



## RESEARCH ARTICLE

# Artificial Intelligence and the Future of Human Resource Management: Data Analysis and Decision Guidance to Enhance Work Productivity and Employee Motivation

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ARTICLE INFO	ABSTRACT
Received: Sep 16, 2024 Accepted: Nov 7, 2024	This study aims to clarify the role of artificial intelligence in human resources management by examining how it is employed in data analysis and decision-making to enhance work productivity and motivate employees. This study relied on the descriptive analytical approach by using questionnaires for a sample of 200 members and employees in human resources management in Jordan. This questionnaire was designed and contains extensive data on the use of artificial intelligence. The results indicate that artificial intelligence helps in creating excellence and speed in recruitment processes in the human resources sector. The use of AI in recruitment is that AI tools provide accurate information about job needs. AI helps in providing objective assessments of employee performance. AI facilitates access to diverse and appropriate educational resources. The use of AI improves the work environment and increases morale among employees. There are also concerns about privacy and security when using AI in my organization.
<b>Keywords</b> Artificial Intelligence Human Resource Management Work Productivity Employee Motivation	
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## INTRODUCTION

Human resource management is undergoing radical changes in the era of digital transformation, where the use of modern technology, especially artificial intelligence, has become crucial to streamline internal processes and increase employee efficiency. AI-powered HR management tools used by managers are changing recruitment processes, improving job performance evaluation mechanisms, and enabling the implementation of training programs that adapt to employee desires, while meeting employer expectations. In this context, the cumulative importance of understanding how these skills can improve productivity and employee motivation in the workplace emerges (Budhwar et al., 2022).

The aim of this study is to examine the role of artificial intelligence in improving human resource management in Jordan by collecting field data from human resource managers and employees on the extent to which they use artificial intelligence in recruitment, assessment, training, and identifying business needs. This data will be examined to provide planned guidelines that can help increase productivity and employee motivation, in addition to providing references on how to use artificial intelligence more effectively to support structural objectives in human resource management.

## Problem Statement

With the rapid development of artificial intelligence technology, companies want to take advantage of these technologies to improve the efficiency of human resource management processes and achieve better efficiency. It is clear that many organizations face difficulties in using these technologies effectively. Human resources leaders are faced with the challenges of how to integrate artificial intelligence into their day-to-day operations, such as recruiting, performance appraisal, training and identifying business needs. Therefore, the research problem arises from the need to understand to what extent the use of artificial intelligence in human resource management affects the improvement of productivity and motivation of employees in Jordanian work environments, in addition to identifying factors that can hinder or increase this effect (Arslan et. al., 2022).

## Study Objectives

1. Portable the impact of by means of artificial intelligence in human resource management processes (such as staffing, performance evaluation and drill) on improving work output and employee motivation in Jordanian businesses.
2. Examination of the degree to which Jordanian institutions trust on artificial intelligence to improve the competence of human resource management procedures and identify the tests facing the effective application of these skills.
3. Provide recommendations on how to improve the use of artificial intelligence in human resource management to contribute to enhancing employee performance and achieving organizational goals.

## Study questions

1. What is the effect of using artificial intelligence in human resource management processes (such as recruitment, performance evaluation and training) on work productivity and employee motivation in Jordanian companies?
2. To what extent do Jordanian institutions rely on artificial intelligence technologies to improve the efficiency of human resource management and what challenges do they face in applying these technologies?
3. How can the use of artificial intelligence in human resource management be improved to improve employee performance and help achieve organizational goals?

## Importance of Study

The significance of this research is rooted in the growing contribution of artificial intelligence to enhancing the effectiveness of human resources management. These technologies aid in the development of training programs, performance evaluation, and recruiting procedures. Organizations want to use artificial intelligence to boost employee engagement and productivity in view of the swift changes in the digital landscape, but it is still critical to do illustrative research to ascertain the efficacy of these technologies in regional settings like Jordan.

This study is important because it highlights the opportunities and challenges facing Jordanian organizations in adopting artificial intelligence to manage their human resources. It also provides practical, data-driven guidance on how to improve the use of these technologies to enhance the performance of organizations, which contributes to improving their competitiveness at the local and global levels.

## Study Terms

**Artificial Intelligence:** Refers to the ability of computer systems to mimic human intelligence by analyzing data and making decisions based on it. In the field of human resource management,

artificial intelligence is used to automate processes such as recruitment, performance evaluation, training, and identifying employee needs.

