

Assessing the Future of HRM: Exploring the Transformative Role of Artificial Intelligence in Realizing the UAE's Vision 2031 for AI-Driven Human Resources Practices

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ABSTRACT: The current research was set to investigate the indirect impact of the adoption of AI in the UAE on AI-driven human resource management through the mediation of the Technology Acceptance Model. A total of 171 surveys were found to be valid and usable after being collected from human resource professionals working in both the Ministry of Energy and Infrastructure and the Ministry of Human Resources and Emiratization. We tested the hypotheses using SmartPLS4 software through partial least squares structural equation modeling (PLS-SEM). The research reported that AI adoption positively and significantly affects human resource management practices within the UAE. In addition, it had a great positive impact on the perceived usefulness and ease of use of AI in the UAE. Perceived ease of use, in turn, had a significant and positive impact on the attitude of users toward use and on perceived usefulness. Therefore, perceived usefulness had a substantial positive impact on attitudes and behavioral intentions of users in the use of AI technology. That is, user intentions significantly impacted the AI-driven HRM practices relating to the deployment of AI technology. So, the Technology Acceptance Model played a key role, leading to a notable indirect influence on AI-driven HRM practices in the UAE. Therefore, the integration of AI technology into human resources management has taken place.

Keywords: artificial intelligence, human resources management practices, perceived ease of use, perceived usefulness, attitude, intention, technology acceptance model.

I. INTRODUCTION

Innovation has become increasingly important due to the rapid pace of technological development, leading many nations to redirect their economies and refocus their strategies over the last decade. Currently, several technical showcases demonstrate the industry 4.0 revolution, previously asking for massive systemic and environmental rearrangements associated with different revolutions. New-age technologies include, among others, artificial intelligence (AI), the Internet of Things (IoT), big data, and cloud technology [1]. This research study addresses these changes arising due to the use of artificial intelligence in rethinking human resource management. With the support of AI applications in human resource practices, organizations have



been enhanced to perform analytical forecasting and diagnostic functions so that human resource managers can make decisions with the greatest economic value [2]. Through the launch of AI initiatives, the UAE has formulated a definitive vision to establish the country as a global benchmark for the field of AI by 2031. AI strategies align with the UAE Centennial 2071 goal of making the UAE the world's best by 2071 [3]. This Objective has encouraged a spirit of inventiveness among UAE researchers in their pursuit of excellence. Thus, AI has become a primary research focus in the UAE. Recent studies have explored the effects of artificial intelligence on human resource management practices [4-7]. Therefore, AI further opens economic prospects in various industries of the country. The appeal of artificial intelligence at the larger economic level comes from the huge financial advantage it can offer, the reliable information and guidance it provides, and its positive effects on decreasing dependence on manual and traditional jobs [8].

The United Arab Emirates has taken several steps to encourage and speed up the deployment of AI applications in the public and private sectors [9]. Besides bettering project performance, the process also assists in reducing the expatriate workforce and remediating the imbalances in labor market structure and demography [10]. A recent study by Accenture Consulting [11] on AI applications in the UAE suggests that Middle Eastern governments have enacted a number of interconnected efforts. Diversification of the Economy is crucial. Such diversification focuses on developing industries outside of oil to create stable jobs and lessen reliance on government jobs, while also significant upgrades to education and training for future generations and streamlining and updating rules and governance [11]. All these initiatives are grounded in ambitious, comprehensive, and well-supported ideas regarding artificial intelligence. Literature in [12] varying degrees points out the need for artificial intelligence in a multitude of contexts; however, research on the role of AI in the public sector of the UAE remains scant. This study aims to assess the impact of adopting AI in human resource management operations in the UAE, mediated by the technology acceptance model, with a particular focus on linking AI technology for human resource management with a deeper alignment with the UAE's Vision 2031. This study aims to address the subsequent research questions: What is the effect of AI adoption in UAE on users' perceptions of the ease of use of AI technology? What is the effect of AI adoption in UAE on users' perceived utility of AI technology? What is the effect of perceived ease of use on the perceived usefulness of AI technology? What is the effect of perceived ease of use on the attitude toward using AI technology? What is the effect of usefulness on the attitude toward using AI technology? What is the effect of perceived usefulness on the intention to accept AI technology? What is the effect of users' attitude toward utilization of AI on the intention to accept AI technology? What is the effect of users' intention of using AI on the AI-driven HRM practices?

II. THEORETICAL BACKGROUND

1. ARTIFICIAL INTELLIGENCE ADOPTION IN UAE

Artificial intelligence represents a relatively new field generated for so much hope due to some viewing it as a plausible response to some of the deepest-haunting problems of humanity. Artificial intelligence is a very dynamic thing that comprises technological advances exhibiting cognitive behavior analogous to that exhibited by human beings. Numerous major technological advancements for mankind have incorporated the indefinite term artificial intelligence [13]. In accordance with the National Strategy for Artificial Intelligence, it is considered a cornerstone of the 49-year-old UAE Centennial 2071 and a critical dimension of the entire framework. By 2031, we aim to elevate transformations to a new height, laying the groundwork for future generations to thrive in the UAE [3]. The UAE's Minister of State for Artificial Intelligence declared.

