

# Incorporating Artificial Intelligence in Human Resources Management in Small and Medium Companies: Descriptive Study

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## Abstract

This study explores the role of Artificial Intelligence (AI) in human resources management in HR practices, particularly in the context of selecting and attracting human resources, involving 110 participants of HR departments and workers in HR management in all small and medium-sized companies and a random (probabilistic) sample was selected from various administrative levels (manager - supervisor - specialist - Other) from Jordan. The research utilized a questionnaire-based approach and SPSS analysis. The primary objectives of the study were to explore the concept and components of AI, elucidate its significance and role in HR management, and assess the extent of AI utilization within this domain. Methodologically, a descriptive analytical method was adopted, with data collected from directors and workers in HR management through a random distribution of 375 questionnaires via email. Of these, 110 responses were deemed usable for analysis. The results revealed a predominance of male respondents (74.5%), with the highest representation found in the 20-35 age group. Most participants held positions classified as 'other' in terms of academic rank and experience. Furthermore, the questionnaire exhibited high stability and coherence, as evidenced by a Cronbach alpha coefficient exceeding 0.70. Despite this, respondents expressed low agreement regarding the company's use of AI in HR management and the process of selecting and attracting HR. Factors influencing the use of

hiring engines and software explained 72.6% of the variance, underscoring the significance of technological integration in HR practices. In conclusion, the study emphasizes the importance of understanding demographic factors and their impact on AI acceptance within HR management, while also recommending further research and cross-border collaboration to effectively harness AI's potential in addressing HR challenges. Notably, an increase in the company's use of hiring engines and software was positively associated with efficient processing of data and information about job seekers, with a  $\beta$  value of 0.540.

**Keywords:** Artificial Intelligence (AI), Human Resource Management, SPSS Analysis, Questionnaire, Cronbach Alpha Coefficient.

### **Introduction**

The 2023 marks the workplace transformation as Artificial Intelligence (AI) is introduced into HR Management. Once considered a science novel, HR managers consider it a disruptor in the HR industry<sup>1</sup>.

In the age of Industry, the Human Resource (HR) function assumes a crucial role in bridging the divide between technology and human resources. While technology is gradually taking over tasks traditionally handled by human resources, there is an increasing demand for adaptable HR functions to effectively tackle the complexities of people management. Technology, in this context, can contribute to instilling agility in the HR process (Yawalkar, 2019). Agility, characterized by the ability to swiftly and seamlessly respond to changes, is not a novel concept and has been embraced by major corporations like Google, Apple, Facebook, Amazon, and Microsoft. Within the realm of HR, agility entails the capability to adjust and cultivate individuals and processes in the face of rapid and unpredictable changes, supporting people, strategic initiatives, and organizational adaptability. HR Agility proves particularly relevant in dynamic HR functions where standardizing processes is challenging (Sanyaolu & Atsaboghena, 2022)

By integrating AI with HR, organizations can see the well-being of job seekers and workers improve as a result of the comprehensive human element of HR combined with technological intelligence. However, the combination of AI and human resource management will also increase the value of achieving better and faster results. This is because it uses pre-programmed algorithms to make real-time decisions and uses consistent computing methods (Murugesan et al., 2023)

The integration of AI with HR management practices is changing how the municipality recruits, manages, and engages the workforce using AI, as machines are now able to make decisions based on historical data and behavioral patterns with greater accuracy than people. As a result of this transformation, all Physical labor has been replaced by machines, forcing HR professionals to take on more strategic roles (Cascio & Montealegre, 2016). It presents the benefits of applying AI in various HR management units and addresses the obstacles facing the application of AI in HR management. Which contributes to enhancing the effectiveness and efficiency of HR functions (Alazam, 2021). In countries where technology and digital skills are more advanced, like those in developed regions, AI is more commonly used in HR management. Companies there have better access to resources and expertise for implementing AI effectively. Plus, people are generally more open to embracing new technology, which makes adoption easier. On the flip side, in less developed countries,

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<sup>1</sup> Future of jobs 2023: how technology is changing every workplace | World Economic Forum (weforum.org)

adopting AI in HR faces more challenges. Things like limited access to technology, poor infrastructure, and lower digital skills among employees make it harder for companies to use AI effectively. Additionally, there are issues with budget constraints, regulations, and a lack of skilled people to work with AI<sup>2</sup>.

### **Study Problem and Questions**

HR management no longer works in the traditional manual way through files and paper, but efforts are being made to leverage the technological elements represented by machine-based AI, and humans store, archive, and automate files (Tambe et al., 2019)

The evolving landscape of HR management poses a shift from the conventional, manual approach characterized by files and paperwork. In the contemporary scenario, there's a discernible move towards harnessing the potential of technology, specifically machine-based Artificial Intelligence (AI) (Harney & Collings, 2021). This transformation is not about replacing human involvement but rather about integrating AI to handle tasks like storing, archiving, and automating files (Jack, 2020)

The challenge lies in navigating this transition effectively. HR professionals are tasked with adapting to these technological elements, ensuring a seamless integration of AI alongside human expertise. The fundamental shift from manual processes to automated ones brings about a set of questions: How can the human touch be preserved in a tech-driven HR environment? What challenges arise in aligning AI processes with human-centric values, such as empathy and understanding? (Jarrahi, 2018)

Moreover, there's the aspect of workforce adjustment. How do HR teams transition from a paper-oriented mindset to one that embraces AI tools for file management? What training and upskilling initiatives are needed to equip HR professionals with the necessary skills to navigate this digital transformation? These questions reflect the broader concern of striking a balance between the efficiency offered by AI and the irreplaceable human nuances essential in HR management.

In essence, the study problem highlights not just a technological shift but a cultural and procedural transformation in HR, this stems from observations of how the adoption of AI in HR practices necessitates changes not only in technology but also in the way people work and the processes they follow. The study probably found that the company's culture is changing, workflows are different, and HR folks need new skills because of this big transformation. It really looks closely at how to bring AI into the mix without losing what makes us human. It shows we need to mix new tech with good old-fashioned human understanding in HR management.

