



Journal of Association of Arab Universities for Tourism and Hospitality (JAAUTH)

journal homepage: <http://jaauth.journals.ekb.eg/>



Examining the Intention to use Artificial Intelligence in Recruitment and Selection within Human Resource Management: A Case Study of Egyptian Tourism and Travel Agencies

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ARTICLE INFO

Abstract

Keywords:

Artificial intelligence;
Smart HRM 4.0;
Technology Adoption;
AI in recruitment;
Industry 4.0.

(JAAUTH)
Vol.28, No.1,
(2025),
pp.83 – 105.

This study examines the integration of Artificial Intelligence (AI) into Human Resource Management (HRM) processes, with a particular focus on recruitment and selection practices in the Egyptian tourism and travel agencies. Leveraging the Unified Theory of Acceptance and Use of Technology (UTAUT) framework, the research explores how Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) influence the intention to adopt AI technology in HRM. Additionally, the study assesses the impact of AI adoption on the perceived value (PV) of organizations, specifically regarding improvements in operational efficiency, cost-effectiveness, talent matching, and recruitment productivity. Data were collected from 252 HR professionals employed in Egyptian travel agencies and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Findings indicate that UTAUT constructs play a significant role in enhancing perceived organizational value through AI adoption. The results suggest that implementing AI in recruitment not only streamlines HR processes but also elevates employee satisfaction, strengthens organizational reputation, and delivers cost savings, positioning AI as an essential tool for competitiveness in the travel and tourism sector. This research provides strategic insights and practical recommendations for travel agencies aiming to leverage AI to advance HRM efficacy and gain a competitive edge.

Introduction

Smart Human Resource Management 4.0 (Smart HRM 4.0) exemplifies the integration of advanced Industry 4.0 technologies, driving transformative shifts in organizational operations and significantly impacting both employers and employees. Central to this evolution is the incorporation of Artificial Intelligence (AI), which enhances various HR functions and bolsters organizational performance. AI in HRM automates tasks such as recruitment, onboarding, performance evaluations, and compensation management, enabling HR professionals to move beyond traditional administrative roles and focus on strategic contributions (Eltobgy et al., 2024;

Adekoya et al., 2024). This AI-driven transformation equips HR departments with sophisticated tools for workforce management, optimizing efficiency and decision-making. Furthermore, Smart HRM 4.0 supports the expansion of remote work, promotes employee well-being, and redefines workforce management paradigms, ensuring HRM aligns with the dynamic demands of modern workplaces.

In today's digital era, HRM powered with AI elevates HRM from a traditional administrative focus to a strategic partner within organizations. Digital tools and data analytics allow HR departments to optimize talent management, enhance employee engagement, and make data-driven workforce planning decisions (Adekoya et al., 2024). AI technology further strengthens these processes, especially in recruitment, performance evaluations, and employee development, by reducing administrative burdens and promoting objective decision-making (Vatsa&Gullamjji, 2019).

AI tools in recruitment streamline hiring, improve decision accuracy, and provide personalized candidate experiences. Instead of replacing human recruiters, these tools complement their efforts, making hiring processes more efficient and objective. AI also expedites recruitment cycles and enhances candidate satisfaction (Husen& Reddy, 2024), contributing to overall productivity and fostering innovation within organizations (Raihan et al., 2023).

The influence of HRM powered with AI is particularly notable in recruitment, performance assessment, and employee engagement. With AI-driven technologies such as machine learning and predictive analytics, HR departments can leverage large datasets to improve hiring accuracy, identify talent gaps, and predict employee turnover (Tambe et al., 2019). These tools enable HR teams to concentrate on strategic initiatives rather than administrative tasks. Moreover, AI's role in delivering personalized HR services—such as tailored training programs and targeted performance feedback—has a positive impact on employee satisfaction and retention (Budhwar et al., 2023). However, the adoption of AI in HRM also brings challenges, including concerns over data privacy, ethics, and potential biases in AI-driven processes (Vatsa&Gullamjji, 2019). Organizations must therefore focus on transparency in AI usage, protect sensitive employee data, and address biases in algorithmic decisions (Chowdhury et al., 2023).

In recruitment, AI's application helps organizations assess candidates' skills, competencies, and characteristics, enabling targeted selection at a reduced cost (Van Esch& Black, 2019). A study by Bersin (2017) found that 96% of recruiters believe AI assists them in recruiting and retaining talent, though only 33% feel adequately prepared to implement AI within HRM functions. This disparity underscores the need to bridge the gap between awareness of AI's benefits and practical readiness for its adoption (HRPA, 2017).

In sectors like tourism and hospitality, AI's influence on HRM extends beyond operational efficiency. AI manages routine tasks, freeing employees to focus on creative and complex work, necessitating upskilling and reskilling to adapt to an AI-enhanced environment (Gaafar, 2020; Ruel & Njoku, 2020). This transformation enables organizations to foster a more agile and innovative workforce while balancing AI's benefits with ethical considerations to ensure responsible implementation.

AI's impact on recruitment in tourism and hospitality has been well-documented, showing improvements in recruitment, training, and retention that enhance workforce efficiency and engagement (Hossin et al., 2021). Studies have found that AI supports HRM functions such as resume screening, video analysis, and personalized coaching, thus advancing recruitment and development practices (Bankins, 2021). Furthermore, AI's predictive capabilities help mitigate turnover risks and bolster talent development (Hossin et al., 2021). Beyond automation, AI

fosters human-AI collaboration in decision-making, as evidenced by research highlighting improvements in resource allocation and problem-solving (Vrontis et al., 2022; Budhwar et al., 2023).

In Egypt's tourism sector, there is a growing need to raise awareness about AI's potential to enhance competitiveness, efficiency, and productivity (Ragab & Ezzat, 2022). A pilot study conducted as part of this research revealed that many Egyptian travel agencies have yet to integrate AI tools in recruitment and selection, signifying a substantial gap between global advancements in AI-driven HRM and local practices. This gap underscores the need for a better comprehension of both the challenges inhibiting AI adoption and the potential benefits, AI could bring to Egyptian travel agencies in areas such as recruitment efficiency, talent acquisition, and strategic decision-making.

