, 2018).

Perceived usefulness (PU). Studies determined that AI is used in recruitment because it is friendly and fun and is used to attract the intention of job seekers (Brahmana and Brahmana, 2013) and offer control (Lin, 2010). PU and attitude fully mediate the relationship between e-WOM from e-recruitment and the behavioural intentions of job seekers (Kaur and Kaur, 2023). Therefore, the following hypothesis was proposed.

H3- PU has a positive effect on intention to adopt AI in R&S processes.

Perceived ease of use (PEU). PEU has a direct impact on attitude to use e-recruitment; results indicated that job seekers adopt e-recruitment when it is user-friendly and when help them to accomplish their tasks easily and efficiently (Kaur and Kaur, 2023), when website is interesting, when e-recruitment is creating the desire to choose the company as a potential employer or when is creating the desire to promptly apply for a job, when website is playful, offer e-trust or create a positive relationship (Priyadarshini, Sreejesh and Anusree, 2017), or

offers control for job seeker (Lin, 2010). Therefore, the following research hypothesis was developed.

H4- PEU has a positive effect on the intention to adopt AI in R&S processes.

Based on the literature review and TAM, we developed the conceptual model (Figure no. 1), where AI used in recruitment and selection processes (Parikh, Patel and Jaiswal, 2021) has an important impact on the intention to adopt AI in these processes, and PU (Lin, 2010; Brahmana and Brahmana, 2013) and PEU (Lin, 2010; Priyadarshini, Sreejesh and Anusree, 2017; Kaur and Kaur, 2023) have an influence on the intention to adopt AI in R&S processes.

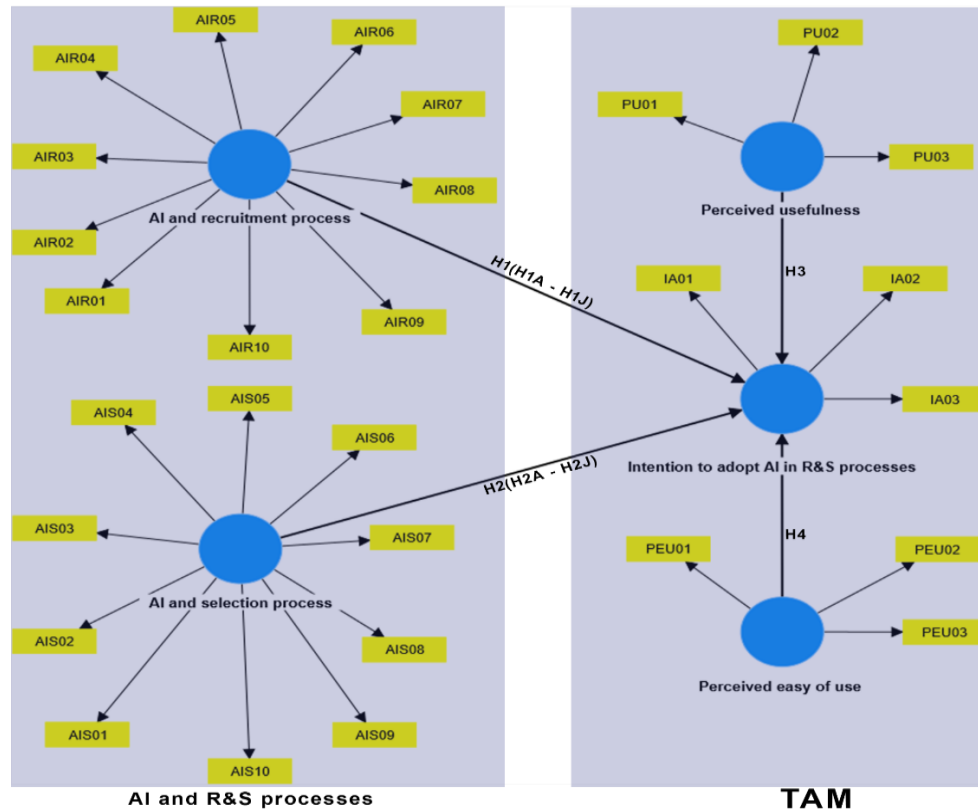


Figure no. 1. Structural model

Source: authors' processing

2. Research Methodology

The goal of this paper is to investigate the impact of recruitment and selection processes based on AI on the intention to adopt AI in these processes, and also the influence of PU and PEU on the intention to use AI in these analysed processes. In our study, TAM was used,

which provides a clear framework that helps organisations to evaluate their behavioural intention to adopt technology in R&S processes.