"As Minister of State for Artificial Intelligence, my objective is to facilitate the responsible advancement of AI in our nation to achieve the UAE Centennial 2071 and to serve as a model for other countries in utilizing this technology for the enhancement of humanity".

2. AI-TECHNOLOGY ACCEPTANCE MODEL

According to [14], the Technology Acceptance Model shows how and why people decide to use new data communication devices or technologies, and it has remained relevant over time. [14] considers perceived



usefulness to be the degree to which a person believes that using a particular system or technology will enhance his or her work performance. On the other hand, perceived ease of use could be described as the degree to which a prospective user expects that a target system will require little effort on his or her part. In the framework of technology acceptance, two beliefs, attitudes, and intentions to use mainly influence behavioral usage, considered the overt action. According to the Technology Acceptance Model (TAM) created by [15], the two key determinants of intention to use technology are perceived of usefulness and perceived ease of use; intention to use determines actual usage. Since the initial development of TAM, extensive literature has called it a standard approach for understanding technology acceptance across different domains, including HRM.

Several scholars provide evidence that TAM stands as a strong theory for the analysis of AI uptake in the workplace [16]. Its simplicity and ease of nature allow it to be potentially applied to try and gauge the readiness of HR professionals and employees in embracing AI-driven HR tools. AI use in human resource management encompasses employment, onboarding, personnel management, training, performance evaluation, and predictive analytics. These systems confer benefits such as improved efficiency, impartiality, and data-informed decision-making [17]. Proper adoption, though, rests on user acceptance, thereby warranting an account from TAM. Empirical research states that perceived usefulness and ease of use are critical in AI-based HR systems adoption [18]. The trust of HR managers in terms of accuracy and user-friendliness impacts their adoption and reliance on these. Recent studies modify the TAM to better incorporate AI-specific factors, such as trust, perceived risk, ethical concerns, and transparency [19]. User trust in AI algorithms is central to their willingness to accept AI-powered HR solutions. Perceived worries about data privacy and bias can hinder their acceptance. Previous literature has shown that enhancing perceived ease of use through user-oriented interface design and showcasing tangible benefits can boost acceptance [20]. With regard to human resource matters, training and change management will create a positive attitude toward AI.

3. AI-DRIVEN HUMAN RESOURCES PRACTICES

Human resources administration (HRM) encompasses recruitment, hiring, administration, and daily deployment of personnel into an organization, either individually or collectively. Human resources management deals with recruitment, hiring, remuneration, and daily deployment of individuals, either singly or collectively, by a business. It is another term for human resource management. [2]. Given the varying spread of AI applications and their influence on industrial sectors, AI influences human resources management through data utilization. More recently, software engineers and HR representatives worked together to embed AI into human resources management, thus leading to large-scale changes in recruitment, development, and the redefinition of human resources management in contemporary organizations. Several scholars have evaluated how artificial intelligence applications affect human resource management. [21] found that organizations that were using AI for human resource management performed better than those that did not engage in this technology.

III. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

1. ARTIFICIAL INTELLIGENCE ADOPTION IN UAE

Integrating and utilizing AI technologies within organizational processes is generally termed AI adoption. It has been argued that factors influencing AI adoption in HRM include perceived benefits, organizational readiness, and technological factors. There are several research studies that prove that the integration of AI technology in the processes of HR resulted in more accurate candidate selection [16]. [9] demonstrated that the use of AI technology in the United Arab Emirates has provided an improvement in organizational efficiency and performance in the processes of HR management. In 2023, [4] pointed out the fact that AI adoption for human resources management in the Emirates, new and existing employees training or direct training programs actually supports employee development. Artificial intelligence technologies can be utilized in analyzing big data and assessing employee interaction, consequently improving candidate



selection processes and enhancing the experiences of new and existing employees. Artificial Intelligence's usage in HRM concerns talent acquisition, performance management, employee engagement, learning & development, and retention strategies [23]. Thus, black AI for HR practices provide different services:

- 1. Recruitment: It assists hiring agents in screening resumes with algorithms, reducing the chance of bias while increasing efficiency [24].
- 2. Performance Management: AI models analyze employee performance data and use that to create development plans suited for the individuals [24].
- 3. Employee Engagement: Sentiment analysis on employee feedback views organizational culture [25].
- 4. Learning and Development: AI-driven personalized learning paths emphasize skill development [25].
- 5. Accordingly, the hypothesis for the study would be:

Hypothesis 1: The application of AI in the UAE significantly improves the AI-driven human resource management methods.