This study aims to investigate the intention to adopt and utilize AI within Egypt's tourism and travel agencies, using the Unified Theory of Acceptance and Use of Technology (UTAUT) as a framework. The research specifically examines AI's influence within HRM functions related to recruitment and selection, focusing on the key constructs of Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) to understand their role in driving AI adoption in Egypt's tourism sector. Additionally, the study will assess the impact of AI adoption on perceived value (PV), exploring how AI mediates the relationship between (UTAUT) and (PV). Through these insights, the study aims to provide strategic recommendations for stakeholders in Egypt's tourism industry, emphasizing the importance of an AI-ready workforce aligned with ethical, practical, and technological factors

Literature review and Hypotheses Development

1. Recruitment Overview

A key component of Human Resource Management (HRM) is recruitment, which focusses on finding, assessing, and choosing applicants for organizational roles in order to guarantee their effortless integration into the organization. (Bandi and Kumar, 2017). An effectively managed recruitment process not only boosts organizational performance but also promotes employee growth and reduces turnover rates (Nanor et al., 2022). Traditionally, recruitment involves multiple phases, which include the identification of potential applicants, the attraction of suitable candidates, the management of application submissions, and the facilitation of communication with these individuals—rendering it a labor-intensive and financially burdensome endeavor that predominantly depends on in-person interactions and conventional paper-based methodologies (Chapman and Webster, 2003; Holm, 2012). Manual tasks like resume reviews, profile assessments, initial contact, pre-screening interviews, and feedback provision remain integral to recruitment. However, these manual processes present significant challenges for HR departments (O'Donovan, 2019). One critical challenge is identifying candidates who align with the organization's culture, further narrowing the potential talent pool (Michael Page, 2022).

2. Artificial Intelligence and HRM

Artificial Intelligence (AI) refers to the development of computer systems capable of performing tasks traditionally requiring human intelligence, such as decision-making, pattern recognition, and language understanding (Tambe et al., 2019). AI is revolutionizing numerous industries, and HRM is one of the areas where its impact is most evident. AI enhances HR decision-making processes and streamlines operations by automating routine tasks such as recruitment, onboarding, and performance evaluation (Adekoya et al., 2024). AI tools can analyze vast datasets to identify top candidates, predict employee turnover, and customize

training programs to meet individual needs (Budhwar et al., 2022). This integration allows HR departments to shift from being administrative units to strategic partners in organizations. Consequently, AI enables HR professionals to focus more on employee engagement and talent development while allowing technology to manage administrative processes (Al-Romeedy, 2023a).

3. AI-Driven Tools for Recruitment and Selection

AI has transformed recruitment and selection introducing innovative tools that streamline hiring, improve candidate evaluation, and enhance decision-making. Below are four key AI-driven tools for recruitment, each with unique capabilities to optimize talent acquisition:

3.1 Chatbots for Candidate Engagement and Screening

AI-driven chatbots serve as conversational tools, providing candidates with information on job roles and organizational details, managing inquiries, scheduling interviews, and offering feedback on applications. In high-volume recruitment settings, these chatbots handle multiple candidates simultaneously, automating repetitive tasks and allowing recruiters to focus on complex evaluation processes (Black & van Esch, 2020; Zel & Kongar, 2020).

Trained with job descriptions and specifications, chatbots identify and pre-select candidates who meet specific role requirements by analyzing keywords, skills, and qualifications in job postings. This real-time engagement with candidates helps screen applicants efficiently, forwarding suitable candidates for further review (Sivathanu, 2019; Koivunen et al., 2022). While chatbots improve recruitment efficiency and candidate experience, they face limitations in assessing soft skills and delivering personalized feedback.

3.2 Predictive Analytics for Talent Matching and Workforce Planning

Predictive analytics has become an essential AI tool for recruitment, allowing organizations to forecast candidate quality and retention likelihood. This technique employs machine learning algorithms and data analysis to match candidates to specific roles, as proposed by Mehta et al. (2013), who developed a decision support system using keyword matching and ranking algorithms based on historical recruitment data. Predictive analytics offers valuable hiring insights, though it may lack adaptability in addressing subjective factors such as organizational culture fit or rapid market changes (Al-Romeedy, 2023b).

Beyond recruitment, predictive analytics in HRM enhances workforce planning. Analyzing workforce data, including employee demographics, skills, and turnover rates, AI enables HR professionals to anticipate talent gaps, plan for succession, and address future workforce needs based on business and market trends. These insights help align recruitment strategies, training initiatives, and workforce development plans (Bandari, 2019)

3.3 Machine Learning Algorithms for Candidate Selection and Bias Mitigation

Machine learning algorithms revolutionize resume screening by identifying candidates based on defined criteria and detecting potential biases in the recruitment process. Study by Schleder et al. (2019) highlighted machine learning's role in analyzing large data sets to reveal complex patterns and correlations, supporting HR in candidate screening and ranking. However, the effectiveness of these algorithms depends on high-quality training data and the system's adaptability to changing organizational needs.

In addition to screening, machine learning addresses biases by evaluating and refining recruitment criteria, helping HR mitigate bias in candidate selection. This data-driven approach

aids in promoting fair hiring practices and improving the inclusivity of AI-powered recruitment systems (Roy et al., 2020).

3.4 Video Interviewing for Objective Candidate Assessment

AI-based video interviewing uses data-driven algorithms to evaluate candidates during video interviews. Algorithms, particularly those using supervised learning, classify candidates by linking input and output variables, enhancing the efficiency of video interview evaluations (Ismail, 2018). However, AI's dependence on data can lead to challenges, such as the "black box" issue, where prediction logic remains opaque, and data bias, which risks overfitting if the training data is too narrow (Kotsiantis et al., 2007; Goode, 2018).

For example, AI facial recognition systems trained on limited demographics often struggle to generalize across diverse applicants, raising ethical concerns. Addressing machine learning bias is crucial to ensure fairness in AI-driven recruitment (Barocas&Selbst, 2016; Kim, 2016). study by Kim and Heo (2021) indicate that AI video interviewing reduces biases inherent in traditional interviews. AI standardizes interviews by posing questions of equal difficulty and ensuring consistent response times for all candidates, regardless of appearance or personal traits. This approach promotes fairness, focusing evaluation solely on candidates' qualifications and responses, thereby creating an equitable recruitment environment.

4. AI Adoption in Recruitment

AI-driven recruitment platforms support the automation of job advertisements, candidate sourcing, and application processing. Textio, for example, uses Natural Language Processing (NLP) to enhance linguistic precision and mitigate bias in job descriptions, benefiting companies like Atos and McDonald's (Oswal et al., 2021). Knockri, a Canadian enterprise, employs AI and NLP technologies to ensure bias-free hiring through video interviews and audio assessments, ensuring candidates are evaluated solely based on competencies (Küfeoğlu, 2022). While SAP's Resume Matcher rates applicants according to job requirements, Pomato, a revolutionary recruiting tool, uses machine learning and pattern recognition to choose candidates. (Fraij&Várallyai, 2021).

In the tourism industry, AI-driven recruitment has also gained traction. TUI Group, a leading European travel and tourism company, has integrated AI into its hiring process to address seasonal workforce demands and optimize staffing during peak travel seasons. By automating the initial stages of recruitment, TUI has reduced hiring time and streamlined the selection process, ensuring that candidates with the most relevant skills are prioritized (TUI,2023) AI tools have proven particularly valuable in the tourism sector, where the demand for seasonal labor, multilingual personnel, and prompt customer service responses is high. Additionally, Hilton Worldwide, a major player in global hospitality and tourism, employs AI-driven software like Hire Vue for video interviews. This platform uses AI algorithms to assess candidates based on speech patterns, facial expressions, and tone of voice, providing a data-driven evaluation that supplements human judgment. Hilton's use of HireVue has reduced its time-to-hire by 75% and standardized recruitment practices across its international locations, ensuring consistent and efficient hiring practices (Siemens,2019).