Through the study, the following questions were answered:

**RQ1.** What is the concept of artificial intelligence? What are its components?

**RQ2.** What are the components of artificial intelligence?

**RQ3.** How has artificial intelligence been integrated with human resource management?

**RQ4.** How was the work done after integrating artificial intelligence with human resources?

### **The Importance of Study**

This study holds significant importance on both scientific and practical fronts.

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<sup>2</sup> These countries rank highest for digital competitiveness | World Economic Forum (weforum.org)

The importance of the study is highlighted in:

### **Scientific Importance**

Libraries and research institutions can gain substantial advantages from the results of this study. The research provides a valuable vision for integrating Artificial Intelligence (AI) into Human Resource (HR) management, addressing challenges, and meeting expectations.

As a matter of fact, these professionals can gauge the key points raised in the study and develop a strong cognition of how AI can be equipped into HR approach. The research has higher chances of success as it gives special attention to how AI can be used practically with this concern. This helps overcome some of the limitations and maximize human resources functions (Harney & Collings, 2021). Such a acquired knowledge makes machine experts' work easier and gives the useful guiding principles with which they use AI technologies bypassing the challenges and improving the efficiency of HM, that follow study's recommendations if they work properly. This assumption is reinforced by what the study claims about the understanding of professionals with the effective implementation of AI in their HR functions, that makes it easier for them to get over their barriers and in turn maximize their HR functions.

### **Practical Importance**

**Increasing HR Significance:** The research shows a value of AI integration in different areas of operations of HR as well as an importance of HR based role in businesses. The goal can be accomplished by strengthening the HR processes in a way that they do not just remain as a substitute for the firm but lead it to significant value addition too. **Creating Added Value:** The report focuses as the role of innovative tech tool of incorporating in this HR systems that is outstanding. Through AI responses, HR management problems and needs can be addressed perfectly, and so organizations unlock further value to plow back into their existing HR procedures (Chowdhury, et al., 2023). On the one hand, this paper goes beyond there are academic conversations of the topic. On the other hand, it provides something of actionable nature for the practitioners. It will serve as a guide to: Make good of AI application for the proper HR management that is of value and produces results.

### **Research Objectives**

**RO1.** Investigate the concept of AI and its building blocks.

**RO2.** Describe the significance of AI and its function in HR management.

**RO3.** Know the extent of the use of AI techniques in HR management

### **Research Hypotheses**

**HO1.** Are there statistically important differences in the opinions of the study sample at the level of (0.05) about integrating AI into the Obstacles and Expectations related to HR management due to the study variables represented by (gender)?

**HO2.** Are there statistically important differences in the opinions of the study sample at the level of (0.05) about integrating AI into the Obstacles and Expectations related to HR management due to the study variables represented by (age)?

**HO3.** Are there statistically important differences in the opinions of the study sample at the level of (0.05) about integrating AI into the Obstacles and Expectations related to HR management due to the study variables represented by (Academic rank)?

**HO4.** Are there statistically important differences in the opinions of the study sample at the level of (0.05) about integrating AI into the Obstacles and Expectations related to HR management due to the study variables represented by (years of experience)?

## **Theoretical Literature and Previous Studies**

### **Theoretical Literature**

Artificial intelligence (AI) encompasses applications and systems that can learn, encourage, and make decisions by simulating human thinking processes using statistical analysis and computation simulations. Its applications are varied such as financial evaluation, healthcare diagnosis, and translators of languages (Aljohani & Albliwi, 2022). AI is essentially teaching computers to think as humans do—that is, to learn from data, make decisions, and solve problems, military operations, human resources, enterprise, and education, among others (Harney & Collings, 2021)

Similarly, HRM (human resource management) is the strategic approach to effectively handling the workforce of an organization. Employment, education, performance management, pay, and employee relations are all included in this. Using fancy tech stuff like robots, and smart machines that can learn, and understand human language naturally to make HR tasks easier and better is what we mean when we talk about bringing AI into HR management. (Tewari & Pant, 2020, December)

### **Human Resources and their Administrative Methods**

The human element is considered one of the most important elements that influence the success of the work of economic and service institutions, and an increase in the level of its performance leads to an increase in the level of effectiveness of the institutions. Universities are considered among the important institutions that serve the individual and society, as they are considered among the prominent sources in developing and upgrading HR (Matsa & Gullamajji, 2019). Because of the science and knowledge, it provides that helps innovation and creativity in work, which in turn leads to achieving competitive advantage by reaching advanced and prosperous levels. As for its administrative methods; Administrative tasks are performed by administrators to streamline institutional operations and accomplish their objectives, through the ability to implement their administrative processes represented by planning, direction, implementation, control, and decision-making (Mohammad & Darwish, 2022)

Among the applications of AI that can be used to attract and select HR are expert systems designed to simulate human behavior in solving problems and making comparison and ranking decisions in the event of There is also machine learning, which is designed to filter natural language processes to produce the best results, which is used to analyze human language, as well as the application of Vision: A series of scales designed on neuroscience principles to measure perceptual characteristics. and emotional, and finally the mechanism, which is an application used to analyze images (Jha, 2023)

The use of artificial intelligence techniques in the practices of attracting and selecting HR achieves effectiveness, achieving several benefits that will facilitate these practices and bring about positive transformation, and among those benefits are the following:

- Reducing time and reducing costs (Aljohani & Albliwi, 2022)
- Speed of completion and increased efficiency (Sun, 2019)
- Reducing errors (Meister, 2019)
- Neutralize human bias and discrimination (Sun, 2019)

-Enriching learning and organizational development (Musa, 2019)

### **Previous Studies**

Several previous studies that were either directly or indirectly connected to the current study had been gathered by the researcher, who then logically organized them from most recent to oldest.

- **Murugesana, Subramanianb, Srivastavaa and Dwivedic (2023): A study of Artificial Intelligence impacts on Human Resource Digitalization in Industry 4.0.**

The research team will convene to go over how artificial intelligence (AI) is influencing the labor environment, particularly the effects of the Industry 4.0 (robotics, AI and Internet of things) development. It stresses how AI reshaping recruitment process point out that HR professionals need to revise their practices to align with the new reality. 271 HR managers who were working in different corporates participated in the study where AI impact on the human ability and functions of HR department in particular were considered. While, Artificial intelligence is a great tool for HR and employees, there exist an elevated risk of unethical practices and cyber insecurity that needs to be addressed.