According to [26] Innovation Diffusion Theory, the launch of an innovation by an enterprise has to correspond to the values and experiences of prospective users. From this perspective, the dissonance between emerging artificial intelligence technologies and existing systems may create implementation challenges, or enterprises may choose to postpone and completely avoid adoption instead. Numerous previous researches have agreed that the lack of compatibility of novel AI-based technologies with existing software and hardware imposes a great hindrance to implementation [27, 28]. Study [29] went on to say that resistance by users occurs exactly because of the technology's complexity related to its adoption combined with a great dissimilarity from old technologies, regardless of the advantages it might have offered to them. Even more, [30] stated that the implementation of artificial intelligence technologies can rely on trust for internal and external operations. Study [31] went on to demonstrate that technology's being useful or easy to use, as perceived by those confronting it, does not positively influence the acceptability of artificial intelligence-based technology. The implementation of AI-based technology, accompanied by significant changes to establish routines and a steep learning curve, may have a negative impact on end users' perceptions of its usefulness and ease of use. Perceived Ease of Use refers to an individual's expectations that the force of using technology will be easy. In AI adoption, perceived ease of use affects the users' willingness to use AI tools [32]. For instance, users generally accept an interactive and intuitive AI interface with ease [33]. Usefulness or perceived usefulness refers to the degree to which an individual believes that using a particular technology would enhance his or her job performance. Research has shown that users are more likely to accept AI solutions if they perceive direct advantages in terms of improved accuracy, efficiency, or decision-making ability [34]. Within HRM contexts, AI-enabled recruitment tools enhance recruitment efficiency and fit when perceived as useful [33].

Hence, we formulated hypotheses examining how AI adoption in the UAE could have a bearing on end-user perceived usefulness (PU) and perceived ease of use (PEOU) of AI-based technologies.

- Hypothesis 2 (H2.a): The deployment of AI in the UAE significantly enhances consumers' perceptions of the ease of use of AI technology.
- Hypothesis 2 (H2.b): The deployment of AI in the UAE significantly enhances users' perceived utility of AI technology.

2. PERCEIVED EASE OF USE

Many prior studies have shown perceived ease of technology strongly influencing the perceived usefulness and attitude toward adopting the new technology [30]. Perceived ease of use means that the user will find the new or revolutionary technology easy to operate without difficulty or without requiring a high level of effort to learn it. The basic claim is that users tend to think more of the usefulness of any technology if they consider it easy to use [15]. This implies that the more cognitive effort exerted in interaction with a system, the more the user weighs against a benefit. Several empirical studies proved this relation to be true in many domains: [15] found a strong positive correlation between perceived ease of use and perceived usefulness in the case of email and word processing systems. Studies extended these findings culturally, strengthening the perceived ease of use and perceived usefulness relationship [35]. Research in e-commerce [36], mobile technology [37], and e-learning [38] showed that perceived ease of use influences perceived usefulness positively. According to some



theories, such as the Technology Acceptance Model [15] and the Theory of Reasoned Action [39], the notion of ease of use has been proven to affect attitudes toward AI in its many applications. The relationship has been backed by studies: general acceptance of AI [34], use in customer service processes [40], acceptance of AI-based healthcare [41], use in education [42], and robotics [43]. All these studies insist that users develop a positive attitude when perceiving an AI technology to be easy to use.

- Hypothesis 3. Perceived ease of use has a significant positive influence on the perceived usefulness of AI technology.
- Hypothesis 4. Perceived ease of use has a significant positive influence on the attitude toward using AI technology.

3. PERCEIVED USEFULNESS

Many other previous researchers have shown that perceived usefulness positively influences consumers' attitudes about adopting new technology and their intention to accept it [30,44,45]. [31] found that perceived utility positively influenced the users' attitude toward and intention to use technology based on AI. More than that, [44] explained that if a new technology offers advantages, any benefit will help in stimulating the consumers' desire and intention to accept such technology. The perceived usefulness of AI has significant effects on the attitude of the users towards AI, according to the Technology Acceptance Model [15] and Expectancy-Value Theory [46]. Research indicates that PU is the major determinant of the acceptance of AI in general cases [34] as well as in very specific applications such as healthcare [47,48], education [25], business [49,50], and robotics [50]. When users feel AI is improving their productivity, they tend to form more favorable attitudes toward it

Numerous fields such as education, tourism, and fitness are extensively researching the perceived utility and user intent to leverage AI. Studies continuously went on to validate that perceived usefulness majorly influences people' inclinations toward the acceptance of AI technologies. This perception can be classified as an attitude towards technology, which may enhance the actual intention to use AI. Researchers in academic arenas perceive the positive relationship between perceived usefulness and the intention to use AI is seen as conferring researchers with enhanced analytical capabilities [51]. Perceived usefulness and ease of use in the tourism industry influence behavioral intention, with attitude acting as a mediator [52]. Consequently, in the fitness sector, perceived usefulness affects attitude toward AI services and intentions to use them [53].

This study therefore developed the following hypotheses to examine the influence of perception of utility on consumers' views, as well as their willingness to use AI technology.

- Hypothesis 5. Perceived usefulness has a significant positive influence on the attitude toward using AI technology.
- Hypothesis 6. Perceived usefulness has a significant positive influence on the intention to accept AI technology.

4. USERS' ATTITUDE

The user is under the impression that a judgment is made about the adoption of new technology or equipment with regard to being either favorable or unfavorable. Regarding this, attitude models and decision theory theorize that the adoption of new technology depends on the user's attitude and how this attitude influences the decision-making process [54, 55]. [30] focused on how users' attitudes toward technology use affect the intention to adopt the technology and found that a positive attitude tends to increase the intention to adopt and accept the technology. This is in line with [56], who argued that users' attitudes regarding new technology influenced their willingness to adopt it positively.