Other research objectives would be to determine the benefits of using AI in the recruitment and selection processes that each candidate enjoyed, the perceived usefulness of adopting AI in the recruitment and selection processes, the perceived ease of use of AI in these processes, and the degree of adoption in the future period of AI within these processes.

In our research, a quantitative study was used, based on the determination of the relationships developed and as research hypotheses. A face-to-face and online questionnaire was used, developed, and applied in November 2023. A total of 250 questionnaires were distributed to respondents who were recruited and selected using AI. These were obtained from contract workers in Romania, who were recruited and selected using AI before being hired. Of the total, 56% of the respondents are male, 68% of the respondents are from urban areas, almost 38% have master's and doctorate degrees, and 27% are from the 36-45 age group, and 74% hold an executive position. A percentage of 43.2% were in manufacturing, 34% in education, 27% in IT, 22% in finance and banking and 8% in health. Related to the two variables analysed, regarding the use of AI in recruitment, 13.6% used recruitment agency portals, 38% the company website, 35.6 LinkedIn, and 12.8% other media sites; and in the selection, 69.2% were subjected to an online interview, 26.8% to online tests, and 10% to a video interview. The demographics of the respondents are shown below (Table 1).

Table no. 1. Demographic characteristics of the respondents

Characteristic	N	%	Characteristic	N	%	Characteristic	N	%
Gender			Education			Age		
Male	140	56	College	32	12.8	< 25 years	30	12
Female	110	44	Bachelor's degree	82	32.8	26-35 years	60	24
Residence			Master's degree	94	37.6	36-45 years	68	27.2
Urban	170	68	Doctorate	42	16.8	46-54 years	65	26
Rural	80	32				> 55 years	27	10.8
Field of activity			Functions			Recruitment using AI		
Production	108	43.2	Management	65	26	Agency portals	34	13.6
Education	85	34	Execution	185	74	Company website	95	38
Finance and Banking	22	8.8	Selection using AI			LinkedIn	89	35.6
IT/Technology	27	10.8	Online interview	173	69.2	Other media sites	32	12.8
Health	8	3.2	Online tests	67	26.8			
			The video interview	10	4			

Source: authors' processing

3. Results and discussions

The questionnaire (Table no. 2) was developed using a five-point Likert scale (1- strongly disagree and 5- strongly agree).

The structural model examined respondents' perceptions of the intention to adopt R&D processes based on the use of AI. Focusses on factors such as recruitment, selection, perceived ease of use, perceived usefulness, and actual use of technology.

Table no. 2. Confirmatory Factor Analysis and Descriptive statistics

Construct	Item	Measure	Mean	VIF	Loading (St.Est.)	Chro alpha	AVE	CR
1. AI and R&S processes								
1.1. AI and recruitment process								
	AIR01	Time saving	4.70	3.026	0.873	0.842	0.682	0.792
	AIR02	Cost saving	4.38	3.296	0.807			
	AIR03	Increased speed	4.31	1.954	0.702			
	AIR04	Apply from anywhere	4.20	3.397	0.744			
	AIR05	Apply any moment	4.30	1.240	0.798			
	AIR06	Equal chances for candidates	3.90	2.239	0.740			
	AIR07	Discrimination is eliminated	3.70	1.127	0.853			
	AIR08	A more diverse workforce	3.80	1.392	0.926			
	AIR09	Focus is on competency	4.00	2.370	0.876			
	AIR10	Improve continuous and update CVs	4.20	1.275	0.750			
1.2. AI and selection process								
	AIS01	Reduced costs	4.60	2.682	0.800	0.796	0.676	0.847
	AIS02	Offer privacy	3.80	1.279	0.888			
	AIS03	Offer security	3.40	1.021	0.740			
	AIS04	Offer instant feedback	4.20	2.341	0.709			
	AIS05	Reduce favouritism	3.80	1.642	0.830			
	AIS06	Efficient and rapid screening	4.49	2.265	0.783			
	AIS07	Match between employees skills and job vacancy	4.44	2.089	0.867			
	AIS08	Video interviewing allows to detect non-verbal language	4.64	2.352	0.728			
	AIS09	Offer quick evaluation responses	4.60	1.785	0.750			
	AIS10	Use information extraction for candidates skills	4.30	2.580	0.734			