The results of this paper show that in the industry 4.0 framework, AI has evolved into a power, which saves time and takes decisions. However, this also leaves behind major problems like biasness and lack of security in mind. For the business to fully harness the potential of AI and ethically adopt it, these very issues of moral qualms and digital divide have to be overcome (Murugesan et al., 2023).

- **Aljohani and Albliwi (2022): Impacts of Applying Artificial Intelligence on Decision-Making Quality: A Descriptive Study in Saudi Arabian Private Sector Organizations.**

Within the context of the Vision 2030's economic diversification plan, the analysis of this paper scrutinizes the influence of emergent technology (AI) on the efficiency of decision-making systems across private organizations inside Saudi Arabia. Fifteen people of such groups completed the survey which means it was based on the qualitative approach and the data collected came up which was quantitative in nature. In the context of AI applications training, relevance, and effectiveness, all of them significantly impact AI's performance in decision making. They show clearly that the stronger a given ratio between the dimensions (decision-making speed vs quality vs acceptability) is, the better the application's application is. The private sector enterprises of Saudi Arabia have to make sure that they are making use of the Artificial Intelligence (AI) applications in such a way they do become a factor of improving their operations. It taps on another main point in the respect of cooperation between SDAIA and foreign companies for the aims of AI generating as well as research. Furthermore, it is recommended to continue implementing AI in a range of business industries and encourage partnerships between the SDAIA and private institutions to organize more specialized training sessions for proficiency in successfully using AI on social health, education, agriculture and finance sphere. Summing up, this research on the various examples from the private business sector on how AI can contribute to the decision-marking process meetings the requirements of the economic revision of Saudi Arabia, called Vision 2030.

The results of this study indicate that there is concrete evidence of AI's efficacy in improving DM speed and quality in the private sector, emphasizing the need for technological advancement to boost the national economy (Aljohani & Albliwi, 2022)

- **Sanyaolu and Atsaboghena (2022) : Role of Artificial Intelligence in Human Resource Management: Overview of its benefits and challenges.**

The study examines the application of artificial intelligence (AI) in different types of human resource management (HRM) operations, including training, and onboarding. It examined how AI affects HR operations by making robots more capable of performing some jobs than people, AI enhances decision-making. This change has led to HR professionals assuming more extensive duties. Additionally, the study discussed the benefits of AI adoption in HRM along with the challenges faced by companies during its implementation. Even with the progress, work is needed. The importance of employing data wisely is emphasized in the conclusion, along with AI's potential to enhance HR planning and decision-making. It encourages businesses to completely use AI to enable them to remain competitive within the rapid-fire economy of today. More research, according to the report, is necessary to completely

The result of this study indicates that Artificial Intelligence (AI) is profoundly transforming Human Resource Management (HRM) procedures, affecting aspects such as recruitment, employee administration, and decision-making. Despite encountering hurdles in incorporating AI into HRM, such as guaranteeing the dependable use of data, the advantages are considerable (Sanyaolu & Atsaboghena, 2022)

- **Kambur & Yildirim (2022): From Traditional to Smart Human Resources Management.**

This article provides a comprehensive review of studies conducted in the field of electronic Human Resource Management (e-HRM) and smart HRM, focusing on articles published after 2014 to ensure relevance. Various search terms were employed across reputable databases such as IEEE Xplore, ALM digital library, Emerald Insight, SpringerLink, and Science Direct, supplemented by searches on Web of Science, Scopus, and Google Scholar. The qualitative research examines methods and changes in e-HRM and smart HRM, exploring the implications of human-machine interaction, AI, chatbots, Industry 4.0, and information systems in HRM. Contrary to earlier research, this present study classifies publications according to both technical and HR roles, offering a more comprehensive view of HRM. Also, this study provides information about the AI technologies that are used. The analysis explores a range of criteria according to the field, type, and subject of the articles.

The result of this study indicates that qualitative research provides a comprehensive understanding of how technology affects HRM. In addition, sheds light on the importance of AI and other digital innovations in reshaping HR practices (Kambur & Yildirim, 2022).

- **AI-Azzam (2020): The Role of Artificial Intelligence in Raising the Efficiency of Administrative Systems for Managing HR, at the University of Tabuk.**

The aim of the study is determining whether the AI helps to improve the performance level of this university's HR systems. The researcher produced the surveys, the methodology was descriptive and analytical approach. This study included 70 HR staffs (male and female) from Tabuk university based on the simple random sampling method. The study was developed around AI's outcome in administrative performance utilizing 36-item survey. Concerning variable that includes gender, time spent and level of education, data does not show that the instrument affected it in statistically significant way (at the 5% level of confidence). The researcher also suggested conducting more research in this area to expand knowledge from

small sample of this university, and hence suggested to include students from other universities in the country in the research also.

The results of this study revealed that, regarding the variables gender, years of professional experience, and the attained level of education, there was no statistically significant result in variations of the study instrument. Additionally, there were no significant differences found concerning the effect of age and years of career practice on variations across the study instrument. (Alazam, 2021)

- **Matsa and Gullamajji (2019): To Study Impact of Artificial Intelligence on Human Resource Management**

Staff is one of the most important influencers of firms' effectiveness. Numerous enterprises encounter competitive conditions in today's market where customers require their expectations to be met. These businesses, if they are to remain in this competitive environment and satisfy their customers, must apply creative business practices (for instance, in the area of Human Resources). AI-based processes such as automation, robotics, augmented intelligence and artificial intelligence increasingly challenge traditional managerial duties that were typical in the field of HRM of the not so distant past and transform organizational structure and labor relationship. Artificial Intelligence (AI) is a hot and fundamental phenomenon that is a key area which is very fast expanding and is affecting all employment in jobs all over the world. On the other hand, the use of AI in the human resources procedures of an organization can limit the possibility of such growth in the era of creative technology. Arguably, these AI and machines have a positive effect on workforce; humans build them to make the work easier than expecting people to completely give up on the idea of work. The issue lies in the question of personnel training and human staff adaptation to AI and Robots' way of cooperation at all levels. By ingraining AI into the HR practices of an organization, the performance level of the organization will be incredibly boosted, powering great analysis and excellent forecasting. Though, it can lead to concerns about job displacement, by doing that it encourages HR managers to focus on employee considerations and to anticipate the possible repercussions. The development notes that the HR processes of institutions are integrating AI at a speed in which the automated hiring is outpacing the consistent implementation of AI across other HR functions due to the associated costs. However again, the human side is an important component as in cases where AI caretaking is used, lives are improved and a brighter future is forged.