**Human resource management:** The part related to managing the workforce in organizations, including recruitment processes, employee development, performance evaluation, and managing their job needs in order to achieve the strategic goals of the organization.

**Employee motivation:** Refers to the internal and external motivations that drive employees to work harder and improve performance at work. It includes psychological, environmental, and technical factors that affect their level of satisfaction and productivity.

**Labor productivity:** Refers to the amount of production or performance achieved by an employee in a given time and is considered a key measure of work efficiency and the ability to achieve the required goals.

**Recruitment:** The process of searching for and attracting qualified applicants to fill vacant positions in the organization. Artificial intelligence is used to speed up and improve this process by analyzing resumes and conducting virtual interviews.

## LITERATURE REVIEW

Artificial Intelligence is influencing new trends in human resource management. The purpose of AI in human resource management is to analyze and guide decision-making to make the workforce more efficient and motivated. This can be achieved by studying people and understanding their behavior by observing career progression and behavioral changes in different organizational environments. In terms of an individual's loyalty to a particular organization, the goal is to maintain high satisfaction and strong engagement due to membership in the organization (Vrontis et al., 2023).

Building loyalty or commitment can provide a lever for organizations to consider strategies that focus on improving organizational productivity. In the race for global dominance, human resource management is currently facing significant challenges, the most profound of which is the importance of efficient workflow (Budhwar et al., 2023).

Human resource management deals with efficiency, motivation, and various methods and techniques to retain human resources. High turnover reduces overall productivity and profitability of the business. Therefore, a fundamental transformation of the organization is necessary and this can only be achieved with the use of artificial intelligence. Artificial intelligence will play a significant role in the entire recruitment process, from how jobs are advertised to the specific selection criteria (Chowdhury et al., 2023).

The reasons why an organization's HR team should use AI are that data can overcome the limitations of intuition through time, money, interaction, and bias. The main goal of AI in HR is to simplify the workload of HR professionals by providing accurate insights and conducting in-depth analyses to save time and increase the chances of success in the decision-making process, because the insights provided and the reviews conducted can be trusted (Arslan et al., 2022).

### Significance of AI in HR Management

Artificial Intelligence in Human Resources refers to the use of technology and smart systems that rely on artificial intelligence to improve and facilitate human resources management processes within organizations. In this context, artificial intelligence aims to improve the employee experience and facilitate the management of daily human resources management operations (Radonjić et al., 2022).

This includes the use of artificial intelligence technologies such as big data analysis, machine learning, natural language processing, and intelligent robots, to improve several aspects of human resources management. Artificial intelligence in human resources can help speed up recruitment processes and

select suitable candidates, analyze employee performance and provide guidance for their development, and improve the employee experience in the organization by providing interactive and personalized solutions (Malik et al., 2023).

In general, artificial intelligence in human resources aims to improve the efficiency of administrative processes, increase employee productivity and efficiency, enhance employee satisfaction, and maintain talented and satisfied employees in the organization (Kshetri, 2021).

However, taking the step of adopting artificial intelligence in the organization's system and the mechanism of the human resources department requires strategic planning, and strategic planning includes 5 basic stages as shown in the following excerpt from the curriculum of the Senior Professional in Human Resources (SPHRi) certificate course; Formulating a comprehensive strategic plan involves clarifying mission boundaries and conducting internal and external analyses to highlight strengths, weaknesses, and external factors (Arora et al, 2021).

Leaders then deliberate on strategic options to determine the best approach. This is followed by effective strategy implementation, translating plans into action, and monitoring progress. With the insights gained from these analyses, leaders choose the most effective approach to achieving organizational goals. Strategy implementation involves translating plans into actionable initiatives and closely monitoring progress. Through careful strategic planning and execution, organizations can overcome complexity and achieve sustainable growth (Shet et el, 2021).

### **Enhancing Work Productivity and Employee Motivation**

Advanced HR systems with AI-based emotional skills open up new opportunities to increase work productivity and new ways to increase employee motivation. Standard functions of AI technologies such as automating routine activities, facilitating transactions, streamlining business processes, and providing mechanisms to develop more personalized and customized products and services for HR clients are explained in more detail from an HR perspective (Manzoor et al., 2021).

Despite automation, let's not forget that, contrary to TPP theory, transaction costs are not the only or even the most important factor affecting economic success (Vrontis et el, 2023). AI tools can streamline processes and reduce transaction costs, but they can also help deliver services to employees, making communication and processes less stressful and therefore more efficient (Prasetyo et al., 2021).