2. TAM								
2.1. Perceived usefulness (PU)								
	PU01	Using AI, R&S process will be more qualitative	4.69	1.357	0.768	0.706	0.622	0.760
	PU02	Using AI, R&S processes will be more cost-effective	4.60	1.357	0.844			
	PU03	Using AI, the R&S process will be more equitable	4.51	1.646	0.841			
2.2. Perceived ease of use (PEU)								
	PEU01	Using AI in R&S is making easy the evaluation process	4.45	1.497	0.791	0.712	0.636	0.773
	PEU02	Using AI in R&S is making easy the applying process	4.49	1.355	0.777			
	PEU03	Using AI in R&S is making easy the sharing process	4.44	1.879	0.909			
2.3. Intention to adopt AI in R&S processes								
	IA01	I would continue to use AI in R&S processes	4.21		0.772	0.762	0.679	0.769
	IA02	I would probably use AI in R&S processes	4.66	1.359	0.810			
	IA03	I would rather use AI in R&S processes	4.60	1.760	0.886			
				2.024				

Source: authors' processing

Thus, TAM will help forecast a possible future technology intention to adopt decisions made by recruitment and selection users based on AI. The model was estimated using partial least squares-based structural equation modelling in SmartPLS 4.0 (Figure no. 2).

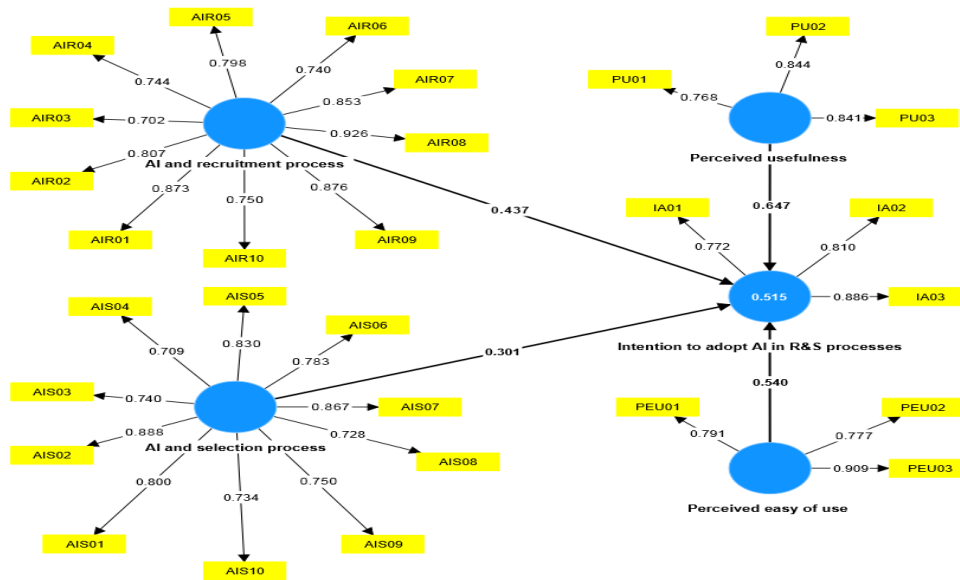


Figure no. 2. Structural model results

Source: authors' processing

The results indicated the internal consistency of the model (Table no. 1) because all item loadings are over 0.7 (Hair et al., 2010); Cronbach's alpha also exceeds 0.7 (Henseler and Sarstedt, 2013); and CR (composite reliability) values are also over 0.7 (Nemțeanu et al., 2022). According to the Fornell-Larcker (1981) procedure, for each latent variable AVE's value is higher than the correlation coefficient between the competent and all the distinct variables (Table no. 3).