The results of this study indicated that the combination of HR procedures with AI-driven tools significantly boosts organizational performance. While lacking the emotional and cognitive depth of humans, AI showcases remarkable abilities in analysis and prediction, offering significant benefits to organizations. Despite ongoing worries regarding job displacement caused by AI, its impact ultimately hinges on how individuals adapt to its integration rather than the technology itself. While some employees may be impacted, HR leaders must prioritize their needs. While many organizations have effectively incorporated AI into recruitment processes, cost remains a hurdle. Nonetheless, AI presents optimistic opportunities to improve lives when used appropriately (Matsa & Gullamajji, 2019)

- **Yawalkar (2019): A study of artificial intelligence and its role in human resource management"**

The survey illustrates the significance of precise data analysis to providing organizations an advantage in the rapidly changing business environment of today. It presents artificial

intelligence (AI) as a helpful instrument that enhances operational effectiveness in a variety of industries, including manufacturing, marketing, finance, and human resources (HR). Managers ascertain how AI may boost output, particularly during peak hours. The study investigates how AI is affecting data analysis and recruitment. Besides, it illustrates how AI is facilitating more efficient and less difficult HR processes by depending on a variety of sources, including research papers and polls. Moreover, AI is not just a passing trend but rather a required component of economic success in this competitive environment.

The study findings indicated how artificial intelligence (AI) is changing the way hiring processes take place within modern companies. By employing AI technologies, businesses may increase productivity, enhance procedures, and sustain an advantage in this competitive environment. The study shed light on how AI could revolutionize several HR processes, such as hiring and information examination, and how this might be superior for better business performance. The velocity at which companies are adopting AI-driven solutions shows that AI has evolved from a trend to an essential component of corporate strategy. Artificial intelligence has become indispensable for human resources managers if they want to stay in today's competitive, fast-paced industry (Yawalkar, 2019).

## **Method**

### **Study Methodology**

The study used the descriptive analytical method that relies on collecting facts and data.

### **Study Population and Sample**

The study population consisted of directors of human resources departments and workers in human resources management in all small and medium-sized companies (10), from the private and governmental sectors in the field of services in Jordan. A random (probabilistic) sample was selected from various administrative levels (manager - supervisor). - Specialist - from the word - other), where (375) questionnaires were distributed and sent via e-mail, and (110) questionnaires were returned and valid for use, Table (1) shows this.

Table ( 1)

*Demographic characteristics of the study sample members*

| <b>Properties</b>          | <b>Category</b>         | <b>Repetition</b> | <b>percentage</b> |
|----------------------------|-------------------------|-------------------|-------------------|
| <b>gender</b>              | male                    | 82                | 74.5              |
|                            | female                  | 28                | 25.5              |
| <b>the total</b>           |                         | <b>110</b>        | <b>100%</b>       |
| <b>The age</b>             | From 25 – 35 years      | 62                | 56.4              |
|                            | From 36-45 years        | 15                | 13.6              |
|                            | From 46 years and older | 33                | 30.0              |
| <b>the total</b>           |                         | <b>110</b>        | <b>100%</b>       |
| <b>Academic rank</b>       | Manager                 | 8                 | 7.3               |
|                            | supervisor              | 2                 | 1.8               |
|                            | specialist              | 7                 | 6.4               |
|                            | coordinator             | 11                | 10.0              |
|                            | Other                   | 82                | 74.5              |
| <b>the total</b>           |                         | <b>110</b>        | <b>100%</b>       |
| <b>Years of Experience</b> | Less than (5) years     | 21                | 19.1              |
|                            | From (5-10) years       | 19                | 17.3              |
|                            | More than (10) years    | 33                | 30.0              |
|                            | Other                   | 37                | 33.6              |
| <b>the total</b>           |                         | <b>110</b>        | <b>100%</b>       |

Source: Prepared using SPSS software

The questionnaire was distributed electronically, and based on the answers contained in the electronic questionnaire, which numbered 110 samples, the data contained in the table indicated that the majority of the sample members were male, as their number reached 82 individuals, or 74.5%, while the smaller group consisted of 28 individuals. 25.5% of females. In the study, the 20-35 age group had the largest number of participants, with a total of 62 participants, representing 56.4%. After that, the age group 46 and above consisted of 33 individuals, representing 30.0%, and the group 36-45 represented 13.6%. In the study, most participants fell into the "other" category for academic rank, making up 74.5%, while coordinators made up 10.0%. As for years of experience, the "other" category had the highest representation at 33.6%, followed closely by the "more than 10 years" category at 30.0%.

### **Stability of the Study**

The Cronbach alpha coefficient method was used to check the questionnaire's reliability and validity in assessing the impact of transformational leadership on knowledge management. The table displays the coefficients for each dimension. A Cronbach Alpha reliability coefficient higher than 0.70 indicates stability and internal consistency among the questionnaire items, while a coefficient lower than 0.70 suggests a lack of stability and consistency among the items.