5. UTAUT model and Intention to Use AI

The Unified Theory for Acceptance and Use of Technology (UTAUT), proposed by Venkatesh et al. (2003), emerges from a comprehensive analysis of technology acceptance literature, effectively addressing the limitations of the Technology Acceptance Model (TAM). According to Alam et al (2020) This unified model integrates various variables from eight

prominent theories, including the Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), the Motivational Model (MM), the Theory of Planned Behavior (TPB), the Decomposed Theory of Planned Behavior (DTPB), the Model of PC Utilization (MPCU), the Innovation Diffusion Theory (IDT), and the Social Cognitive Theory (SCT). UTAUT identifies four core determinants of technology acceptance: performance expectancy (the belief that using the system enhances job performance), effort expectancy (ease of use), social influence (the impact of others' opinions), and facilitating conditions (perceived organizational support). The model demonstrates robust explanatory power, accounting for approximately 70% of the variance in behavioral intention to use information systems, compared to 17% to 53% for other models (Venkatesh et al., 2003). Researchers have successfully applied the UTAUT framework across various contexts, including the acceptance of AI by HR professionals, suggesting that the model can similarly explain technology Intention to Use in this domain (Agarwal, 2017; Bughin, 2020; Tanantong&Piriyapong 2024). By employing UTAUT, organizations can better understand their human resources, facilitating strategic decision-making in talent acquisition and recruitment (Agarwal, 2017; Bughin, 2020). The UTAUT model thus stands as a reliable foundation for predicting technology adoption behaviors among employees, employers, and managers (Alam et al., 2020; Tanantong&Piriyapong 2024).

5.1 Performance Expectancy (PE) and Intention to Use AI

The UTAUT model's Performance Expectancy (PE) explains end users' behavioral intentions. It can be demonstrated “the magnitude to which an end-user believes that the use of the given application program will assist to arrive at a particular solution or job performance (Venkatesh et al., 2003), (PE) plays a crucial role in shaping stakeholders' perceptions of the benefits of adopting Artificial Intelligence (AI) in recruitment. It influences how effectively users believe AI can enhance recruitment outcomes by improving operational efficiency, streamlining processes, and providing better candidate experiences. According to Thirukumaran (2024) AI technologies automate routine tasks such as resume screening and candidate matching, reducing the time-to-hire and making recruitment processes more efficient, Organizations report improvements in operational efficiency and decision-making as AI provides data-driven insights, enhancing overall recruitment outcomes. As such, the perceived benefits of AI's efficiency and effectiveness strongly contribute to the intention to adopt AI in recruitment.

Further, Laurim et al., (2021)and Ochmann&Laumer (2020) indicated that the level of acceptance of AI among recruiters and job seekers is also influenced by their expectations of AI's performance. For recruiters, transparency and control over AI processes are crucial factors that foster trust in the technology Similarly, job seekers' acceptance of AI is shaped by their perception of how well the technology meets their expectations for an enhanced and efficient recruitment experience. Positive performance expectancy from both recruiters and candidates significantly drives the intention to adopt AI. Moreover, Islam et al (2024) also indicated that performance expectancy linked to efficiency gains and time savings positively correlates with the intention to use AI.

Additionally, Asif (2024) found that while performance expectancy positively influences AI adoption, it is essential to consider the ethical concerns surrounding AI's decision-making processes, such as potential biases in recruitment. Addressing these concerns is necessary to ensure fairness and transparency in AI-driven recruitment processes, some stakeholders may resist AI adoption due to fears of job displacement or skepticism about AI's capabilities, emphasizing the need for organizations to balance technological advancements with human oversight and ethical practices.

Based on the above, researchers posit the following hypothesis:

Hypothesis (H1): Performance Expectancy (PE) positively correlates with the user's intention to use (ITU) AI in recruitment and selection processes in Travel Agencies

5.2 Effort Expectancy (EE) and Intention to Use AI

Effort Expectancy, as defined by Venkatesh et al. (2003, p. 450) indicates to “the degree of ease associated with the use of the system.” In the context of recruitment, effort expectancy encompasses recruiters' perceptions of the ease of learning and interacting with AI systems, the clarity and understandability of the system's interface, its flexibility, and the ease of becoming familiar with the technology.

Effort expectancy in recruitment involves several key dimensions, as outlined by Zhang (2024). First, AI tools should be easy to learn, minimizing the effort required for recruiters to acquire operational skills. A user-friendly interface that promotes clear navigation further streamlines recruitment processes by reducing complexity. Additionally, AI systems should be flexible enough to accommodate varying needs, enabling recruiters to customize workflows as needed, thereby enhancing satisfaction. Lastly, AI tools should be designed for ease of familiarity, allowing recruiters to quickly adapt to the system's functionalities with minimal effort, which in turn fosters higher engagement.

Recruiters are more inclined to adopt AI tools when they perceive them as user-friendly and requiring minimal effort to integrate into existing workflows (Eydzadeh, 2023) Therefore, Adoption of AI systems is more likely if they are thought to be simple to use. These arguments lead to the following hypothesis:

Hypothesis (H2): Effort Expectancy (EE) positively correlates with the user's intention to use (ITU) AI in recruitment and selection processes in Travel Agencies.

5.3 Social influence (SI) and Intention to Use AI

The adoption of Artificial Intelligence (AI) in recruitment is significantly influenced by social elements, which shape recruiters' willingness to integrate these technologies. Social Influence (SI), defined as the level to which an employee believes that important people in their social or professional environment expect them to use a technology, plays a critical role in AI adoption decisions (Venkatesh et al., 2003). Recruiters often consider the opinions and behaviors of peers, superiors, and industry leaders when deciding whether to adopt AI tools for recruitment processes (Uddin et al., 2019).

Recruiters are highly influenced by the perspectives of their peers and professional networks. When colleagues or industry leaders successfully adopt AI in recruitment, their positive experiences create a ripple effect, encouraging others to follow suit. This peer influence can be particularly powerful when recruiters perceive that using AI enhances efficiency, innovation, and competitiveness within the industry (Amin et al., 2008; Menant et al., 2021). Furthermore, the reputation of AI as a tool for improving recruitment outcomes such as faster hiring and better candidate matching can drive broader acceptance of the technology (Rane et al., 2024).

The presence of a supportive organizational culture that promotes AI adoption also plays a pivotal role in shaping recruiters' intentions. Organizations that foster a culture of technological innovation and provide resources, training, and encouragement for AI integration are more likely to see higher levels of AI adoption in their recruitment processes (Rane et al., 2024). In such environments, recruiters feel more confident and empowered to embrace AI, as they perceive that the organization values and supports the use of advanced technologies.