Table no. 3 Discriminant validity – Fornell - Larcker criterion

	AIR	AIS	IA	PEU	PU
AIR	0.618				
AIS	0.573	0.613			
IA	0.436	0.60	0.824		
PEU	0.497	0.565	0.689	0.798	
PU	0.328	0.567	0.449	0.626	0.789

Note: AIR- AI and recruitment process; AIS- AI and selection process; IA- Intention to adopt AI in R&S processes; PEU-Perceived ease of use; PU- Perceived usefulness

Source: authors' processing

The analysis was developed to assess the relationship between the latent variables.

Based on t-statistics, of all the 24 hypotheses, three hypotheses were not accepted (Table no. 4).

AI-based recruitment had a positive significant influence on intention to adopt AI in recruitment process ($\beta = 0.537$; T-value = 0.426; $p < 0.1$), therefore a greater use of employees of AI in recruitment process will lead to an increased intention to adopt AI in this process; therefore, H1 is accepted. Time ($p < 0.001$), cost ($p < 0.001$), speed ($p < 0.001$), anywhere ($p < 0.001$), anytime ($p < 0.001$), equal chances ($p < 0.001$), work diversity ($p < 0.001$), focus on competency ($p < 0.001$), and CV updating ($p < 0.001$) also had a positive influence on intention to use AI in recruitment process, so H1a-H1f, and H1i-H1j were supported. Only one research hypothesis was not supported, according to the calculations; H1g- non-discrimination in recruitment process ($\beta = 0.853$; T-value = 1.442; $p = 0.149$) indicates a not significant relationship.

AI-based selection also had a positive influence on the intention to adopt AI in the selection process ($\beta = 0.301$; T-value = 3.113; $p < 0.1$), therefore a greater use of employees of AI in selection process will lead to an increased intention to adopt AI in this process; therefore, H2 is accepted. Cost ($p < 0.001$), privacy ($p < 0.001$), feedback ($p < 0.001$), favouritism ($p < 0.001$), screening ($p < 0.001$), matching skills with the job ($p < 0.001$), video-interviewing ($p < 0.001$), quick evaluation ($p < 0.001$), and data extraction ($p < 0.001$) had also a positive impact on intention to adopt AI in selection process, so H2a, H2b, and H2d-H2j were supported, only one hypothesis was not supported, H2c- security in selection process ($\beta = 0.740$; T-value = 0.505, $p = 0.613$).

PU obtaining ($\beta = 0.647$; T-value = 0.618, $p = 0.537$) is not-supported, meaning that analysed employees chosen as respondents was not perceiving usefulness as influencing intention to adopt recruitment and selection based on AI.

PEU obtaining ($\beta = 0.540$; T-value = 5.624, $p = 0.000$) is also supported, meaning that perceived ease of use is influencing positive the intention to adopt AI in recruitment and selection.

From the results, it clearly indicates that almost all research hypotheses are ruled out, indicating that almost all independent variables examined have an important influence. Only three from twenty-four hypothesis are not fulfilled.

Table no. 4 The path coefficients of the structural equation model

Paths	Path coeff (P) or (β)	Sample mean (M)	Standard deviation (STDEV)	T statistics (P/STDEV)	P values (* $p < 0.1$; ** $p < 0.01$; *** $p < 0.001$)	Hypothesis
AIR -> IA (H1)	0.437	-0.01	0.088	0.426	0.067	H1- supported
AIR01 -> IA (H1a)	0.873	0.644	0.107	6.284	0.000	H1a- supported
AIR02 -> IA (H1b)	0.807	0.574	0.107	5.677	0.000	H1b- supported
AIR03 -> IA (H1c)	0.702	0.578	0.077	7.779	0.000	H1c- supported
AIR04 -> IA (H1d)	0.744	0.718	0.095	7.875	0.000	H1d- supported
AIR05 -> IA (H1e)	0.798	0.603	0.077	7.809	0.000	H1e- supported