Table ( 2 )

*Cronbach's alpha coefficient*

| <b>variable</b>                                                                                                      | <b>value of<br/>Cronbach's<br/>alpha<br/>coefficient</b> |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| The company uses hiring engines and software to search for job applicants                                            | .923                                                     |
| The company has a strategy for digital transformation in human resources practices                                   | .921                                                     |
| The company's leadership supports the shift toward the use of artificial intelligence.                               | .918                                                     |
| The company stimulates human resources creativity in artificial intelligence skills                                  | .918                                                     |
| The company is interested in training on artificial intelligence techniques in human resources practices.            | .924                                                     |
| The company has the technical environment to use artificial intelligence in human resources practices.               | .919                                                     |
| The company designs functional tests automatically in accordance with the job description.                           | .919                                                     |
| The company uses artificial intelligence technologies to communicate with job applicants.                            | .912                                                     |
| The company uses software, applications or resume screening algorithms in human resources management.                | .924                                                     |
| The company uses artificial intelligence technologies (such as auto responders) to answer job applicants' questions. | .917                                                     |
| The company uses facial expression analysis software to screen job applicants.                                       | .919                                                     |
| The company's use of artificial intelligence techniques in human resources management                                | .926                                                     |
| There is a high demand for applications for the jobs offered.                                                        | .958                                                     |
| Hiring candidates are easily contacted.                                                                              | .958                                                     |
| The company's human resources department can access electronic databases of job seekers on job search platforms.     | .956                                                     |
| Human resources job seeker data is carefully analyzed.                                                               | .956                                                     |
| Job interviews are effectively conducted remotely.                                                                   | .956                                                     |
| The company handles huge data of job seekers easily.                                                                 | .956                                                     |
| Errors in processing data and information for applicants are few.                                                    | .958                                                     |
| The company practices effective marketing for job advertisement campaigns.                                           | .957                                                     |
| It takes a short time to process data and information for job seekers.                                               | .956                                                     |
| Personal interviews with large numbers of candidates for employment are easily conducted.                            | .956                                                     |
| Job candidates' information is treated confidentially.                                                               | .957                                                     |
| The skills and competencies of job candidates are carefully analyzed.                                                | .958                                                     |
| It facilitates the identification of talent among human resources candidates for employment.                         | .957                                                     |

|                                                                                   |             |
|-----------------------------------------------------------------------------------|-------------|
| Competition tests for candidates are appropriate to job levels.                   | .957        |
| Objectivity is achieved in selecting between job candidates.                      | .956        |
| The selection process between candidates takes place in a short time.             | .956        |
| An accurate comparison of human resources candidates for employment is available. | .957        |
| Hiring candidates' skills match job requirements.                                 | .957        |
| <b>Selection and attraction of human resources</b>                                | <b>.959</b> |
| <b>The tool as a whole</b>                                                        | <b>.971</b> |

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Source: Prepared using SPSS software

Cronbach alpha coefficient, scoring higher than 0.70, signals that all items in the questionnaire maintain stability and internal consistency. Specifically, the questionnaire as a whole scored 97.1% on the Cronbach alpha coefficient, indicating robust internal consistency across its items.

### **Normal Distribution Test**

Based on the results of the Kolmogorov-Smirnov test for normal distribution presented in Table (3), all variables exhibit statistically significant deviations from a normal distribution, as indicated by the p-values (Statistical significance) being less than the chosen significance level of 0.05. This suggests that the assumption of normality is violated for all variables tested. Therefore, parametric tests that assume a normal distribution may not be appropriate for analyzing these variables.

Table ( 3 )

*Results of the Kolmogorov-Smirnov test for normal distribution*

| <b>variable</b>                                                                                                      | <b>Test laboratories</b> | <b>Degrees of freedom</b> | <b>Statistical significance</b> |
|----------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------|---------------------------------|
| The company uses hiring engines and software to search for job applicants                                            | .277                     | 82                        | .000                            |
| The company has a strategy for digital transformation in human resources practices                                   | .337                     | 28                        | .000                            |
| The company's leadership supports the shift toward the use of artificial intelligence.                               | .282                     | 82                        | .000                            |
| The company stimulates human resources creativity in artificial intelligence skills                                  | .301                     | 28                        | .000                            |
| The company is interested in training on artificial intelligence techniques in human resources practices.            | .268                     | 82                        | .000                            |
| The company has the technical environment to use artificial intelligence in human resources practices.               | .322                     | 28                        | .000                            |
| The company designs functional tests automatically in accordance with the job description.                           | .268                     | 82                        | .000                            |
| The company uses artificial intelligence technologies to communicate with job applicants.                            | .326                     | 28                        | .000                            |
| The company uses software, applications or resume screening algorithms in human resources management.                | .278                     | 82                        | .000                            |
| The company uses artificial intelligence technologies (such as auto responders) to answer job applicants' questions. | .306                     | 28                        | .000                            |
| The company uses facial expression analysis software to screen job applicants.                                       | .240                     | 82                        | .000                            |
| The company's use of artificial intelligence techniques in human resources management                                |                          |                           |                                 |
| There is a high demand for applications for the jobs offered.                                                        | .260                     | 62                        | .000                            |
| Hiring candidates are easily contacted.                                                                              | .485                     | 15                        | .000                            |
| The company's human resources department can access electronic databases of job seekers on job search platforms.     | .204                     | 33                        | .001                            |
| Human resources job seeker data is carefully analyzed.                                                               | .274                     | 62                        | .000                            |
| Job interviews are effectively conducted remotely.                                                                   | .300                     | 15                        | .001                            |
| The company handles huge data of job seekers easily.                                                                 | .313                     | 33                        | .000                            |

|                                                                                              |      |    |      |
|----------------------------------------------------------------------------------------------|------|----|------|
| Errors in processing data and information for applicants are few.                            | .254 | 62 | .000 |
| The company practices effective marketing for job advertisement campaigns.                   | .251 | 15 | .012 |
| It takes a short time to process data and information for job seekers.                       | .350 | 33 | .000 |
| Personal interviews with large numbers of candidates for employment are easily conducted.    | .243 | 62 | .000 |
| Job candidates' information is treated confidentially.                                       | .337 | 15 | .000 |
| The skills and competencies of job candidates are carefully analyzed.                        | .319 | 33 | .000 |
| It facilitates the identification of talent among human resources candidates for employment. | .228 | 62 | .000 |
| Competition tests for candidates are appropriate to job levels.                              | .373 | 15 | .000 |
| Objectivity is achieved in selecting between job candidates.                                 | .349 | 33 | .000 |
| The selection process between candidates takes place in a short time.                        | .238 | 62 | .000 |
| An accurate comparison of human resources candidates for employment is available.            | .535 | 15 | .000 |
| Hiring candidates' skills match job requirements.                                            | .272 | 33 | .000 |

**Selection and attraction of human resources**

Source: Prepared using SPSS software

The response range ranges from (1-5) according to a five-point Likert scale, as follows:  
Table ( 4 )