Attitude has thus far been seen to exert a beneficial effect on consumers' intention to adopt and use AI technologies. Research pertaining to AI-driven chatbots in banking found a great positive impact of attitude on behavioral intention [57]. In generative AI, users' perceptions toward this technology are strong predictors of the desire to use it [58, 59]. Attitude also moderates the effect of other predictors on behavioral intention. Regarding the intention toward the adoption of AI-driven chatbots, performance expectancy influences attitude, which in turn influences behavioral intention [60]. In voice-based AI assistant situations, system



quality and information quality manipulate intention only indirectly through attitude [61]. Depending on the situational context, diverse relationships have been found to exist between attitude and intention. There can be moderating variables affecting the strength of the association of economic status, gender, and knowledge level. For instance, economic level has served as a moderating factor in the relationship between attitude and intention in adopting AI-based chatbots [62].

Thus, the study developed the following hypothesis to investigate the impact of user attitude on the intention to use AI-driven HRM practices.

 Hypothesis 7. Users' attitude toward utilization has a significant positive influence on the intention to accept AI technology.

5. USERS' INTENTION

Previous investigations have ascended the matter of users' intention to adopt artificial intelligence technology and AI-driven HRM methods. So, it's important for employees to understand and see how artificial intelligence technology works and how it's used in HRM techniques for an organization to successfully accept, implement, and integrate it into their operations. In the context of intervention, as previously mentioned, firms that use artificial intelligence outperform those that do not utilize it. [63] demonstrated that perceived usefulness, perceived ease of use, and attitude towards AI technology had strong effects on employees' intention to adopt AI-driven HRM practices. This finding conforms with the conclusion by [22], which stated that perceived usefulness, perceived ease of use, and trust in technology are influential contributors in building employees' intention to adopt AI-related HRM practices.

The link between users' willingness to adopt AI technology and AI-driven HRM practices is complex with a mixture of psychological, organizational, and technological elements. The willingness of the users to adopt AI in human resource management is affected by perceived value, effort expectancy, and facilitating conditions, whereas social influence and trust in AI are indirect effects. In addition, technostress and emotional responses can influence the intention to adopt AI, whereas technical self-efficacy is a moderating factor to such influences. These observations thus make the integration of AI into HRM complex, highlighting the urgency of strategic oversight spanning both technology and human factors. Users tend to adopt AI into human resource management if they see it as valuable and if the expectation is that less work will be involved, especially in recruitment procedures. Facilitating conditions, including organizational support, play an important role in adopting [22].

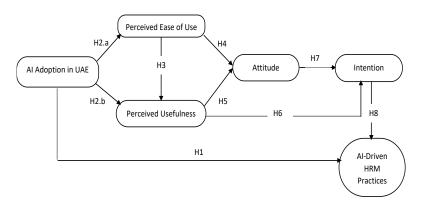


FIGURE 1. Conceptual framework.

Technostress from AI implementations can be either positively or negatively impact the adoption of AI. Hence, challenge stressors would positively impact adoption intentions, whereas hindrance stressors tend to hinder adoption by increasing anxiety related to AI. Technical self-efficacy, however, moderates these relationships to the extent that confidence in handling AI technology can reduce negative impacts [64]. Ethical



issues like bias and privacy infringement confront AI integration in human resource management, potentially influencing its acceptance. Ensuring transparency, accountability, and fairness among AI systems is key to developing trust and acceptance [65]. The best success for implementing AI in human resource management depends on the concept of the organization and how the people will perceive this new technology. Having a supportive culture that encourages innovation and skill development would support adoption [66]. This study came up with the following hypothesis to evaluate the influence of user intention on AI-driven HRM practices.

• Hypothesis 8. Users' intention has a significant positive influence on the AI-driven HRM practices. Based on the above, the proposed conceptual framework for the study can be explained as follows in Figure 1:

IV.RESEARCH METHODOLOGY

1. SAMPLE AND PROCEDURES

To start the process of collecting the data, the authors first got approval from the Institutional Review Board for Human Subjects Research (IRB) at Abu Dhabi University. The approval depends on three principles: the subjects must give their free and informed consent to participate in the research, researchers must protect subject confidentiality, and potential risks to subjects must be balanced by the potential benefits of the research and must be fully disclosed to the subjects.

The study used a convenient sampling technique to collect data from HR professionals employed at the Ministry of Energy and Infrastructure as well as the Ministry of Human Resources and Emiratization. These ministries were considered critical for the incremental implementation of AI in line with UAE Vision 2031. However, their absence does not put a full stop to AI advancement across other ministries and areas within the United Arab Emirates. The total number of questionnaires that were distributed was 182. This was a two-section questionnaire: the first for the participants' demographic data and the second for survey questions. A total of 173 responses were collected, indicating a response rate of 95%. These responses were further filtered for invalid responses, which led to a final sample size of 171 valid questionnaires. The study was carried out from December 2023 to March 2024 and included respondents from various categories of gender, age group, qualification, working level, and years of experience. Study in [22] used demographic data to study how artificial intelligence affects human resource management.