Researchers consistently shows that social influence has a significant impact on behavioral intentions to use AI in recruitment (Arman & Hartati, 2015). HR professionals often rely on guidance and validation from their social and professional circles, which reinforces their confidence in adopting new technologies. The organizational push towards digital transformation, combined with external validation from industry leaders, strengthens the intention to integrate AI into recruitment (Tarhini et al., 2016), These arguments lead to the following hypothesis:

Hypothesis (H3): Social Influence (SI) positively correlates with the user's intention to use (ITU) AI in recruitment and selection processes in Travel Agencies.

5.4 Facilitating Conditions (FC) and Intention to Use AI

Facilitating conditions (FC) refer to the availability of resources, infrastructure, and support systems that enable users to effectively implement and utilize new technologies, such as Artificial Intelligence (AI) in recruitment. As defined by Venkatesh et al. (2003), FC encompass the organizational and technical infrastructure necessary to support the use of AI systems, and they play a critical role in shaping recruiters' behavioral intentions to adopt such technologies.

The existence of adequate technological infrastructure, including access to AI tools and reliable technical support, is essential for ensuring that recruiters can effectively integrate AI into their hiring processes (Islam et al., 2024). Recruiters are more likely to adopt AI if they perceive that their organization provides the necessary tools and infrastructure to support its use. Training and support further enhance recruiters' confidence, as training programs allow recruiters to develop the skills needed to operate AI tools efficiently (Laurim et al., 2021). Ongoing support ensures that recruiters can resolve any technical issues quickly, increasing their intention to engage with AI systems. Moreover, facilitating conditions, such as access to technical expertise and organizational support, directly influence recruiters' behavioral intentions to adopt AI in recruitment. Studies have shown that when the necessary infrastructure, technical resources, and post-implementation support are available, the likelihood of AI adoption increases (Salloum & Shaalan, 2018; Alam et al., 2019). Furthermore, the perception of organizational commitment to AI adoption, through investment in training and maintenance, strengthens recruiters' willingness to embrace the technology in their day-to-day tasks (Jahanshahi et al., 2020).

Recruiters probably adopt AI when they have access to transparent and controlled environments in which they feel supported in their use of the technology (Laurim et al., 2021). When recruiters feel that they can maintain control over the AI-driven recruitment process and rely on organizational support, their confidence in using AI increases. This sense of control is reinforced when technical support is readily available, further encouraging the use of AI in recruitment.

Several studies have demonstrated that facilitating conditions significantly impact behavioral intention to adopt new technologies across various domains, from Enterprise resource planning systems (ERP) in organizations to AI-based recruitment tools (Schaupp et al., 2010; Alam & Uddin, 2019). In the context of travel agencies must provide recruiters with the right technical infrastructure, training, and support mechanisms directly influences their intention to adopt AI in recruitment and selection processes. The availability of these resources ensures a smooth transition to AI-driven recruitment and increases the overall effectiveness of AI implementation. These arguments lead to the following hypothesis:

Hypothesis (H4): Facilitating Conditions (FC) positively correlate with the user's intention to use (ITU) AI in recruitment and selection processes in Travel Agencies.

5.5 Perceived Value and AI Adoption in Recruitment

The concept of Perceived Value (PV), first proposed by Dodds and Monroe (1985), focuses on the balance between the benefits users perceive in a product or service and the sacrifices made to obtain it. PV is defined as the cognitive trade-off between quality or benefits and the costs incurred, encapsulating how users evaluate a product's utility relative to the resources they invest (Dodds & Monroe, 1985). According to Sun (2021), perceived value is a multidimensional concept, incorporating various benefits such as functional, social, and emotional aspects, all of which shape technology adoption decisions. (Tanatorn & Wongras, 2024)

In recruitment, functional value pertains to AI's perceived utility in enhancing process efficiency, decision-making, and maintaining consistent quality standards throughout hiring. This value is closely tied to practical benefits like increased efficiency, time savings, and improved candidate matching, which are critical in high-demand fields such as tourism (Sivathanu, 2019; Thirukumar, 2024). By optimizing these areas, AI addresses essential operational needs, making its adoption a valuable proposition for organizations.

Social value in AI adoption refers to the positive organizational image and social approval that companies gain when implementing AI-based recruitment solutions. Organizations seen as innovative and forward-thinking often attract a wider pool of qualified candidates, benefiting from enhanced brand perception and competitiveness (Leszkiewicz, 2022). As AI becomes integral to modern recruitment, companies utilizing these technologies are perceived as leaders in innovation, which boosts their appeal within the labor market.

Emotional value relates to the positive feelings and affinity that candidates and recruiters associate with AI-driven recruitment. AI tools in recruitment provide an interactive and novel experience, which enhances candidate engagement and encourages more quality applications. Research suggests that candidates often view AI as objective and fair, increasing their likelihood of completing applications and strengthening their overall satisfaction with the recruitment process (Sun, 2021; Wang et al., 2021).

Moreover, AI adoption in recruitment offers financial advantages by reducing recruitment costs and streamlining processes, thereby minimizing the need for extensive human resources (Dahniar et al., 2024; Ragab & Ezzat, 2022). This cost-effectiveness further underscores the perceived value of AI in recruitment.

As a multidimensional construct, PV plays a crucial role in motivating organizations to adopt AI in recruitment. Positive perceptions of AI's functional, social, and emotional values significantly enhance an organization's willingness to invest in these technologies, underscoring PV's central role in driving AI adoption across various sectors (Sun, 2021; Tanatorn & Wongras, 2024). These arguments lead to the following hypothesis:

Hypothesis (H5): The user's intention to use AI in recruitment (ITU) significantly influences Perceived Value (PV) in travel agencies.

5.6 Intention to Use AI as a Mediator in the Relationship Between UTAUT Factors and Perceived Value

The user's intention to use AI acts as a mediator in the relationship between UTAUT factors (Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions) and the organization's Perceived Value (PV). The mediating role of AI adoption ensures that the

positive effects of UTAUT constructs on recruiters' intentions translate into actual organizational benefits.