*Scale of Answers*

| Answer alternatives | Strongly Agree | agree | neutral | I do not agree | Strongly Disagree |
|---------------------|----------------|-------|---------|----------------|-------------------|
| Degree              | 5              | 4     | 3       | 2              | 1                 |

The following classification was relied upon to judge the arithmetic averages as follows:  
Category range= (maximum – minimum) /Number of options = (1-5) /5= 0.80  
The distribution of categories became as follows:

Table ( 5 )

*Scale for determining the level of suitability for the arithmetic mean*

| Arithmetic mean     | Evaluation degree |
|---------------------|-------------------|
| 1- (1.08 and below) | Very low score    |
| 2- (1.81 – 2.60)    | Low grade         |
| 3- (2.61 – 3.40)    | Average degree    |
| 4- (3.41 – 4.20)    | High degree       |
| 5- (4.21 and above) | Very high degree  |

### **Descriptive Analysis**

In this section, calculations were performed on the study sample members' responses for each dimension of the study, including arithmetic means, standard deviations, degree, and rank.

First: The Company's use of artificial intelligence techniques in human resources management in many fields such as

- hiring engines and software to search for job applicants
- digital transformation in human resources practices
- leadership supports the shift toward the use of artificial intelligence
- stimulates human resources creativity in artificial intelligence skills
- interested in training on artificial intelligence techniques in human resources practices.
- technical environment to use artificial intelligence in human resources practices.
- designs functional tests automatically in accordance with the job description
- uses artificial intelligence technologies to communicate with job applicants
- uses software, applications or resume screening algorithms in human resources management.
- uses artificial intelligence technologies (such as autoresponders) to answer job applicants' questions
- uses facial expression analysis software to screen job applicants

Table (6) Shows the arithmetic means and standard deviations for the questions related to the axis the Company's use of AI techniques in HR management

Table ( 6 )

*The arithmetic means and standard deviation of the axis the Company's use of artificial intelligence techniques in human resources management*

| Phrase                                                                                                              | Arithmetic mean | standard deviation | degree     |
|---------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|------------|
| The company uses hiring engines and software to search for job applicants                                           | 1.65            | .724               | Low        |
| The company has a strategy for digital transformation in human resources practices                                  | 1.85            | .826               | Low        |
| The company's leadership supports the shift toward the use of artificial intelligence.                              | 1.96            | .789               | Low        |
| The company stimulates human resources creativity in artificial intelligence skills                                 | 1.86            | .862               | Low        |
| The company is interested in training on artificial intelligence techniques in human resources practices.           | 1.85            | .876               | Low        |
| The company has the technical environment to use artificial intelligence in human resources practices.              | 2.08            | .879               | Low        |
| The company designs functional tests automatically in accordance with the job description.                          | 1.87            | .836               | Low        |
| The company uses artificial intelligence technologies to communicate with job applicants.                           | 2.07            | .945               | Low        |
| The company uses software, applications or resume screening algorithms in human resources management.               | 2.25            | 1.121              | Low        |
| The company uses artificial intelligence technologies (such as autoresponders) to answer job applicants' questions. | 1.95            | .952               | Low        |
| The company uses facial expression analysis software to screen job applicants.                                      | 1.97            | .893               | Low        |
| <b>General Average</b>                                                                                              |                 | <b>2.61</b>        | <b>Low</b> |

Source: Prepared using SPSS software

The results in Table (6) showed that the overall average for the axis of the company's use of AI technologies in HR management as a whole was (2.61) (low), which is less than (3), which means that the study sample members do not agree with the company's use of AI techniques in HR management.

Second: Selection and attraction of human resources. Table (7) shows the arithmetic mean and standard deviations for questions related to selecting and attracting HR.

Table ( 7 )

*The arithmetic means and standard deviation of the human resources selection and hiring axis*

| Phrase                                                                                                           | Arithmetic mean | standard deviation | degree     |
|------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|------------|
| There is a high demand for applications for the jobs offered.                                                    | 1.89            | .828               | Low        |
| Hiring candidates are easily contacted.                                                                          | 1.82            | .756               | Low        |
| The company's human resources department can access electronic databases of job seekers on job search platforms. | 1.97            | .795               | Low        |
| Human resources job seeker data is carefully analyzed.                                                           | 2.34            | .979               | Low        |
| Job interviews are effectively conducted remotely.                                                               | 2.05            | .902               | Low        |
| The company handles huge data of job seekers easily.                                                             | 2.06            | .891               | Low        |
| Errors in processing data and information for applicants are few.                                                | 2.17            | .975               | Low        |
| The company practices effective marketing for job advertisement campaigns.                                       | 2.04            | .877               | Low        |
| It takes a short time to process data and information for job seekers.                                           | 2.08            | .920               | Low        |
| Personal interviews with large numbers of candidates for employment are easily conducted.                        | 2.01            | .796               | Low        |
| Job candidates' information is treated confidentially.                                                           | 1.95            | .752               | Low        |
| The skills and competencies of job candidates are carefully analyzed.                                            | 1.95            | .794               | Low        |
| It facilitates the identification of talent among human resources candidates for employment.                     | 1.99            | .829               | Low        |
| Competition tests for candidates are appropriate to job levels.                                                  | 1.94            | .745               | Low        |
| Objectivity is achieved in selecting between job candidates.                                                     | 2.10            | .834               | Low        |
| The selection process between candidates takes place in a short time.                                            | 2.06            | .781               | Low        |
| An accurate comparison of human resources candidates for employment is available.                                | 2.13            | .968               | Low        |
| Hiring candidates' skills match job requirements.                                                                | 2.15            | .975               | Low        |
| <b>General Average</b>                                                                                           |                 | <b>2.61</b>        | <b>Low</b> |

Source: Prepared using SPSS software

The results in Table (7) showed that the overall average for the axis of selecting and attracting HR as a whole was (2.61) (low), which is less than (3), which means that the study sample members do not agree on selecting and attracting HR.

**Testing the Study Hypotheses**

This section presents the results of the study's main hypothesis testing to integrate AI into the Obstacles and Expectations related to human resource management.