Paths	Path coeff (P) or (β)	Sample mean (M)	Standard deviation (STDEV)	T statistics (P/STDEV)	P values (* $p < 0.1$; ** $p < 0.01$; *** $p < 0.001$)	Hypothesis
AIR06 -> IA (H1f)	0.740	0.711	0.082	9.065	0.000	H1f- supported
AIR07 -> IA (H1g)	0.853	0.147	0.106	1.442	0.149	H1g- not supported
AIR08 -> IA (H1h)	0.926	0.517	0.080	6.600	0.000	H1h- supported
AIR09 -> IA (H1i)	0.876	0.644	0.094	7.155	0.000	H1i- supported
AIR10 -> IA (H1j)	0.750	0.641	0.081	8.004	0.000	H1j- supported
AIS -> IA (H2)	0.301	0.282	0.097	3.113	0.002	H2- supported
AIS01 -> IA (H2a)	0.800	0.799	0.027	29.59	0.000	H2a- supported
AIS02 -> IA (H2b)	0.888	0.484	0.064	7.663	0.000	H2b- supported
AIS03 -> IA (H2c)	0.740	0.041	0.08	0.505	0.613	H2c- not supported
AIS04 -> IA (H2d)	0.709	0.702	0.048	14.648	0.000	H2d- supported
AIS05 -> IA (H2e)	0.830	0.624	0.065	9.751	0.000	H2e- supported
AIS06 -> IA (H2f)	0.783	0.578	0.064	9.072	0.000	H2f- supported
AIS07 -> IA (H2g)	0.867	0.563	0.056	10.102	0.000	H2g- supported
AIS08 -> IA (H2h)	0.728	0.725	0.033	22.069	0.000	H2h- supported
AIS09 -> IA (H2i)	0.750	0.508	0.053	9.583	0.000	H2i- supported
AIS10 -> IA (H2j)	0.734	0.732	0.044	16.809	0.000	H2j- supported
PU -> IA (H3)	0.647	-0.051	0.076	0.618	0.537	H3- not supported
PEU -> IA (H4)	0.540	0.544	0.096	5.624	0.000	H4- supported

Source: authors' processing

The influence of AI-based recruitment on intention to adopt AI in this process is positive and strong, which has been observed by many researchers ($p < 0.1$ for recruitment, and $p < 0.01$ for selection) - only one recruitment variable (non-discrimination from recruitment process ($\beta = 0.853$; T-value = 1.442; $p = 0.149$) is indicating a not significant relationship, from ten variables specific for recruitment. Time, cost for recruitment, speed, anywhere, anytime, equal chances, work diversity, focus on competency, and CV updating were all obtained with a $p < 0.001$, indicating that they had a positive influence on intention to use AI in the recruitment process. So, H1a-H1f and H1h-H1j are all fulfilled.

Studies in the field have found that applicants positively perceive AI technologies and chatbots in the recruitment and selection process, they are considered useful and easy to use (Horodyski, 2023), very productive in the development of recruitment strategies (Nawaz and Gomes, 2019) and hiring decisions for companies (Ragavendran and Shree, 2022).

AI-based recruitment has influenced the adoption of AI (Kot et al., 2021) and the intention to use information systems and TAM in these processes (Martono et al., 2020; Kaur and Kaur, 2022; Kashi and Zheng, 2013), measuring the reaction to the use of AI in these processes (Laurim et al., 2021), determining the reasons for using a certain online platform for recruitment and selection (Ruparel et al., 2020) or challenging candidates to continue using these technologies in R&D (Meah and Sarwar, 2021). Positive and strong relationships have already been found between AI and recruitment (Vedapradha, Hariharan and Shivakami, 2019).