- *Hypothesis (H6): The user's intention to use AI mediates the relationship between Performance Expectancy (PE) and the organization's Perceived Value (PV).*
- *Hypothesis (H7): The user's intention to use AI mediates the relationship between Effort Expectancy (EE) and the organization's Perceived Value (PV).*
- *Hypothesis (H8): The user's intention to use AI mediates the relationship between Social Influence (SI) and the organization's Perceived Value (PV).*
- *Hypothesis (H9): The user's intention to use AI mediates the relationship between Facilitating Conditions (FC) and the organization's Perceived Value (PV).*

In each case, intention to use AI serves as a key link that translates the effects of UTAUT constructs into organizational value by ensuring that positive perceptions of AI's performance, ease of use, social validation, and support infrastructure materialize as real-world advantages for travel agencies. Figure 1 depicts the conceptual framework

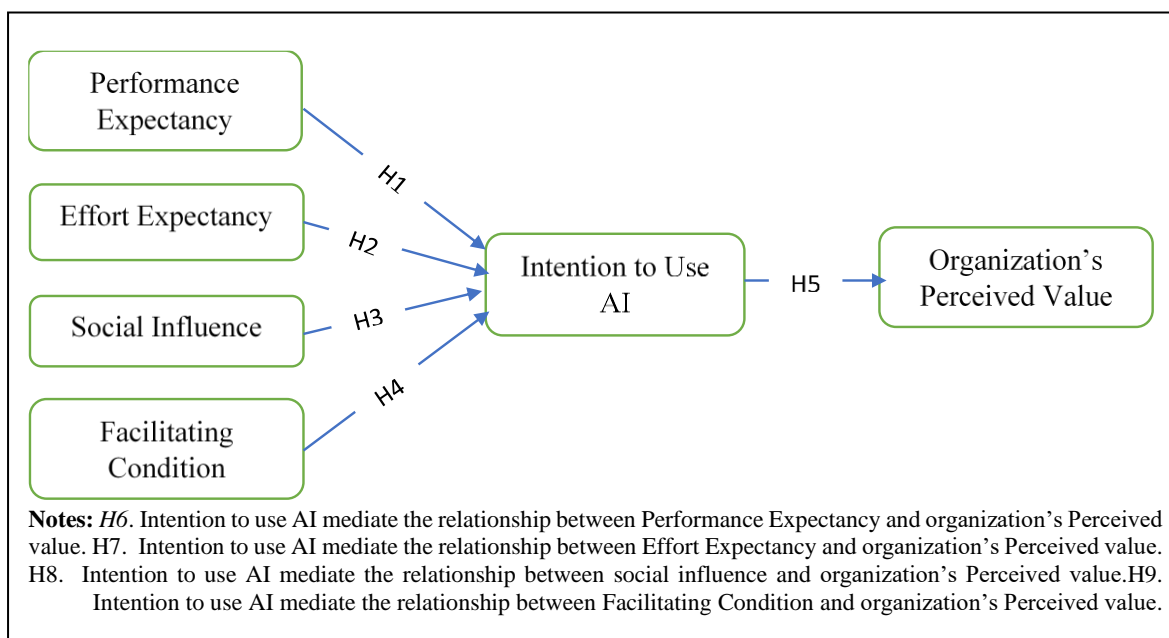


Figure (1). The conceptual framework

Research Methodology

This study examining the intention of the Egyptian travel agencies to use AI for recruiting and selecting individual, and also examine its impact on the organization's perceived value. A comprehensive conceptual framework is formulated following a thorough examination of existing literature. Subsequently, the efficacy of this framework is evaluated utilizing Partial Least Squares Structural Equation Modelling (PLS-SEM) with data gathered from a survey conducted Egyptian travel agencies in Cairo. A Likert scale comprising of five points was employed for data collection, ranging from (1) strongly disagree to (5) strongly agree. The method of data collection was a self-completed questionnaire, returned by e-mail or personally collected by the researchers.

Sampling and data collection

The study is conducted on a purposive, a non-probability sample is chosen in accordance with the specific attributes of a given population and the problem and objectives of the study. From August to October 2024, a survey questionnaire was carried out at Egyptian Travel Agencies in Cairo (category A) due to their licensure for all tourism operations. According to ETAA (2024), Cairo is home to 1216 Category A Travel agencies. The questionnaire was distributed to a population of 500 respondents depending on Goodhue et al. (2012) who suggested that the optimal research sample size should be between 10 to 20 times the number of latent variables. Consequently, the suitable sample size must be over than 120 respondents. The researchers choose a purposive sample of 60 large travel agencies which have more than 250 employees (McGoldrick et al., 2002) in order to assure that the results are valid and reliable. The population under examination was initially assured that the survey instrument would be entirely devoid of any identifiers and remain confidential. The purposive sample included human resources managers and employees of HRM, whose number ranged from five to ten in each company. As a result of the data cleaning process, there were 252 valid entries for the statistical analysis. Moreover, a pre-study was conducted before distributing the questionnaire with 10 experts and managers of HRM at five large companies of tourism in Cairo. The pre-study aimed to verify the appropriate study population and to ensure that the questionnaire statements were cleared for individuals.

Research Measures

This study uses multiple items depending on UTAUT model to examine the intention of the Egyptian tourism companies to use AI in recruitment. Moreover, the study evaluates the influence of the adoption of HRM's employees with AI in recruitment on the perceived value of the organization. Also, the study concerns examining the mediation role of obtaining the intention of HRM's employees with AI technology between the UTAUT model factors and the organization's perceived value. Each item was taken from relevant current literature. The metrics used in the questionnaire's design are shown in Table (1). For example, a five-point Likert-type scale is used, with five being "strongly agree" and one being "strongly disagree."

CONSTRUCTS	INDICATORS	SOURCE
Performance Expectancy	I believe AI is a valuable tool for the recruitment process	Venkatesh et al. (2003) Alam et al. (2020)
	I expect AI will significantly speed up the recruitment process.	
	In my opinion, AI can make the recruitment process more efficient.	
	I believe AI can assist in accurately analyzing candidates.	
Effort Expectancy	The AI-based hiring program would be simple for me to utilize.	Venkatesh et al. (2003) Alam et al. (2020)
	I believe that using the AI-based hiring software's interface would be simple.	
	It won't take me long to become proficient in applying AI in hiring.	
	AI in hiring, in my opinion, would be adaptable.	

Social Influence	The percentage of colleagues who utilize the software or system would determine whether or not I use AI in hiring.	Venkatesh et al. (2003) Ha et al. (2020) Alam et al. (2020)
	I believe employers who adopt AI in recruitment benefit more than those who do not.	
	Given the rapid pace of technological advancement, I think our organization should adopt AI for recruitment.	
	I believe that AI in recruitment will become popular within my industry sector.	
Facilitating Conditions	I anticipate contacting a technical support staff if I run into any issues.	Venkatesh et al. (2003) Ha et al. (2020) Alam et al. (2020)
	I expect the AI-based recruitment system to be accessible on both mobile and desktop devices.	
	I believe an AI-based recruitment system would offer guidance.	
Intention to Use	Employing AI-based hiring tools is a smart and trendy move.	Venkatesh et al. (2003)
	The idea of using AI in recruitment is appealing to me.	
	I am genuinely interested in AI-powered recruitment software.	
	My willingness to use AI in recruitment is high.	
Perceived Value	AI in recruitment is, in my opinion, a worthwhile investment.	Sun (2021).
	AI, in my opinion, can continuously improve the quality of the hiring procedures.	
	I understand that employing AI in hiring will boost the company's social standing.	
	AI in hiring, in my opinion, will leave a positive impact on applicants.	