Due to limitations in resources and time, the researchers used a convenience sample for this study, which also allowed them to concentrate only on the two ministries mentioned and conduct a detailed analysis within manageable boundaries [67]. Table 1 displays the demographic characteristics of research participants, indicating that 112 were male (65.5%) and 59 Female (34.5%). Further, 97 participants aged 25 to 34 years represent the largest age category. Most participants hold a master's degree: a total of 82 samples. Supervisors and team leaders reflect the highest professionalism in resource management procedures. Humanity is 81 years old, and most individuals possess 10 to 14 years of experience.

Table 1. Demographic variables of the sample.

Variables	Categories	N	%
Gender	Male	112	65.5%
	Female	59	34.5%
Age	Under 25 years of age	38	22.2%
	Age range: 25 to 34	97	56.7%
	years		
	Age range:35-44	23	13.5%
	years		
	Age range:45-54	9	5%
	years		
	55 years and above	4	2.6%



Academic	Bachelor's	64	37.4%
Qualification	Master's	82	48%
	Doctorate	25	14.6%
Position	Individual	43	25.1%
Level	Contributors		
	Supervisor/Team	81	47.3%
	Leader		
	Manager/Department	29	17%
	Head		
	Director/Executive	18	10.6%
Years of	Under 5 years of	34	19.9%
Experience	Experience		
	Experience Range: 5-	76	44.4%
	9 years		
	Experience Range 10-	41	24%
	14 years		
	15 years and above	20	11.7%
	Total	171	100%

2. MEASURE

The adoption of AI in the UAE is being assessed through a six-item scale developed by [6]. Respondents said that the ministry in which they registered utilized AI technology in its organizational functions. We measured the technological acceptability model was measured via multiple dimensions using a 13-item scale taken from [56, 68]. A great number of respondents said that HR professionals receive information about the use of AI technology. We further conducted measures of AI-based HRM practices using a 4-item scale [69]. Human resource professionals implement AI technologies in recruitment, training, and supervision. All 23 items were rated via a 5-point scale (1 = strongly disagree, 5 = strongly agree).

V. DATA ANALYSIS AND RESULTS

To examine the hypotheses, the study applied PLS-SEM through SmartPLS4 software. PLS-SEM was chosen because it's widely used in interconnected studies and used for theory prediction and development compared to CB-SEM which is used for test and confirm the current theory [69].

1. MEASUREMENT MODEL EVALUATION

The PLS-SEM method validated the measurement model through a CFA based on the study's parameters, establishing convergent validity [70]. A CFA was also considered appropriate to test the hypothesized relations between latent variables and their indicators constituting the purported model of the study. Alongside, the reliability of the measurement statements was ascertained using Cronbach's alpha coefficient, indicating good internal consistency. According to the literature, a model is considered reliable when the value of Cronbach's alpha coefficient exceeds 0.7 [71]; referring to Table 2, the model is thus deemed reliable. We then computed factor loadings, AVE, and CR to assess the validity and discrimination of the measurement model. Therefore, we consider the establishment of convergent validity when the loadings, AVE, and CR exceed 0.5, 0.7 respectively [71]. The constructs also show Cronbach's Alpha values ranging from 0.852 to 0.948. If the VIF value is above 5, that indicates multicollinearity, which occupies a huge proportion [72]. Table 2 reports five VIF values for statements that surpass 5. A VIF value that exceeds 5 often indicates multicollinearity, although its impact is less significant in smaller samples. This difference happens because smaller samples have more uncertainty and instability in estimating parameters, which can lead to high VIF levels without invalidating the model. Removing multicollinear variables can make regression models more stable, but this problem often gets worse with larger samples, where the effects of multicollinearity become clear [73,74]. Moreover, we did not eliminate any variables with VIF greater than 5.



Table 2. Demonstrations of FL, α , CR, AVE, and VIF.

Constructs	Items	FL	α	CR	AVE	VIF
AI adoption			0.948	0.959	0.794	
in UAE	AIE 1	0.876				3.631
	AIE 2	0.872				3.084
	AIE 3	0.902				5.263
	AIE 4	0.901				4.238
	AIE 5	0.929				6.858
	AIE 6	0.864				3.262
Perceived			0.922	0.945	0.811	
ease of use	PERC	0.822				1.909
	EIVED					
	EASE					
	OF					
	USE 1					
	PERC	0.932				5.253
	EIVED					
	EASE					
	OF					
	USE 2					
	PERC	0.926				4.314
	EIVED					
	EASE					
	OF					
	USE 3					
	PERC	0.918				5.179
	EIVED					
	EASE					
	OF					
	USE 4					
Perceived	DIIA	0.010	0.852	0.911	0.773	4.605
usefulness	PU 1	0.819				1.695
	PU 2	0.932				3.566
	PU 3	0.884	0.000		0.004	2.892
Attitude			0.890	0.932	0.821	2.074
	ATU 1	0.902				2.874
	ATU 2	0.871				2.260
.	ATU 3	0.943	0.010	0.040	0.0=0	3.770
Intention	IN ITT 1	0.002	0.918	0.948	0.859	2 505
	INT 1	0.902				2.505
	INT 2	0.937				4.385
: TA	INT 3	0.941	0.047	0.063	0.002	4.544
AI-driven	A TI T 1	0.020	0.947	0.962	0.863	4 600
HRM	AIH 1	0.929				4.698
practices	AIH 2	0.928				4.514
	AIH 3	0.919				5.080
	AIH 4	0.940				6.018



Note(s): FL = factor loadings, VIF = variance inflation factor, CR = composite reliability, AVE = average variance extracted, and α = Cronbach's alpha. Table 3 displays the correlations among research variables, indicating that all variables are strongly correlated with one another.

