

## Impact of the Application of Artificial Intelligence on Human Resource Management in the Tourism Companies Sector

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### **Abstract:**

Digital transformation and artificial intelligence (AI) technologies have become some of the fastest-growing and most widespread concepts around the world today, especially in light of the rapid developments in the field of information and communication technology, which has become an active and influential part of the tourism and hospitality industry through the reliance on electronic platforms and virtual tourism. Therefore, the study aimed to identify the impact of AI technologies on human resource management in tourism companies. To achieve the research objectives, the researchers used the descriptive analytical approach, and the study sample was selected from human resource managers in tourism companies in Assiut Governorate. The sample size was 255 employees who were selected using a random sampling method. The data was analyzed using the SPSS statistical program to test the study hypotheses. The most important finding of the study was the existence of a statistically significant relationship between the application of AI technologies and their positive role in human resource management. The study also presented several recommendations, including the dissemination of technology culture, especially digital transformation and AI technologies, to maximize the benefits of these applications, especially in the tourism and hospitality sectors.

**Keywords:** *Digital transformation, artificial intelligence, tourism companies, human resource management, virtual tourism, virtual reality.*

## I. INTRODUCTION

Artificial intelligence (AI) is one of the most important inventions of the modern era in the world of technology. Some studies conducted at several universities in the United States of America have shown that the increasing reliance on AI and robots in many tasks related

to companies and institutions, especially tourism (Ivanov & Webster, 2019), will lead to a reduction in human employment opportunities that rely on traditional methods and do not require training and development. Others have confirmed that this method will create many jobs. Although AI has not yet reached full development, it has succeeded in penetrating all the fields that we experience daily, as well as the tourism field (Khalifa, Baz, & Muttar, 2022), starting from electronic applications that perform tasks automatically and quickly, through robots that operate with AI, and even computers that operate with the same system to enter data and store it. Reports and statistics indicate (Stone, et al., 2022) that by 2030, AI will boost the global economy by \$13 trillion. This is why many countries, including Egypt, have established the National Council for Artificial Intelligence, which is a sign that the country is witnessing an active technical movement in addition to expanding the establishment of many colleges of artificial intelligence, Tourism, and hospitality companies (Bulchand-Gidumal, 2022).

The concept of digital human resource management is defined as the management of human resource work using the Internet, or in other words, the use of computer systems, interactive electronic media, and communication networks to perform human resource functions (Hmoud & Laszlo, 2019). The main role of AI in human resource processes includes many important operations.

### **Problem of the Study**

Human resources are one of the most important components of intellectual and knowledge capital, which is represented by workers and specialists in the management of the system, the rights of theoretical and applied sciences, and reconciliation technology. It is the most important factor in achieving the confirmed competitive advantage, the source of innovation, organizational creativity, and technology. Modern human resource management is based on following a new administrative methodology based on the conscious use of information technology in the practice of human resource functions, which relies on computer systems, networks, and AI technologies in implementing human resource strategies and policies, especially in tourism companies. Based on the above, the problem of the study is defined in the following question: What is the impact of AI technologies on human resource management in tourism companies in Assiut?

### **Objectives of the Study**

- To identify the positive impact of AI technologies on human resource management in the tourism sector in Assiut.
- To confirm that AI will not replace all human resource roles, but rather it is a technology that will be a powerful enabler for human resources.
- To identify the concept of AI and its importance in the field of human resource management.

### **Importance of the Study**

- To highlight the role of digital transformation technologies, including AI, on human resource management.
- The lack of studies that have addressed the role of AI in human resource management.
- This study will contribute to enriching the theoretical aspect of research and studies that have addressed the role of AI and human resource management.
- The study will contribute to providing information that may help those in charge of human resource management in tourism companies to understand AI technologies and the important role that these technologies play, and how to benefit from them more deeply and address shortcomings, which will increase the level of efficiency of human resource management in tourism companies in Assiut.
- The practical importance of this study is highlighted in its attempt to contribute to directing the attention of management and leadership to the importance of AI technologies in human resource management.

### **Hypotheses of the Study**

- The study is based on a basic hypothesis that there is a statistically significant relationship between digital transformation and AI technology and human resource management in tourism companies in Assiut Governorate.

### **Literature Review**

- Strohmeier, S., & Piazza, F. (2015) Measuring the Impact of Artificial Intelligence (AI) Technologies on Human Resource Management, Artificial intelligence has contributed to improving human resource management, so the study recommended that it be implemented, Artificial intelligence has contributed to improving human resource management, so the study.
- Palos-Sánchez, P. R., Baena-Luna, P., Badicu, A., & Infante-Moro, J. C. (2022), It aimed to measure artificial intelligence and human resource management through bibliometric analysis.