The influence of AI-based selection on intention to adopt AI in this process is positive and strong ($p < 0.01$ for selection)- only one variable (matching skills and job from selection process H2c- security in selection process ($\beta = 0.740$; T-value = 0.505, $p = 0.613$) and have no significant influence, from ten variables specific for selection.

Cost for selection, privacy, feedback, favouritism, screening, matching skills with the job, video-interviewing, quick evaluation, and data extraction have all obtained a $p < 0.001$, indicating a positive impact on intention to adopt AI in selection process. Thus, the results show that the hypotheses H2a-H2b, and H2d-H2j are all fulfilled.

AI-based selection is very important for data analysis and especially for determining the performance of a future employee based on using algorithms (Jain and Xu, 2023), becoming precise and reliable (Abousetta et al., 2023), offering equal chances and reducing bias (Kelan, 2023), and helps employers to select the right person for the right job and capable to achieve the goals of companies (Ammer et al., 2023).

Conclusions

The article develops the research based on TAM and is identifying the factors which are influencing AI-based recruitment and selection processes as for recruitment (time, cost, speed, anytime, anywhere, equal chances, non-discrimination, work diversity, focus on competency, and CV updating), and for selection (cost, privacy, security, feedback, favouritism, screening, matching between skills and job, video-interviewing, quick evaluation, and data extraction). Other factors analysed with an impact on the intention to adopt AI in recruitment and selection were Pu and PEU, giving the paper an original approach.

The results indicated that AI-based recruitment and selection are important and have a positive and strong influence on the intention to adopt AI in these processes; according to the TAM, the influences of PU (where the calculation indicates a low influence) and PEU (where a strong influence was indicated). Among the ten analysed factors from recruitment process, it was determined that non-discrimination is not perceived as having a positive influence. From the ten selection factors, only security is perceived to have a low influence.

As theoretical implications, we can add that from the existing TAM approaches, we started from the original and developed a new TAM for AI-based recruitment and selection

processes, increasing the level of the theoretical approach, but also of the empirical approach. Through study of the theory in the field, the recruitment and selection process based on AI was improved.

As a practical implication, the paper offers many advantages not only for future employees but also for companies. The advantages are also for society as a whole, because of the implication of technology present at the national level.

At the individual level, the degree of intention to adopt AI in the two analysed processes and the impact of each influencing factor for recruitment and selection could be perceived. As we may see, the lowest mean scores for recruitment process are obtained for non-discrimination (3.70) and for work diversity (3.80). With increasing influence, the highest mean scores were obtained for time (4.70), for cost (4.31), and for speed (4.31). Regarding the selection process, the lowest mean scores were for security (3.40) and favouritism (3.80); the highest mean scores were for video interviewing (4.64), for quick evaluation, and for cost (with the same score of 4.60).

According to the results, for the intention of using AI in recruitment and selection processes, the lowest mean score is obtained for "I would continue to use AI in these processes". Regarding PU, the lowest score is for equity (4.51) and PEU is for easy sharing of AI in these processes (4.44). Thus, managers could improve those activities that have obtained these low scores and improve their performance.

Practical implications for employees; increasing trust in AI for recruitment and selection processes, making known by all employees about the benefits of AI, sending to training programmes based on AI for the older group employees. For organisations, the benefits could be improving recruitment and selection processes, reducing costs, time, increasing speed, efficiency, and implications for all employees. At the society level, a guidance could be implemented on how to use AI in recruitment and selection processes, improving the benefits of individuals and the performance of organisations by accessing AI on a large scale.

The study had several limitations; one of the limitations of the study was the small number of respondents, but the authors ensured the different fields of activity of the analysed employees, different age groups, education level, different functions, various R&D methods using AI, gender, and residence. Another limitation would be related to the fact that there are many factors in the recruitment and selection processes that could be analysed; however, according to the specialised literature, we chose the most important number for each analysed process.

Future research directions will have to reconsider the importance of AI and new technologies in recruitment and selection processes, but also in other HR processes, in order to improve individual and organisational performance; organisations could also determine the influence that AI could have on the intention to adopt in recruitment and selection processes.

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