It may seem trivial, but current AI-based IT tools are primarily aimed at creating and updating the employee experience (EX), and have also begun to support performance development and management. We provide guidelines and best practices for using AI tools in this area (Fishbach & Woolley, 2022).

The holistic nature of these AI applications is based on the assumption that HR systems are designed not just to measure standard units, but also to help employees and influence their individual and collective behavior by communicating with them. Creating an environment where people truly feel supported and an AI-based system like "what's in it for me?" is not testing, it matters (Welch & Brantmeier, 2021).

The best performance management tools enable people to take their individual and collective contribution to the company to the next level. The tools should support a feedback-based development program for each employee. Employee motivations should also be considered from an individual perspective. A reward strategy for everyone will be limited. In reality, employees have specific motivations that vary from person to person (Ali & Anwar, 2021).

## METHODOLOGY

This study follows the descriptive analytical approach, where data are collected through questionnaires sent to human resources managers and employees in Jordanian institutions, and performance evaluation, training and identification of job needs will be conducted for these questionnaires to collect quantitative data that can be analyzed using appropriate statistical methods through interviews with human resources managers, and the challenges and opportunities they face in accepting these technologies.

### Study population

The study population consists of Jordanian institutions and companies that rely on human resource management as an essential part of their administrative operations. This population includes human resource managers and employees of these institutions, who will focus on institutions that have begun to use artificial intelligence technology in recruiting, performance evaluation, training and identifying job needs. The purpose of selecting this population is to analyze the impact of artificial intelligence on improving employee productivity and motivation, and to explore the challenges and opportunities associated with the adoption of these technologies in Jordanian workplaces.

### Study Sample

A sample of 200 individuals was selected from the study population, including HR professionals and employees of various Jordanian institutions who use or wish to use artificial intelligence in their work. The sample was randomly divided to ensure good representation of different departments and institutions, taking into account the diversity of organizations' sizes and nature of activity. The drive of this case is to provide an impression of the influence of artificial intelligence on human resource management and to examine the changes between organizations in their levels of adoption and the penalties of its use on employee productivity and incentive.

### Study Tool

In this investigation, a questionnaire was used as the chief tool for collecting data such as staffing, performance evaluation, exercise, and identifying job needs. The survey contained closed-ended queries using a five-point Likert scale to amount the degree of contract or disagreement of participants concerning the impact of AI on employee productivity and motivation.

### Statistical Analysis

Different arithmetical methods will be used to examine the data collected from the forms in this research through the SPSS. 25. package by calculating frequencies, fractions, arithmetic means and standard nonconformities of the questionnaire statements.

## RESULTS

### Demographic Data:

Variable	Class	N	%
Age	Less than 25 years	30	15%
	25-34 years	50	25%
	35-44 years	60	30%
	45-54 years	40	20%
	55 years and above	20	10%
Gender	Male	120	60%

	Female	80	40%
Education Level	High school	30	15%
	Bachelor's	100	50%
	Master's	50	25%
	PhD	20	10%
Years of Experience	Less than a year	20	10%
	1-3 years	50	25%
	4-6 years	60	30%
	7-10 years	40	20%
	More than 10 years	30	15%
Job Title	Employee	80	40%
	Supervisor	40	20%
	Manager	50	25%
	Executive	20	10%
	Other	10	5%

**Age:**

The age of the members in the study was divided into different groups, the age group of 35 to 44 years with 30% (60 people) accounted for the uppermost fraction, which indicates the attendance of a large amount of employees with regular experience. After that, the age group of 25 to 34 years with 25% (50 people), which demonstrates the attendance of a generation of young specialists in job positions in the toil market. On the other hand, the participants in the age group under 25 years were only 15% (30 people), which shows that this group is less present in this sample. In addition, older age groups (45-54 years and 55 years and above) account for 30% (60 people), which may indicate an interest in job stability and education in the coming years.

**Gender:**

The results show an unbalanced gender distribution, with men making up 60% (n = 120) of participants, while women make up 40% (n = 80). This distribution may reflect some of the challenges in women's representation in HR-related fields, which require a focus on policies and procedures that support diversity and inclusion in the workplace.