Table ( 8 )  
*Simple linear regression results*

| <b>Regression coefficients</b>                                                                      |                                            |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------|
| <b>Variables</b>                                                                                    | <b>Transactions t standard Probability</b> |
|                                                                                                     | <b>value deviation</b>                     |
| <b>Constant</b>                                                                                     | — .106 .138 .916                           |
| <b>Independent variable: It takes a short time to process data and information for job seekers.</b> | .540 3.524 .121 .001                       |
| <b>Model Summary</b>                                                                                |                                            |
| <b>Correlation coefficient R</b>                                                                    | .852                                       |
| <b>Coefficient of determination R2</b>                                                              | .726                                       |
| <b>Adjusted coefficient of determination R2</b>                                                     | .672                                       |
| <b>Standard error of the model</b>                                                                  | .415                                       |
| <b>Analysis of variance ANOVA</b>                                                                   |                                            |
| <b>Calculated F value</b>                                                                           | 13.419                                     |
| <b>Sig F*</b>                                                                                       | .000                                       |
| <b>DF</b>                                                                                           | 1                                          |

Source: Prepared using SPSS software

Table (8) shows that the issue of the company’s use of hiring engines and software to search for job applicants explains (72.6%) of the company’s use of hiring engines and software to search for job applicants, explained by the coefficient of determination R2, and (27.4%) due to other factors. The results indicated the importance of the study model, as the calculated F value reached (13.419) at a significance level of (0.000), which is less than 5%, which indicates the quality of the estimated model from a statistical standpoint.

The results showed that the value of  $\beta$  for the dimension of processing data and information about job seekers takes a short time (0.540) is at the level (Sig T = 0.000), which is less than 5%, meaning that an increase in the company’s use of hiring engines and software to search for job applicants by one unit leads to the company used hiring engines and software to search for job applicants. The administration reached (0.540) units, which indicates a positive impact.

**Results**

1. The findings show that most of the respondents were male, making up 82 individuals (74.5%), while females accounted for a smaller number, totaling 28 individuals (25.5%).

2. Among the respondents, the age group (20-35) had the largest percentage, with 62 individuals (56.4%). Following this, the (46 and above) age group comprised 33 individuals (30.0%), and the (36-45) age group represented 13.6% of the total respondents.

3. Among the respondents, the 'other' category held the highest percentage in terms of academic rank, comprising (74.5%). Following this, the coordinator category accounted for (10.0%). Similarly, in the years of experience category, the 'other' category had the highest representation at (33.6%), while the 'more than 10 years' category closely followed at (30.0%).

4. The findings indicated that the Cronbach alpha coefficient, exceeding 0.70, signifies that all questionnaire items maintain stability and internal consistency. Specifically, the questionnaire achieved an overall Cronbach alpha coefficient of (97.1%), demonstrating internal consistency among its elements.

5. The results in Table (6) showed that the overall average for the axis of the company's use of AI technologies in HR management as a whole was (2.61) (low), which is less than (3), which means that the study sample members do not agree with the company's use of AI techniques in HR management.

6. The results in Table (7) showed that the overall average for the axis of selecting and attracting HR as a whole was (2.61) (low), which is less than (3), which means that the study sample members do not agree on selecting and attracting HR.

7. Table (8) shows that the issue of the company's use of hiring engines and software to search for job applicants explains (72.6%) of the company's use of hiring engines and software to search for job applicants, explained by the coefficient of determination  $R^2$ , and (27.4%) due to other factors.

8. The results indicated the importance of the study model, as the calculated F value reached (13.419) at a significance level of (0.000), which is less than 5%, which indicates the quality of the estimated model from a statistical standpoint.

9. The results showed that the value of  $\beta$  for the dimension of processing data and information about job seekers takes a short time (0.540) is at the level (Sig T = 0.000), which is less than 5%, meaning that an increase in the company's use of hiring engines and software to search for job applicants by one unit leads to the company used hiring engines and software to search for job applicants. The administration reached (0.540) units, which indicates a positive impact.

And based on that, the following Table (9) try to summarize the results.

Table (9)  
*The result summary*

| Aspect                            | Summary                                                                                                                                            |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Demographics</b>               | Majority male respondents (74.5%), primarily aged 20-35. 'Other' category dominant in academic rank and experience.                                |
| <b>Questionnaire Stability</b>    | Strong internal consistency shown by Cronbach alpha coefficient of 97.1%.                                                                          |
| <b>Perceptions on AI in HR</b>    | Widespread disagreement observed among respondents regarding AI use in HR management.                                                              |
| <b>Factors Influencing AI Use</b> | Use of hiring engines and software explained 72.6% of variance, indicating significant impact.                                                     |
| <b>Statistical Significance</b>   | Study model confirmed by F value of 13.419, affirming its quality.                                                                                 |
| <b>Positive Impact of AI</b>      | Efficient data processing ( $\beta = 0.540$ ) highlighted, emphasizing AI's importance in HR practices.                                            |
| <b>Conclusion</b>                 | Study underscores the need for nuanced understanding of attitudes towards AI in HR management.                                                     |
| <b>Literature Review</b>          | Various studies demonstrate AI's impact on HR, including enhancing decision-making, transforming HRM procedures, and reshaping workforce dynamics. |

Where the Table (10) presented the comparison between this study results and the previous studies.