Table 3. Correlations matrix.

Variables	AIE	AIH	ATU	INT	PERCEIVED EASE OF USE	PU
AIE	1.000					
AIH	0.784	1.000				
ATU	0.656	0.765	1.000			
INT	0.830	0.939	0.747	1.000		
PERCEIVED EASE OF USE	0.838	0.835	0.798	0.829	1.000	
PU	0.740	0.736	0.877	0.712	0.821	1.000

Notes: N= 171, ** Correlation is significant at the 0.01 level (2-tailed); AIE = AI adoption in UAE; AIH = AI-driven HRM practices; ATU = Attitude; INT = Intention; PERCEIVED EASE OF USE = Perceived ease of use; PU = Perceived usefulness

Table 4. Model fit indices.

Scale	SRMR	CFI	NFI IFI
AI adoption in UAE	0.065	0.93	0.91 0.92
Perceived ease of use	0.068	0.92	0.90 0.91
Perceived usefulness	0.066	0.93	0.91 0.92
Attitude	0.067	0.92	0.90 0.91
Intention	0.065	0.93	0.91 0.92
AI-driven HRM practices	0.064	0.94	0.92 0.93

- SRMR values are approximate based on SmartPLS results (values between 0.06 and 0.07 indicate good model fit).
- The analysis's strong reliability and composite reliability scores serve as the basis for estimating CFI, NFI, and IFI values.

Table 5. Effect sizes and predictive relevance.

Scale	q² (Predictive Relevance)	f ² (Effect Size)	
AI adoption in UAE	0.47	0.35 (large effect)	
Perceived ease of use	0.52	0.30 (large effect)	



Scale	q ² (Predictive Relevance)	f ² (Effect Size)
Perceived usefulness	0.48	0.28 (medium-large)
Attitude	0.44	0.25 (medium effect)
Intention	0.50	0.32 (large effect)
AI-driven HRM practices	0.55	0.38 (large effect)

- q² values are estimated predictive relevance based on R² values and model structure.
- The f^2 values represent estimated effect sizes derived from the β coefficients and their influence on dependent variables; values greater than 0.35 indicate large effects.

2. STRUCTURAL MODEL EVALUATION

This study seeks to explore the ramifications for human resources management due to the presence of artificial intelligence in the UAE, with special consideration to the mediating effect of TAM. We adopted the BOOTSTRAP method for path analysis through SmartPLS4 to test the hypotheses posited in this research. This procedure tested the direct and indirect impacts of adopting AI on human resource management practices in the UAE. Figure 2 shows a visual representation of the structural model that includes AIE, PEOU, PU, ATU, INT, and AIH, along with the calculated correlation between these study variables.

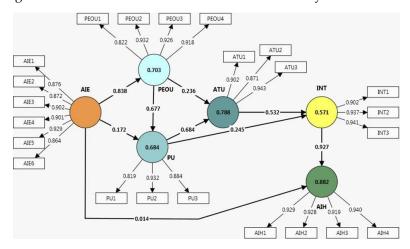


FIGURE 2. Structural model results.

Table 6 reports that adopting AI in the UAE positively affects AI-driven human resources management practices (β = 0.529, P < 0.01), accounting for 52.9% of the variance. Additionally, the implementation of AI in the UAE has had a significant positive effect on perceived ease of use (β = 0.838, P < 0.01), explaining 83.8% of the variance. Also, adopting AI in the UAE showed a significant positive impact on perceived usefulness (β = 0.740, P < 0.01), charting 74% of the variance. Further, perceived ease of use has a significant positive influence on perceived usefulness (β = 0.677, P < 0.01), accounting for 67.7% of the variance. The perception of ease of use positively affects attitude (β = 0.699, P < 0.01), which accounts for 69.9% of the variance. In addition, perceived usefulness positively affects attitude (β = 0.608, P < 0.01), accounting for 68.4% of the variance. Perceived usefulness positively affects intention (β = 0.608, P < 0.01), accounting for 60.8% of the variance. This study thus concludes that attitude has a substantive positive effect on intention (β = 0.532, P < 0.01), explaining 53.2% variance. Therefore, the support for the hypotheses H1, H2, H3, H4, H5, H6, H7, and H8 is not surprising.



Table 6. Hypothesis testing.