Data analysis

WarpPLS 7.0 was employed for the examination of the data through the utilization of partial least squares structural equation modeling (PLS-SEM) as indicated by Kock (2021). Within the realm of scholarly discourse on empirical tourism management, PLS-SEM stands out as a frequently employed instrument, as noted by Al-Azab and Al-Romeedy (2023). This methodology proves to be a fitting choice for the scrutiny of intricate structural frameworks characterized by both direct and indirect linkages among multi-item variables, as articulated by Manley et al. (2021)

Results

Participant's characteristics

From 252 respondents there were 8.73% less than 30 years, 43.25% being between 30-40, 31.34% between 40 and 50 years and 16.6% over than 50 years. Moreover, 100% of respondents had a bachelor's degree. Furthermore, 6.74% of respondents had less than two years of work

experience, 22.61% had between two- and five-years' work experience, 49.47% had between 5- and 10-years' experience, and 30.15% had over ten years' experience (Table 1).

Table (1) Participant's profile

Characteristics	Frequency	%
Age		
< 30 years	22	8.73
30: < 40 years	109	43.25
40: < 50 years	79	31.34
>50 years	42	16.6
Education		
Bachelor	252	100
High School	0	0
Experience		
<2 years	17	6.74
2-5 years	57	22.61
6-10 years	102	49.47
>10 years	76	30.15

Measurement model

Hair et al. (2010) stated that an item loading of more than 0.5 is deemed appropriate. All item loadings, which ranged from 0.537 to 0.863, were determined to be adequate in the current investigation. Important elements influencing measurement quality include the evaluation of internal consistency using composite reliability coefficients and the assessment of convergent validity using average variance extracted (AVE) (Shrestha, 2021). As shown in (Table 2), the composite reliability ratings for every variable are deemed adequate as they are higher than 0.7. Furthermore, AVE values greater than 0.5 validate the scales' convergent validity in accordance with the standards established by Hair et al. (2010).

Fornell-Larcker showed that two latent variables must have a correlation that is noticeably less than one in order to establish discriminant validity (Franke and Sarstedt, 2019). In other word, each construct's square root of AVE should be higher than its correlation with another construct. The findings in (Table 3) demonstrate that the AVE value of each construct exceeds the greatest common value, supporting the discriminant validity of the study model.

Analysis of the research model's fit indicators and quality indices shows that a model fit review was carried out before hypothesis testing. Kock (2021) asserts that all model fit results and quality indices satisfy the requirements listed in Table 4.

Table (2) Mean, Std. deviation, factor loading, reliability and convergent validity

CONSTRUCTS	ITEMS	Item Loading	α	CR	AVE
Performance Expectancy			0.816	0.879	0.646
	PE1	00.863			
	PE2	00.795			
	PE3	00.762			
	PE4	00.791			
Effort Expectancy			0.770	0.802	0.505

	EE1	00.714			
	EE2	00.782			
	EE3	00.627			
	EE4	00.711			
Social influence			0.833	0.889	0.667
	SI1	00.801			
	SI2	00.847			
	SI3	00.786			
	SI4	00.832			
Facilitating Conditions			0.702	0.834	0.627
	FC1	00.798			
	FC2	00.810			
	FC3	00.766			
Intention to Use			0.732	0.833	0.556
	ITU1	00.795			
	ITU2	00.668			
	ITU3	00.749			
	ITU4	00.765			
Perceived Value			0.746	0.842	0.578
	PV1	00.537			
	PV2	00.833			
	PV3	00.832			
	PV4	0.0.798			

Table (3)Discriminant validity results

	PE	EE	SI	FC	ITU	PV
PE	0.803					
EE	0.686	0.711				
SI	0.773	0.708	0.817			
FC	0.654	0.662	0.764	0.792		
ITU	0.754	0.680	0.772	0.722	0.746	
PV	0.593	0.454	0.599	0.552	0.640	0.760

Table (4)Model fit and quality indices

	Assessment	Criterion	Support
(APC)	0.317, P< 0.001	P < 0.05	YES
(ARS)	0.559, P< 0.001	P < 0.05	YES
(AARS)	0.555, P< 0.001	P < 0.05	YES
(AVIF)	2.861	Acceptable if <= 5	YES
(AFVIF)	2.948	Acceptable if <= 5	YES
(GoF)	0.577	Small >= 0.1, medium >= 0.25, large >= 0.36	YES
(SPR)	1.000	Acceptable if > 0.7, ideally =1	YES
(RSCR)	1.000	Acceptable if > 0.9, ideally =1	YES
(SSR)	1.000	Acceptable if > 0.7	YES
NLBCDR)	1.000	Acceptable if > 0.7	YES

Structure model assessment

Results from the hypothesis testing (Figure 2, Table 5) showed that there is a positive direct relationship between UTAUT's model in which its factors explain performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC), and obtaining the intention of HRM employees to use AI technology. which PE with ITU ($\beta = 0.31$, $t = 4.716$, $ES = 0.237$ and $p < 0.01$), EE with ITU ($\beta = 0.21$, $t = 2.667$, $ES = 0.176$ and $p < 0.01$), SI with ITU ($\beta = 0.27$, $t = 3.991$, $ES = 0.207$ and $p < 0.01$), and FC with ITU ($\beta = 0.24$, $t = 3.554$, $ES = 0.173$ and $p < 0.01$). Therefore H1, H2, H3, and H4 are supported. These findings demonstrate that the model of UTAUT affects positively the adoption of HRM employees in the Egyptian Travel Agencies with accepting and using AI technology to enhance HRM processes, especially for recruiting and selecting the right talents.

Moreover, findings indicate the direct relationship between ITU and PV, which ITU with PV ($\beta = 0.65$, $t = 10.435$, $ES = 0.424$ and $p < 0.01$) supports H5. This finding reveals direct benefits for Egyptian travel agents such as increased productivity, faster service delivery, improved candidate matching, and cost savings in recruitment processes, which were achieved by the adoption of HRM employees with accepting and using AI in recruitment.

