

Original Article (Mixed)

# Presenting a model for improving human resource management with an emphasis on technology-oriented education in the age of digital transformation

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**Abstract**

The aim of this study is to present a model for promoting human resource management with an emphasis on technology-based education in the age of digital transformation. The present study is exploratory-developmental in terms of purpose, and mixed in terms of implementation (qualitative-quantitative). The statistical population of the study in the qualitative part includes 13 experts in the field of human resource management, and sampling was carried out by purposeful means using the snowball method; and in the quantitative part, it includes 110 managers and employees of the Ministry of Science in Baghdad, selected by random sampling. The research collection tool is semi-structured interviews and questionnaires. MAXQDA software was used to analyze the data in the qualitative part, and SPSS and PLS softwares were used in the quantitative part. The results of the study showed that there is a 17-factor model with 88 indicators for promoting human resource management in the age of digital transformation. This model includes seven causal factors, six underlying factors, two intervening factors, and two strategies. The findings showed that there are significant relationships between all the factors of the model and its two strategies. Also, the presented model has a strong overall fit. This research can be useful for managers and policymakers to use technology-based training to improve human resource management in their organizations in the era of digital transformation.

**Keywords:**

Human resources, human resource management, technology-based education, the era of digital transformation

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## Extended abstract

### Introduction

Today, organizations as well as society are affected by the digital transformation process, which has affected all types of activities, including business and... Adapting to digital environments is an increasingly complex challenge for all organizations and involves changing the way work is done, which has important implications for organizational behavior, corporate culture, talent acquisition, and leadership tactics (Morakanyane et al, 2020). Digital transformation is not limited to simply reducing costs due to better use of technology or process improvement, but also includes the process of creating new business models that adapt to the new digital environment. A company's digital approach can have a great impact on the nature of jobs, different types of jobs, or how people are managed. Therefore, there is a need to develop new HR strategies for managing human resources in the digital age. Digital transformation is a process of organizational change fundamentally focused on the people in this transformation (Alunni & Llambías, 2018).

Today, organizations will witness the entry of the digital generation into the labor market, and this upcoming event requires organizations to be prepared to accept the change and uncertainty that this generation of technology brings with it as it enters the organization. One of the conditions for the success of this path is the use of interactive strategies and technological tools. These widespread effects, on one hand, change the expectations and demands of employees in the workplace and organizational space, and on the other hand, create new expectations for managers regarding employee performance. Thus, in accordance with digital processes, organizations need to modify and review key HR functions such as the selection and recruitment process, performance management and compensation, career management, learning and development (Thite, 2022). For this reason, digital transformation can have a significant impact on HR management processes and roles. As new technologies continue to evolve, the way human resources interact with information and data has also changed. Some human resource management processes, such as employee recruitment, performance evaluation, human resource development using digital technology that improves service delivery to stakeholders, have been deeply revised (Schmid & Pscherer, 2022). The impact of digital transformation can lead to changes in consumer behavior, evaluation of services and products, and expectations. To face changing market behavior, many companies have realized the need to change business models to gain sustainable competitive advantage and keep pace with digital evolution (Mosca, 2020). Therefore, the main research question is: What does the model of upgrading human resource management with an emphasis on technology-driven training look like in the era of digital transformation?

### Theoretical Framework

#### Human Resource Management

Human resource management includes various practices applied to manage people in organizations, and these practices are usually grouped into subsystems of selection, training, evaluation, and reward; which are usually important and defined tasks of the human resource department in organizations (Saadat, 2017).

#### Technology-Based Training

In the current digital era, technology-based training in the field of human resources, as a new approach, can help organizations improve their human resource performance and be more successful in business competitions by utilizing the potential of technology. Human resource management is no longer limited to managing the daily affairs of employees, but should act as a strategic element to enhance the technology-based capabilities of employees (Doe, 2021.)

## Digital transformation

Digital transformation is a process that aims to improve an organization by making significant changes in its characteristics through a combination of information technology, computing, communication, and connectivity. Digital transformation is a method in which an organization uses digital technologies to develop a new digital business model that helps create and allocate more value to the organization (Mergel et al, 2019).

Abidi et al, (2024) studied the identification and assessment of human resource competency components in the era of digital transformation. The results in the qualitative section showed that the competence of digital managers includes 7 components: individual factors, organizational factors, culture of change, digital attitude, communication factors, leadership and management, and technical and specialized factors. The results in the quantitative section showed that there is a significant correlation between all components. Also, among the components, that of culture and change management was given first priority. The results also showed that the research model has the necessary validity.

Akramian et al, (2024) examined the presentation of a digital human resources management model with a data-based approach. The results showed that the digital human resources management model with a data-based approach includes causal factors (technological, environmental, human and organizational), contextual factors (digital platform, management platform, individual platform), intervening factors (cultural factors and the creation of new platforms), strategies (organizational and managerial), and consequences (individual, cultural and organizational). It is necessary to provide the basis for implementing the desired situation, while paying attention to the multiplicity, according to the mentioned model.

## Research Methodology

The present study is exploratory-developmental in terms of purpose, and mixed in terms of implementation (qualitative-quantitative). The statistical population of the research in the qualitative part includes 13 experts in the field of human resource management, and sampling was carried out by purposeful method and snowball method; and in the quantitative part includes 110 managers and employees of the Ministry of Science in Baghdad, selected by random sampling. The research collection tool is semi-structured interview and questionnaire.

## Research findings

MAXQDA software was used to analyze the data in the qualitative part, and SPSS and PLS software in the quantitative part. The research results showed that there is a 17-factor model with 88 indicators for improving human resource management in the era of digital transformation. This model includes seven causal factors, six background factors, two intervening factors and two strategies. The findings showed that there are significant relationships between all the factors of the model and its two strategies. Also, the presented model has a strong overall fit. This research can be useful for managers and policymakers to use technology-based training to improve human resource management in their organizations in the era of digital transformation.

## Conclusion

The present research was conducted with the aim of presenting a model for improving human resource management with an emphasis on technology-based training in the era of digital transformation. The results of this research are consistent with the results of Abidi et al, (2024), Akramian et al, (2024), Rastegar et al, (2024), Bagheri et al, (2024), Sadoughi (2024), Rastegar et al, (2023), Blouri Seresht (2023), Busulwa et al, (2022), Gupta et al, (2021), and Kaufman et al, (2021). Akramian et al, (2024) showed that the digital human resource



management model with a data-based approach includes causal factors (technological, environmental, human and organizational), contextual factors (digital platform, managerial platform, individual platform), intervening factors (cultural factors and the creation of new platforms), strategies (organizational and managerial), and consequences (individual, cultural and organizational). It is necessary to provide the basis for implementing the desired situation, while paying attention to the multiplicity, according to the mentioned model.

According to the results of the study, the following suggestion was made:

Human resource managers should put digital transformation in the field of human resources on their agenda with a comprehensive and deep understanding of new technologies, and be ready to accept and apply them to speed up the provision of services, improve quality and promote accountability.