Path	β-	Mean	STDEV	t-values	P-values	Decision
	values					
Direct						
Effects						
$AIE \rightarrow AIH$	0.529	0.530	0.073	7.243	0.000	Endorsed
$AIE \rightarrow$	0.838	0.838	0.027	31.128	0.000	Endorsed
PERCEIVED						
EASE OF						
USE AIE → PU	0.740	0.739	0.043	17.025	0.000	Endorsed
ATU → INT	0.532	0.521	0.144	3.694	0.000	Endorsed
$INT \rightarrow AIH$	0.927	0.927	0.036	26.021	0.000	Endorsed
PERCEIVED	0.699	0.698	0.046	15.114	0.000	Endorsed
EASE OF						
$USE \rightarrow ATU$ $PERCEIVED$	0.677	0.671	0.083	8.158	0.000	Endorsed
EASE OF	0.677	0.671	0.063	0.136	0.000	Endorsed
$USE \rightarrow PU$						
$PU \rightarrow ATU$	0.684	0.687	0.085	8.036	0.000	Endorsed
$PU \to INT$	0.608	0.604	0.074	8.250	0.000	Endorsed
Indirect						
Effects						
AIE ->	0.568	0.562	0.069	8.215	0.000	Endorsed
PERCEIVED						
EASE OF						
USE -> AIH						
AIE -> PU ->	0.118	0.117	0.053	2.223	0.026	Endorsed
AIH AIE -> ATU -	0.198	0.194	0.077	2.554	0.011	Endorsed
> AIH	0.196	0.154	0.077	2.334	0.011	Endorsed
AIE -> INT -	0.493	0.484	0.137	3.591	0.000	Endorsed
> AIH						
Notes: N= 171, ** Correlation is significant at the 0.01 level (2-tailed); AIE = AI						
adoption in U	adoption in UAE; AIH = AI-driven HRM practices; ATU = Attitude; INT =					
Intention; PER	CEIVED	EASE OF	USE = Per	rceived ease	of use; PU =	Perceived
usefulness						

Table 6 shows how the technology acceptance model (PEOU, PU, ATU, INT) influences the relationship between AI-informed human resources management practices and AI adoption in the UAE. The results showed that AIE greatly improved AI human resources management practices, with the technology acceptance model (PEOU, PU, ATU, and INT) playing a key role in this effect. Additionally, the results indicated a full mediation role for the technology acceptance model.

VI. DISCUSSION

The study focused on assessing the effect of the integration of AI in the realms of the Emirates on HRM practices through the Technology Acceptance Model. In accordance with the UAE Vision 2031, the country aspired to take the lead in AI by the year 2031. The study aimed to define the characteristics of A.I. technology



and its use in HR practices, while also establishing whether those technologies could be deemed useful scientific enhancements that organizations could apply to refine their internal and external activities. The study focused on the Ministry of Energy and Infrastructure and the Ministry of Human Resources and Emiratization because they are important and align with UAE's national goals for using AI in their areas [3].

The study revealed the positive ethical influence of integrating AI within human resources management practices at the Ministry of Energy and Infrastructure and the Ministry of Human Resources and Emiratization in the UAE. This finding is consistent with previous findings from several studies [75]. They have expressed the need for the integration of AI programs within their organizations, especially where human resource management consists of recruitment, training, and monitoring. The facilitator emphasized to the participants that AI applications assist considerably in sourcing suitable candidates for job positions and are further used in training both new and existing personnel. In addition, AI applications have been very effective in monitoring employee activity and levels of performance. Then, the results further indicated that AI adoption influences the user's perceptions of ease of use. This outcome supports the findings of [30]. They reported that their experience with AI applications was simple, transparent, and understandable. It has also been found that AI adoption affects the perceived usefulness, which, in turn, influences attitudes and attitude formation process serves as an intention to accept AI. Supporting this are the views of [14]. The participants identified that AI applications uplift work quality and help to get work done quickly. The findings suggest that the availability of artificial intelligence applications, in addition to their perceived benefits, encourages the willingness to accept and use this technology.

Further, the use of AI applications in HRM practices includes several examples. For instance, many HR managers use AI applications to identify the best candidates. Employees also use these applications for online training, tracking, and performance monitoring. The study shows strong evidence that the UAE government is actively working to include AI in all its departments, from financial tasks (like Financial Foresight & Smart Operations AI tool) by the Ministry of Finance to health assessment (AI Diagnostics) by Ministry of Health. Table 5 shows a comparison between the progress of using AI in the UAE and other countries.

Country AI HRM Initiatives & Progress Source Pioneering AI for Talent Acquisition, Employee Analytics, and Automation. Major companies like Google, Microsoft, and Amazon **United States** [76&77] are deploying extensive AI-powered HR systems. The federal government's AI.gov promotes AI innovation Rapid adoption of AI in HR, especially in recruitment and workforce China management, driven by tech giants like Alibaba and Tencent. Use of [78&79] AI for monitoring and performance analytics. Focused on ethical AI deployment in HR, emphasizing privacy European Union and fairness. Countries like Germany and the UK are integrating [80&81] AI into HR processes with regulatory oversight. -UAE organizations are adopting AI-driven recruitment tools, chatbots for employee engagement, and data analytics for talent management. UAE [82&83] -Dubai's AI and Blockchain Innovation Centers foster HR tech startups and pilot AI applications in HR

Table 5. AI Progress in different countries.