**Educational level:**

The results indicate a high level of education among the participants, with bachelor's degree holders accounting for the highest percentage with 50% (100 people), followed by master's degree holders with 25% (50 people), which shows the presence of the department A large number of participants. Highly qualified people in the sample In contrast, high school graduates make up 15% (30 people), while PhD holders are 10% (20 people), which indicates some challenges in attracting highly qualified people.

**Years of experience:**

The results show variation in years of experience among the participants, with 30% (n=60) of the sample having between 4-6 years of experience, indicating that most participants have good work experience. While the category with 1 to 3 years of experience shows 25% (50 people), which indicates the presence of a new generation of workers entering the labor market. These numbers drop significantly in the 10+ year experience group (15% or 30 people), which may reflect a change in business trends or an exit of top talent.

### Job title:

The distribution of participants by job title shows that 40% (n=80) of participants are employees, reflecting a broad base of essential workers. Supervisors are 20% (40 people) and managers are 25% (50 people), which shows a strong management structure. The percentage of managers is 10% (20 people), which may indicate the absence of senior ranks in this sample. The job title "Other" appears in 5% (10 people), indicating the diversity of different job roles.

The analysis shows a diverse demographic composition, indicating a high level of education, a good percentage of employees with average experience, in addition to differences in gender representation. These results reflect opportunities and challenges in the field of human resources that require strengthening policies that support diversity and develop appropriate training programs to ensure the sustainability of talent in the future.

### Descriptive Analysis

#### Using AI in Recruitment

No	Phrase	Mean	Stander Deviation
1	AI tools are used in the process of selecting candidates for jobs in my organization.	3.75	1.13
2	AI helps analyse resumes faster and more accurately.	3.50	1.43
3	I notice an improvement in the quality of candidates selected thanks to AI technologies.	3.97	1.13
4	AI tools provide accurate information about job needs.	4.22	1.06
5	I find that using AI makes the recruitment process more transparent and clear.	3.53	1.21

The results related to the use of AI in the recruitment process indicate a positive trend towards the effectiveness of these tools in improving the quality and transparency of candidate selection processes. The statement "AI tools provide accurate information about job needs" conventional the highest mean of 4.22, representing that participants trust that these tools greatly help in precisely identifying job supplies. The statement related to improving the quality of designated candidates thanks to AI skills also received a high mean of 3.97, reflecting members' satisfaction with the results of AI-based staffing processes. However, some other statements, such as "AI helps analyze CVs earlier and more precisely" and "AI tools help make the staffing process more clear and clear," received lower means (3.50 and 3.53, respectively), which may designate areas for development in engagement with these tools. General, the results reflect the rank of AI as an effective tool in ornamental recruitment procedures, with some trials that can be addressed to improve the overall knowledge.

#### Performance Evaluation

No	Phrase	Mean	Stander Deviation
6	My organization uses AI to periodically evaluate employee performance.	4.16	0.98
7	AI helps provide objective assessments of employee performance.	4.62	0.78
8	I believe that AI-based performance evaluation results are accurate and reliable.	4.36	0.99
9	AI helps identify areas that need improvement in employee performance.	3.95	1.19
10	I receive constructive feedback from AI tools about my performance at work.	3.83	0.89

The consequences of using AI in presentation evaluation designate a clear positive impact on the correctness and objectivity of employee assessments. The statement “AI helps provide objective evaluations of employee performance” conventional the highest mean of 4.62, representative that members trust AI’s ability to provide precise and objective assessments. The results also presented that 4.36% of members consider AI-based presentation evaluation results to be precise and reliable, shiny a high level of trust in this knowledge. However, the statement related to receiving positive feedback from AI tools around presentation at work received a subordinate mean (3.83), which might indicate that there is room for development in how response is provided to staffs. Overall, the results indicate that using AI in performance evaluation enhances the quality of evaluations and supports the identification of areas for improvement, which contributes to the development of employee performance in the organization.

### Training and Skills Development

No	Phrase	Mean	Stander Deviation
11	My organization’s training program relies on AI technologies to identify training needs.	3.62	1.25
12	I find that the training designed using AI is in line with my personal needs.	3.61	1.19
13	AI helps customize training programs to suit different skill levels of employees.	3.69	1.11
14	I notice an improvement in my skills as a result of training based on AI technologies.	3.67	1.34
15	I see that AI facilitates access to diverse and appropriate educational resources.	4.10	1.03

The results of using AI in training and skills development programs indicate that participants have a positive perception of the effectiveness of these tools in meeting their educational needs, as the phrase “AI facilitates access to diverse and appropriate educational resources” received the highest average of 4.10, indicating that participants consider AI to play an important role in enhancing access to advanced educational resources. While other averages about training programs that rely on AI technologies to identify training needs (3.62) and design training programs that suit individuals’ needs (3.61) indicated an average level of compatibility with their needs. The results also indicated that 3.67 of the participants noticed an improvement in their skills as a result of training based on AI technologies, reflecting the positive impact of these technologies in developing competencies. In general, the results reflect the need to enhance the use of AI in designing and implementing training programs to ensure maximum benefit for employees.