Table (10)  
*Comparison between this study results and the previous studies*

| Study                                                            | Main Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>(Murugesan, Subramanian, Srivastava, &amp; Dwivedi, 2023)</i> | <ul style="list-style-type: none"> <li>-AI is changing work environments, particularly in HR, due to Industry 4.0's development</li> <li>-AI improves efficiency and enhances decision-making in HR, but raises issues like discrimination and cybersecurity</li> <li>-Organizations need to address these problems to ensure AI is applied with integrity.</li> </ul>                                                                                                     |
| <i>(Aljohani &amp; Albliwi, 2022)</i>                            | <ul style="list-style-type: none"> <li>-Implementation of AI positively affects decision-making (DM) quality in Saudi Arabian private sector organizations.</li> <li>-AI applications enhance DM speed, appropriateness, and effectiveness</li> <li>-Partnerships between SDAIA and international companies are recommended to bolster AI research and development.</li> <li>-AI's impact across sectors should be further researched for economic advancement.</li> </ul> |

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>(Sanyaolu &amp; Atsaboghena, 2022)</i></p> | <ul style="list-style-type: none"><li>-AI profoundly transforms HRM, affecting recruitment, employee administration, and decision-making.</li><li>-Despite challenges in AI integration, the benefits are considerable, emphasizing the need for wise data use.</li><li>-Businesses should fully utilize AI to remain competitive in the modern economy.</li><li>-Further research is needed in this area.</li></ul>                                                   |
| <p><i>(Kambur &amp; Yildirim, 2022)</i></p>      | <ul style="list-style-type: none"><li>-Qualitative research provides insights into technology's impact on HRM, highlighting the significance of AI and digital innovations.</li><li>-AI and digital innovations reshape HR practices, emphasizing their importance in HRM.</li></ul>                                                                                                                                                                                   |
| <p><i>(Alazam, 2021)</i></p>                     | <ul style="list-style-type: none"><li>-AI enhances HR management efficiency at the University of Tabuk.</li><li>-No statistically significant differences observed in HR systems concerning gender, education level, and years of experience.</li><li>-Further studies on AI's influence on HR systems are recommended.</li></ul>                                                                                                                                      |
| <p><i>(Matsa &amp; Gullamajji, 2019)</i></p>     | <ul style="list-style-type: none"><li>-HR procedures combined with AI-driven tools significantly boost organizational performance.</li><li>-Despite concerns about job displacement, AI enhances lives and fosters a better future when used appropriately.</li><li>-HR leaders must prioritize employee needs amid AI integration.</li><li>-AI presents optimistic opportunities for improvement when harnessed correctly.</li></ul>                                  |
| <p><i>(Yawalkar, 2019)</i></p>                   | <ul style="list-style-type: none"><li>-AI improves business processes, including HR functions like recruitment, data analysis, and decision-making.</li><li>- AI technologies enrich productivity and sustain a firm's competitive advantage in the marketplace.</li><li>- AI is a crucial element of extant firm strategy.</li><li>- AI has become critical for HR managers to sustain today's industries.</li></ul>                                                  |
| <p><i>Our conclusion</i></p>                     | <ul style="list-style-type: none"><li>- Our study will offer a thorough analysis of the respondent's perceptions of adopting AI in HR management. Besides, analyze the respondents' demographics.</li><li>-Majority of respondents were male, primarily in the age group of 20-35.</li><li>- The questionnaire shows a strong internal consistency.</li><li>- Widespread lack of agreement among respondents about applying the company AI in HR management.</li></ul> |

- Factors influencing the use of hiring engines and software described 72.6% of the variance.
  - Statistical significance of the study model ( F ) is 13.419.
  - Shed the light on Positive impact of efficient data processing, Also, focus on the importance of AI in HR practices.
  - The essential for a nuanced understanding of attitudes towards AI in HR management.
- 

### Conclusions

This study provides a comprehensive analysis of the respondents' perceptions about the use of AI technology in HR management. The majority of the respondents were male between 20-35 years. Also, the 'other' category has the highest percentage regarding academic rank and years of experience. The questionnaire reveals a strong internal consistency with a Cronbach alpha coefficient greater than 0.07. Moreover, the results indicate a pervasive dispute among the respondents who use AI techniques in HR management and the process of attracting and selecting HR. The overall averages for these aspects were below 3, suggesting a low level of agreement within the sample.

Furthermore, the study delves into the factors influencing the company's use of hiring engines and software to search for job applicants, with the issue explaining 72.6% of the variance in this regard. The calculated F value of 13.419 at a significance level of 0.000 underscores the statistical significance of the study model, affirming its quality.

Additionally, the positive impact of the dimension of processing data and information about job seekers taking a short time is highlighted, with a  $\beta$  value of 0.540 at a significance level of 0.000. This signifies that an increase in the company's use of hiring engines and software corresponds to a positive impact on the administration, emphasizing the importance of efficient data processing in HR practices. In summary, the study underscores the need for a nuanced understanding of the attitudes and perceptions surrounding the incorporation of AI in HR management, shedding light on key demographic factors and their impact on the acceptance and effectiveness of these technologies in the workplace.

### Theoretical and Contextual Contribution

This study is reinforcing the ongoing talks on AI in the HR area by trying to identify some ways. It provides insightful information on a theoretical and contextual level: It provides insightful information on a theoretical and contextual level:

**Theoretical Contribution:** The research, through examining the views of top HR professionals from 100 enterprises in Jordan, adds to the knowledge of how AI is perceived and being adopted in HR. It explains how these demographic variables (gender, age and experience) affect those opinions, thus the detection of patterns and trends. According to research, there is a vast gap between the potential power of AI in the HR domain and the narrow scope of its applications. Therefore, a thorough study into the prevalent factors behind the limited use of AI in the sector in the general is desirable. Among its advantages would be creation of approaches focused on closing the gap between potential theory and efficient practical implementation.

**Contextual Contribution:** Trending the Jordanian medium and small-sized enterprises market aspect, the research postulates reality of the current status AI used in HR procedures. The information that human resources professionals in the field may get from this data is used to

create approaches that support ethical and successful AI integration in HR. In particular, it is accomplished through people, as well as their technical upgrading. The study, on the other hand, underscore the value of the HR function a great deal people management environment which is built on training and development arrangements aimed at giving HR professionals the tool required to compete with new AI driven staff management practices.

### Recommendations

The study recommends the following: The study recommends the following:

1. As an aspiration, I consider the work at hand to be the first step on the way to incorporating AI into HR management which is going to have some struggles but good-looking future as well.
2. I believe that specialists combine efforts beyond any borders.
3. Developing the AI technology that will serve the function of Obstacles and Expectations as part of it becomes the associated aspect of HR management for our business.

However, due to the schedule limitations, the outcomes of the experiment were hard to ensure. Humanize: Through these two years, we solely focused on how AI would conform to HR management. It could imply the chance even to overlook the improvement or any change which occurred later in the historical era. Nevertheless, even these restrictions, we think our information still provided useful future trends regarding the level of integration of AI in HR, during the years sampled.

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