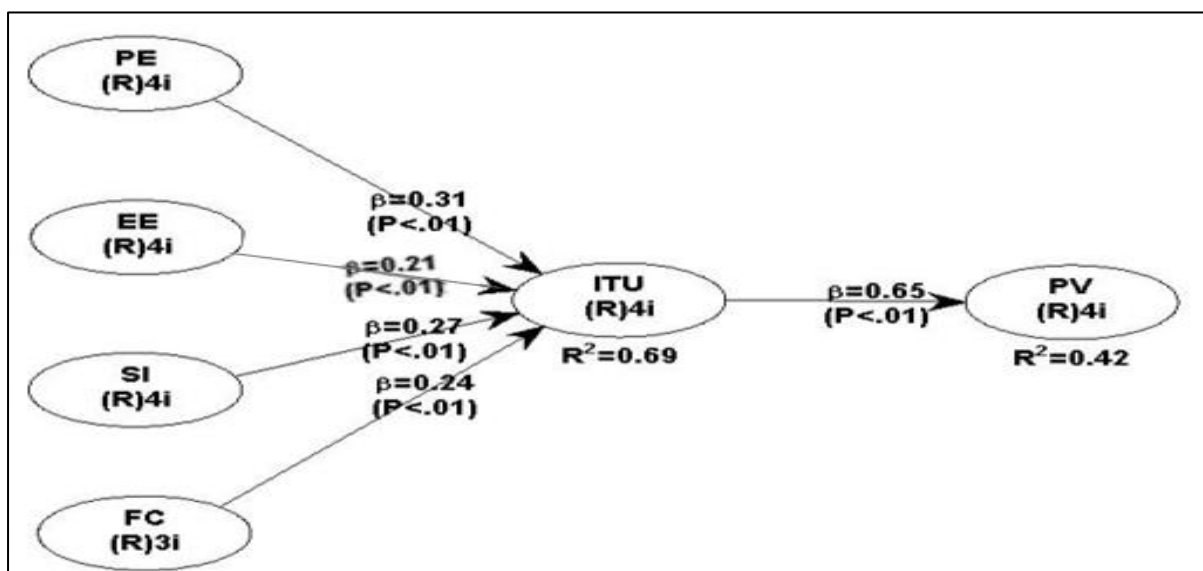


Figure (2) The Model of the study

Table (5) direct effect

	B	T	Effect size	Sig	Decision
H1. PE ▶ ITU	0.31	4.716	0.237	P< 0.01	Supported
H2. EE ▶ ITU	0.21	2.667	0.176	P< 0.01	Supported
H3. SI ▶ ITU	0.27	3.991	0.207	P< 0.01	Supported
H4. FC ▶ ITU	0.24	3.554	0.173	P< 0.01	Supported
H5. ITU ▶ PV	0.65	10.435	0.424	P< 0.01	Supported

As per the data presented in Table 6, the examination of the indirect effect within the model was conducted using bootstrapping techniques as recommended by Preacher and Hayes (2008). The results revealed that the impact of UTAUT factors on organization's perceived value by the mediating role of employees' intention of use AI statistically significant, which PE on PV through ITU ($\beta = 0.201$, $P < 0.001$, $SE = 0.048$). Similarly, the connection between EE and PV through ITU ($\beta = 0.136$, $P < 0.001$, $SE = 0.049$). Also, the relationship of SI on PV via ITU ($\beta =$

0.175, $P < 0.001$, $SE = 0.048$). Moreover, the influence of FC on PV by ITU ($\beta = 0.156$, $P < 0.001$, $SE = 0.049$). Regarding ITU's role as a mediator between PE and PV, the findings indicated a significant indirect influence with a standardized β of 0.201 (0.31×0.665). This indirect effect of 0.201, with a 95% Bootstrapped Confidence Interval: (LL = .694, UL = .918), supported the presence of mediation. Therefore, the mediating effect of ITU in the PE-PV relationship is statistically significant, hence confirming H6. Analysis of ITU as a mediator in the context of the association between EE and PV demonstrated a significant indirect effect with a standardized β of 0.136 (0.21×0.65). The indirect effect of 0.136, with a 95% Bootstrapped Confidence Interval: (LL = 0.483, UL = 0.693), suggested mediation. Thus, the mediation effect of ITU in the EE-PV relationship is considered statistically significant, thereby supporting H7. When examining ITU as a mediator in the relationship between SI and PV, the results indicated a significant indirect effect with a standardized β of 0.175 (0.27×0.65). Furthermore, the indirect effect of 0.175, coupled with a 95% Bootstrapped Confidence Interval: (LL = 0.677, UL = 0.900), denoted mediation. Therefore, the mediation effect of ITU in the SI-PV relationship is statistically significant, thus supporting H8. Additionally, the positive impact of ITU on the association between FC and PV illustrated a significant indirect effect Std. β of 0.156 (0.24×0.65). The indirect effect of 0.156, with 95% Bootstrapped Confidence Interval: (LL = 0.682, UL = 0.905), supported the presence of mediation. Thus, the mediating effect of ITU in the FC-PV relationship is statistically significant, hence supporting H9. finally, figure 2 indicated that the factors of UTAUT model accounted for 69% of the variance in the ITU ($R^2 = 0.69$). Also, the ITU interpreted 42% of the variance in PV ($R^2 = 0.42$).

Table (6) Indirect Effect

	Path a	Path b	Indirect Effect	SE	Bootstrapped Confidence interval		Decision
					95% LL	95% UL	
H6. PE \rightarrow ITU \rightarrow PV	0.31	0.65	0.201	0.048	0.694	0.918	Partial mediation
H7. EE \rightarrow ITU \rightarrow PV	0.21	0.65	0.136	0.049	0.483	0.693	Partial mediation
H8. SI \rightarrow ITU \rightarrow PV	0.27	0.65	0.175	0.048	0.677	0.900	Partial mediation
H9. FC \rightarrow ITU \rightarrow PV	0.24	0.65	0.156	0.049	0.682	0.905	Partial mediation

Discussion

The purpose of the study is to ascertain whether HRM staff members at Egyptian travel agencies intend to embrace and apply AI technology to improve HRM operations, specifically at the levels of hiring and selection. Because it includes social influence (SI), facilitating conditions (FC), performance expectancy (PE), and effort expectancy (EE), the UTAUT model is utilized. The study also examines how adopting and utilizing AI in recruitment and selection could increase the perceived value of the company by delivering about better candidate matching, faster service delivery, increased productivity, and reduced expenses associated with the hiring process. Moreover, the study examines the mediating role between UTAUT factors and PV through ITU.

A quantitative methodology is employed in this research to accomplish its objectives, utilizing a survey to collect data from employees working at HRM in Egyptian travel agencies.

The findings highlight the positive connection between PE and ITU. This finding is consistent with Thirukumaran's (2024) claim that artificial intelligence (AI) technologies improve recruiting processes by decreasing the time required for candidate selection and strengthening operational decision-making to improve overall recruitment outcomes. Thus, the intention to use AI in hiring is significantly affected by the perceived advantages of AI's efficacy and efficiency. This finding is further supported by Laurim et al. (2021) and Ochmann&Laumer (2020), who indicate that recruiters' acceptance of AI is in line with their expectations for a better and more effective hiring process.

The findings also indicate the direct link between EE and ITU. This result is in line with Zhang (2024) who specifies ease of learning, clarity and understandability, flexibility, and ease of familiarity as dimensions of EE in recruitment. These dimensions help recruiters to adopt AI tools and lead them to perceive their degree of ease of learning and interacting with AI systems, as Venkatsh et al. (2003) mentioned in their study. Moreover, Eyzadeh (2003) indicate that recruiters are more inclined to adopt AI tools when they perceive them as user-friendly and requiring minimal effort to integrate into existing workflows.

Additionally, the results explained the direct relationship between SI and ITU. This finding aligns with Amin et al. (2008) and Menant et al. (2021), who highlighted that recruiters are highly influenced by the perspectives of their peers. Such peer influence can be particularly powerful when recruiters perceive AI as enhancing efficiency, innovation, and competitiveness within the industry. Moreover, this result aligns with Rane et al. (2024), who noted that AI's reputation for improving recruitment outcomes drives broader acceptance of the technology.