### Motivating Employees

No	Phrase	Mean	Stander Deviation
16	I think that using AI in performance evaluation increases my motivation to work.	4.30	0.94
17	AI contributes to enhancing the interaction between employees and management.	3.83	1.06
18	I find that AI applications help in providing appropriate rewards based on performance.	4.27	0.87
19	Using AI improves the work environment and increases morale among employees.	4.67	0.62
20	I feel that AI enhances opportunities for career development and advancement within the organization.	4.49	0.83



The results of using AI to motivate employees indicate a strong positive impact on overall work motivation and the work environment. The statement "Using AI improves the work environment and raises morale among employees" received the highest mean of 4.67, indicating that participants feel that these technologies contribute significantly to enhancing the positive atmosphere within the organization. The statement "I feel that AI enhances career development and promotion opportunities within the organization" received a mean of 4.49, reflecting employees' awareness of the clear benefits that AI provides in their career paths. In a related setting, the mean of 4.30 designates that using AI in presentation evaluation increases employees' incentive to work. However, the ratio related to ornamental employee-management communication (3.83) shows that there is room for development in this aspect. Overall, the consequences reflect the rank of AI as an effective tool for inspiring employees and cumulative their productivity by refining the work setting and providing opportunities for specialized growth.

### Challenges associated with adopting AI

No	Phrase	Mean	Stander Deviation
21	I face difficulties in understanding how to use AI tools in my work.	4.04	0.84
22	There are concerns about privacy and security when using AI in my organization.	4.07	1.01
23	I think additional training is needed to better understand AI technologies.	3.89	1.06
24	I see that the financial resources required to implement AI technologies are a challenge.	3.68	1.21
25	There is resistance within the organization towards using AI in human resources management.	3.36	1.31

The review results on the challenges related with adopting AI indicate that there are a number of problems facing employees in their administrations. The statement "I find it difficult to comprehend how to use AI tools in my work" conventional a high mean of 4.04, representative that many respondents feel painful using these tools. Anxieties about privacy and security while by means of AI in the organization conventional a mean of 4.07, reflecting significant anxieties about the ethical and legal sizes of applying these technologies. In addition, a mean of 3.89 showed that extra training is wanted to enhance employees' understanding of AI technologies, representative the importance of ongoing education in this area. However, the statement related to the monetary challenges of implementing AI knowledges (3.68) and the existence of confrontation within the group to using AI in human capitals management (3.36) indicated extra challenges but with a inferior level of anxiety. Overall, these consequences reflect the need for real strategies to speech these challenges to safeguard effective acceptance of AI in the office.

### RESULTS AND RECOMMENDATIONS

1. The use of AI in recruitment is that AI tools provide accurate information about job needs.
2. AI helps in providing objective assessments of employee performance.
3. AI facilitates access to diverse and appropriate educational resources.
4. The use of AI improves the work environment and increases morale among employees.
5. There are also concerns about privacy and security when using AI in my organization.

#### The study recommends:

1. Focus on the selection of people appointed to human resources management on the availability of scientific and practical experience in the field of administrative systems in general and in artificial intelligence in particular.

2. Training workers on artificial intelligence applications, especially human resources management, in order to raise the efficiency of administrative systems for human resources management.
3. Conducting more studies on the role of artificial intelligence and its relationship to the efficiency of administrative systems for human resources management.

## CONCLUSION

This study concludes by highlighting the importance of AI as a vital tool in improving HR management, employee cumulative productivity, and motivation. The results obtained showed that the use of AI technologies in processes such as recruitment, performance evaluation, and training provides accuracy and integrity, which increases the efficiency of these processes. However, challenges associated with the adoption of these skills, such as empathetic tools, training desires, and privacy concerns, highlight the need to develop comprehensive strategies to facilitate the transition to AI-based offices. Accordingly, governments must increase awareness, training, and restore the technical infrastructure to ensure the full benefit of these tools.

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