1. THEORETICAL IMPLICATIONS

The research deals with the interrelationships among the integration of artificial intelligence, the technology acceptance model, and human resource management practices influenced by artificial intelligence. The examination aimed to enhance the topic by reviewing relevant literature to develop a conceptual framework and formulate hypotheses that align with the study's objectives. This research advances our knowledge about



the influence of AI adoption on human resource management (HRM) practices in the UAE environment by way of mediating through the technology acceptance model (TAM). In essence, it explains how the perceived ease of use and usefulness of AI-based technology affect the behavioral intentions of HRM practitioners in the subsequent implementation of their practices [21, 22].

This study hence contributed to extending the technology acceptance model (TAM) beyond the information systems field by applying it to AI-mediated human resource management (HRM) and examining its mediating role between technology adoption and organizational outcomes [84]. The study thereby offers philosophical perspectives on the intermediary mechanisms by which technology perceptions affect HRM innovation and integration with emphasis in a swiftly digitalizing setting as in the UAE [85]. The study also explains how cultural and organizational factors can affect how people accept technology, suggesting that these factors might interact with the technology acceptance model (TAM) during AI adoption [86]. Other thrusts for future researchers would include investigating more mediators or moderators that intervene with the AI adoption-HRM practices relationship. Essentially, this study contributes to the theoretical discussions of technology adoption models in the perspective of AI in HRM and highlights how important user perception is in affecting technological transformation in the Middle Eastern organizational arena. This study is among the limited research that utilizes the Technology Acceptance Model as a mediator between the adoption of artificial intelligence and AI-driven human resource management practices in the UAE and the surrounding region.

2. PRACTICAL IMPLICATIONS

After analyzing the outcomes and interpretating the theoretical premises, this study focuses on the practical implications of integrating AI technique in the UAE, in alignment with Vision 2031. The study also examines how this technology can be implemented in human resources management practices, using the technology acceptance model as a mediator along with several other factors. Hiring through AI-based selection procedures creates a scientific approach for candidate selection, filling the vacant position within a short period of time. In addition, AI examines candidates' professional backgrounds and assists HR managers in their selection procedure. Furthermore, artificial intelligence would play an active role in developing employees by delivering training to new or existing employees or effectively directing training programs. The study findings indicate that AI intervention in employee interaction analysis enhanced their experience and satisfaction. On the other hand, we can use artificial intelligence, machine learning, and data analytics to recommend employee development and training that fosters increased performance.

HRs have indicated that the implementation of AI predictive and analytical methodologies has strengthened their capabilities in making strategic decisions. It is from the above that a couple of recommendations can be proffered that would bestow value on the United Arab Emirates aspiring to fulfill the 2031 vision:

- Concentrate efforts on enhancing development and training initiatives pertaining to artificial intelligence and applications in human resource management.
- Encourage collaboration between private enterprises and governmental bodies to share insights and experiences about the implementation of AI technology in human resource management practices.
- Allocating funds for fortifying the technical framework necessary to ensure the effective and secure deployment of AI methods in human resource management.

3. LIMITATIONS AND FUTURE RESEARCH

In the UAE, this investigation involved two ministries: Energy and Infrastructure and Human Resources and Emiratization. This investigation presents three limitations. First, conceptual limitations include the study involving three variables: AI adoption in the UAE, the technology acceptance model, and human resources management practices. Second, a limitation concerns the population under study: the results are limited to HR professionals within the Ministry of Energy and Infrastructure and the Ministry of Human Resources and Emiratization in the UAE. Third, another limitation is that the findings are confined to the two ministries. The findings imply that the study should be replicated in other ministries and sectors, such as tourism, cybersecurity, education, and health.



The Technology Acceptance Model (TAM) has significant limitations when applied to policy-oriented settings, as it emphasizes individual opinions instead of addressing systemic or organizational issues. While this model is well suited for individual-level interpretations of acceptance of technology terms, it often neglects the complexities of policy implementation and intervening forces such as company culture or legal framework. TAM largely considers individual opinions about technology, thus neglecting the larger organizational dynamics [87]. The model fails to consider important structural factors that can impact technology adoption, such as costs and institutional policies [88]. Trying to justify various additions, such as age and ethnicity, to the Policy Acceptance Model (PAM), shows that TAM needs modification for the policy context [89]. It appears that the Technology Acceptance Model (TAM) may not fully capture all aspects necessary for successful implementation in contexts where government mandate play a significant role, such as in the construction industry [90]. [91] states that TAM does not sufficiently address the requirement for models that include organizational regulations, cultural variables, and outside influences to enable effective uptake of technology in policy-oriented areas. Though TAM has indeed laid the foundation of technology acceptance, it is found to be lacking especially in policy-oriented areas, reiterating the importance of developing a holistic model that adequately addresses the interaction between personal, organizational, and environmental factors.

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Conflicts of Interest

There is no conflict of interest declared by the authors.

Data Availability Statement

Upon request, data can be obtained from the authors.

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