The results also reveal the positive direct link between FC and ITU. This result is in line with Venkatesh et al. (2003) who demonstrated that the availability of infrastructure and support systems enables users to effectively implement and utilize new technology. Laurim et al. (2021) agreed with that and clarified that recruiters are more likely to adopt AI if they perceive that their organization provides the necessary infrastructure to support its use.

As well, the findings depicted the direct relationship between ITU and PV. This finding aligns with Sivathanu (2019) &Thirukumaran (2024), Leszkiewicz (2022), Sun (2021) & Wang et al. (2021), and Dahnair et al. (2024) & Ragab and Ezzat (2022) who consequently referred to the influence of ITU on PV according to certain dimensions. Functionally, AI adoption enhances the efficiency of hiring processes and decision-making. Socially, AI adoption affects a positive organizational image through attracting candidates who seek an innovative organization. Emotionally, AI adoption influences positively candidates' feelings toward the organisation, increasing their likelihood of completing applications because of their thoughts about AI as an objective tool depending on specific standards. Financially, by reducing recruitment costs and streamlining processes in order to the adoption of AI in recruitment.

Finally, findings were in line with the literature review and confirmed the mediating role of the intention to use AI in recruitment between the UTAUT model's factors (Performance Expectancy, Effort Expectancy, Social influence, and Facilitating conditions) and the organization's perceived value, reaching the achievements of Functional, Social, Emotional and financial values for the organization.

Theoretical Implications

This study offers significant theoretical contributions to the field of Human Resource Management (HRM) and the technology acceptance literature. By applying the Unified Theory of Acceptance and Use of Technology (UTAUT) model within the context of Egyptian travel and tourism agencies, this research highlights how AI technologies can drive efficiency, enhance decision-making, and shape HR practices. First, this study contributes to the understanding of AI's role in recruitment by examining the influence of constructs such as Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions on the intention to adopt AI, expanding on prior research primarily focused on Western contexts. This paper enriches the theoretical discourse on UTAUT, positioning it as a robust framework for exploring AI adoption in emerging economies and underscoring its relevance in the tourism sector. Furthermore, by examining the impact of AI adoption on Perceived Value, this study addresses an understudied area, revealing that AI adoption not only benefits HR functions but also elevates an organization's perceived social and operational value. Thus, the findings encourage future studies to explore AI's multidimensional impact across different organizational contexts and industries.

Practical Implications

The study's findings have practical implications for HR practitioners, particularly within the tourism sector. AI adoption in HRM can significantly reduce the time-to-hire and operational costs, allowing HR teams to focus on strategic initiatives such as talent management and employee engagement. Additionally, AI-driven tools improve candidate matching and provide a consistent, data-driven approach to candidate evaluations, which can lead to a more positive candidate experience and potentially higher retention rates. The study also highlights the importance of developing user-friendly AI systems, as ease of use is critical for acceptance among HR professionals. Tourism companies can benefit from investing in technical support and training programs, creating a supportive environment that fosters successful AI integration. Ultimately, adopting AI in HR can enhance recruitment efficiency, promote a modern organizational image, and increase competitiveness within the industry.

Limitations and Future Research

While this study provides valuable insights into AI adoption in HRM, it has certain limitations that warrant further exploration. First, the research focuses on a specific sector within Egypt, which may limit the generalizability of its findings. Future research should expand the scope to include other industries and geographic regions, allowing for broader application of the results. Second, this study relies on cross-sectional data, which captures AI adoption intentions at a single point in time. Longitudinal studies could offer deeper insights into the long-term effects of AI adoption on organizational outcomes. Additionally, while this study examines the impact of UTAUT constructs on Perceived Value, it does not account for potential ethical concerns or biases associated with AI in recruitment. Future research should explore these aspects, including the ethical implications of AI-driven decisions and the mitigation of algorithmic biases in recruitment processes. Lastly, as AI technology evolves, ongoing research is needed to assess how new advancements in AI influence HRM practices, offering insights into the dynamic relationship between technology and organizational strategy.

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دراسة نية استخدام تطبيقات الذكاء الاصطناعي في عمليات التوظيف والاختيار ضمن إدارة الموارد البشرية: دراسة حالة لوكالات السفر والسياحة المصرية

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المخلص

معلومات المقالة

تهدف هذه الدراسة الي بحث دمج تطبيقات الذكاء الاصطناعي (AI) في عمليات إدارة الموارد البشرية (HRM)، مع التركيز بشكل خاص على ممارسات التوظيف والاختيار في وكالات السفر والسياحة المصرية ، وتعتمد الدراسة على نموذج "النظرية الموحدة لقبول واستخدام التكنولوجيا" (UTAUT) لاستكشاف كيفية تأثير توقع الأداء (PE)، وتوقع الجهد (EE)، والتأثير الاجتماعي (SI)، والظروف الميسرة (FC) على نية تبني تكنولوجيا الذكاء الاصطناعي في إدارة الموارد البشرية. إضافةً إلى ذلك، تقيم الدراسة تأثير اعتماد الذكاء الاصطناعي على القيمة المدركة (PV) للمؤسسات، وخاصة فيما يتعلق بتحسين الكفاءة التشغيلية، وتوفير التكاليف، وملاءمة المواهب، وزيادة إنتاجية التوظيف. تم جمع البيانات من 252 موظفاً ومتخصصاً في الموارد البشرية يعملون في شركات السياحة المصرية وتم تحليلها بأسلوب نمذجة المعادلات الهيكلية باستخدام المربعات الجزئية الصغرى (PLS-SEM). أشارت النتائج إلى أن عوامل نموذج UTAUT تلعب دوراً هاماً في تعزيز القيمة التنظيمية المدركة من خلال تبني تطبيقات الذكاء الاصطناعي. وتوضح النتائج أن تطبيق الذكاء الاصطناعي في التوظيف لا يسهم فقط في تبسيط عمليات الموارد البشرية، بل يزيد أيضاً من رضا الموظفين، ويعزز سمعة المؤسسة، ويحقق وفورات في التكاليف، مما يجعل الذكاء الاصطناعي أداة أساسية لتعزيز التنافسية في قطاع السفر والسياحة. تقدم هذه الدراسة رؤى استراتيجية وتوصيات عملية لوكالات السفر التي تسعى إلى استثمار تطبيقات الذكاء الاصطناعي لتعزيز كفاءة إدارة الموارد البشرية واكتساب ميزة تنافسية.

الكلمات المفتاحية
 الذكاء الاصطناعي؛
 إدارة الموارد البشرية
 الذكاء 4.0؛
 تبني التكنولوجيا؛
 الذكاء الاصطناعي في
 التوظيف؛
 الثورة الصناعية
 الرابعة 4.0.

(JAAUTH)

المجلد 28، العدد 1،
 (2025)،
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