- Gonzalez, R., Gasco, J., & Llopis, J. (2020) Measuring information and communication technology and human resources in the hospitality and tourism sector, the impact of these technologies was identified to focus on human resource management strategies, including job replacement, human-robot/AI collaboration, decision-making and learning opportunities, and human resource management activities, including recruitment, training, and job performance.
- Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. (2022), Artificial intelligence, robotics, advanced technologies, and human resource management: a systematic review, Highlighting the uses of artificial intelligence, robotics, and advanced technologies in human resource management, It is also worth noting that it has a precise nature as a result of the fact that most research focuses on the application of artificial intelligence in recruitment and selection procedures.

### **Methodology of the Study**

To test the study hypotheses and achieve its objectives, the descriptive analytical approach was used to study the relationship between artificial intelligence and its positive role in human resource management in major tourism companies in Assiut. The study sample was selected from human resources managers in those companies using a random sample to reach a sample size of 255 questionnaires and also personal interviews with managers.

**Table (1) Analysis of the Results of the Impact of Artificial Intelligence on Human Resources**

standard deviation	mean	variables
0.82	2.1	Artificial intelligence technology helps human resources professionals focus more on strategic planning at the organizational level.
0.85	2.3	Modern AI programs used help improve the quality of the recruitment process, leading to effective and unbiased business decisions.
0.86	2.2	Artificial intelligence helps to process massive amounts of employee data quickly and accurately.
0.8	2.6	Artificial intelligence helps to accelerate human resources-related processes while reducing the number of administrative tasks in a tourism company.
0.85	1.9	Artificial intelligence technology helps save time and effort, such as using robots to answer inquiries around the clock and process bookings, whether for a tourism program or a flight ticket.
0.83	2.4	Artificial intelligence helps to increase the productivity and efficiency of the human resources department in the company.
0.82	2.2	Through the use of predictive analytics and artificial intelligence, organizations can retain talented employees.

From the previous table, it can be seen that all the mean values indicate the approval of the respondents on the positive impact of artificial intelligence technology on human resources management in Egyptian tourism companies (Touni, 2020), class A, where the values ranged between 1, 2. Also, all standard deviation values are less than half of the mean values, which indicates that there is no data dispersion. Therefore, the study hypotheses are accepted, which demonstrate the existence of a statistically significant relationship between human resources management applications and artificial intelligence technologies. This means that the more the use of artificial intelligence and digital transformation applications (Bulchand-Gidumal, J., 2022), the more positive impact it will have on human resources management in tourism companies (Jabeen, Al Zaidi, & Al Dhaheri, 2022) in Assiut, as confirmed by the study.

## **DIGITAL TRANSFORMATION IN HUMAN RESOURCES MANAGEMENT IN THE TOURISM SECTOR**

Information and communication technologies have changed everything in human life as well as business, to the point where it is impossible to imagine the existence of any purely human work activity. Or any organized teamwork without the existence of computer tools and communication technologies. During the COVID-19 crisis, a huge number of organizations had no choice but to quickly change the way their members work, by asking people to work from home as much as possible, and canceling personal customer meetings (Kareem, 2021), etc. Digital transformation of human resources has become one of the important topics for many human resources professionals due to the ability and potential of technology to change the image of human resources processes that companies and institutions know in their traditional form, using data to guide all areas of human resources such as payroll (Al-Kaabi, 2023), benefits, performance management, learning and development, rewards and recognition, and recruitment. All these processes aim to achieve electronic management (Said & M. Elbaz).

### **Manifestations of the impact of digital human resources in the tourism sector**

**Training and development:** It is one of the most important tasks of human resources management. The technological and digital platform through social media has opened up a wide range for the development of human and functional capabilities and skills among employees of tourism companies through the acquisition of knowledge and the benefit of experiences that are available and available 24 hours a day through virtual space (Ivanova & M. Khalifa).

Administrative organization: Digitalizing human resources processes helps to free up time and remove constraints for employees of tourist and non-tourist institutions (Guibert & Réau, 2023), As a result, the gains are tangible and tangible. For example, an employee in a tourism company can access different documents according to his wishes and securely through what can be called a digital vault that allows for the storage of employee system documents, payroll, and viewing personal file. This facilitates the administrative organization and saves time, (Noha & Alaa, 2022); (Mohamed, 2023); (Fadel & Amin, 2023), especially enhances trust and transparency and links the relationship between management and the employee.

### **Conclusion**

Training employees on artificial intelligence technology, especially human resources management, to improve efficiency.

Conducting more studies on artificial intelligence technologies to include larger samples of tourism companies.

Monitoring the infrastructure of devices, applications, and programs to ensure their validity during the implementation of artificial intelligence programs.

The need to learn about the successful experiences of international tourism companies in the application of artificial intelligence technologies.

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