

Public Organization Management

Vol. 14(1), (Series 55): 125-140/ 2026

 <https://doi.org/10.30473/ipom.2025.74497.5186>

E-ISSN: 2538-600X P-ISSN: 2322-522X

ORIGINAL ARTICLE

Identifying the Dimensions and Components of Digital Transformation in Human Resource Management

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Receive Date: 07/Dec/2024

Revise Date: 16/Feb/2025

Accept Date: 09/Mar/2025

How to cite

Esmailzadeh Ashini, S., Ahmadi, Y., & Fathizadeh, A.R (2026). Identifying the Dimensions and Components of Digital Transformation in Human Resource Management. *Public Organization Management*, 14(1), 125 -140.

EXTENDED A B S T R A C T

Introduction

In recent years, with the advancement of technology and digital transformation, the human resources function has also undergone significant changes. Tasks such as employee communication, performance evaluation, and customer interaction, which were previously carried out in person, are now performed more easily and rapidly. Digital transformation in human resource management refers to the integration of modern digital technologies into all dimensions and functions of the HR unit and goes beyond mere process automation. This transformation involves rethinking service delivery, employee experience, data collection and analysis, and data-driven strategic decision-making.

The use of artificial intelligence in recruitment and selection, performance management, and organizational cost-benefit evaluation accelerates processes, simplifies operations, and enhances employee engagement. Global pressures on businesses—particularly during the COVID-19 pandemic—have intensified the need for digital transformation in human resources and highlighted the growth of remote work and flexibility in work arrangements.

Globalization and the rapid development of information and communication technologies have reduced the direct human role in human resource management; however, planning, directing, and controlling intelligent and digitally enabled human capital remain essential. The outbreak of COVID-19 led millions of people to work remotely, prompting organizations to adapt to new conditions by developing virtual human resource systems and alternative work strategies.

In traditional recruitment processes, organizations faced challenges such as a high volume of résumés, time-consuming reviews, and emotionally driven decision-making. However, through intelligent systems and data-mining tools, résumé screening, candidate selection, workload reduction, and applicant experience have significantly improved. Increasing effectiveness, optimizing procedures, and accelerating HR processes highlight the necessity of paying special attention to digital human resources. In addition to improving efficiency, digital human resources can contribute to environmental sustainability and economic cost savings.

Despite the importance of this field, limited research has been conducted, indicating a theoretical and research gap. The present study aims to propose a digital transformation model for human resource management at Kerman University of Medical Sciences and seeks to identify the dimensions and components of this transformation as well as the manner of its design and implementation.

Methodology

This study is developmental in nature and was conducted using a qualitative approach and thematic analysis, which is one of the commonly used methods for analyzing qualitative interview data and provides many of the fundamental skills required for other qualitative analyses. Among thematic analysis approaches, the thematic network method proposed by Attride-Stirling (2001) was employed, which systematically organizes themes into basic, organizing, and global themes.

The research process was based on the framework developed by Braun and Clarke

(2006) and included topic selection, problem statement, determination of research objectives and questions, selection of the research design, and identification of the study population and sample. Purposive sampling was used to select 20 experts with doctoral degrees, specialized knowledge, and professional and research experience in the field of public administration. Interviews were conducted until theoretical saturation was achieved.

After transcription and completion using session notes, the data were carefully reviewed. Basic themes were identified, coded, and mapped within thematic networks. These networks illustrate the non-linear relationships among themes and serve as a tool for data interpretation. To ensure reliability, coding was performed independently by two researchers, yielding a Cohen's kappa coefficient of 0.75. To establish validity, the findings were reviewed and confirmed by three subject-matter experts.

Findings

In this study, initial themes were extracted. After identifying the basic themes, organizing themes and global themes were abstracted based on the basic themes. At this stage, efforts were made to reorganize the initial or basic themes to derive more abstract themes, guiding the researchers toward more comprehensive and central global themes.

At this stage, a total of 86 initial codes, 17 basic themes, 6 organizing themes, and 1 global theme were identified, which are presented in Table 1.

Table 1. Results of Thematic Analysis

Overarc HingTheme	Organizing Theme	Basic Theme	Initial Codes
Digital transformation in human resource management	MODERN technologies dimension	Digital security	Employee privacy policies/Employee awareness level of cyber threats/Encryption and access control systems/Human resources information security protocols/Amount of investment in cybersecurity
		The country's technological infrastructure	Internet network quality and bandwidth/Access to cloud and data infrastructure/Level of national information technology development/Legal support for digital services/Readiness of the country's innovation ecosystem
		Organizatio n's digital infrastructure	Existence of human resources information systems / Use of cloud computing in the human resources unit / Integration of human resources software / Organizational digital communication tools / Ability for employees to access systems remotely
		Data management	Quality, accuracy and updating of employee data / Data analysis in human resources decision-making / Fast and secure access to personnel information / Use of management dashboards / Compliance with ethical principles in the use of data
	Managem ent dimension	Senior Management Support	Commitment of senior managers to implementing digital transformation/Allocation of sufficient resources to digital projects/Monitoring and executive follow-up on technological developments/Creating a digital culture by senior managers/Active management presence in digital strategy
		Digital approach of managers	Managers' use of /digital tools in decision-making/ Encouraging technological innovation in teams/Digital skills of managers/Participating in the design of digital human resources processes/Flexibility in the face of technological changes
	Human Dimension	Employee Participation	Employee Use of Organizational Digital Tools/Participation in Digital Change Processes/Employee Motivation for Digital Learning/Technological

		Suggestions by Employees/Trust in Digital Processes
	Making Human Resources Smart	Using Artificial Intelligence in Recruitment and Hiring/Using Performance Analysis Algorithms/Digitalizing Human Resources Processes/Designing Intelligent Talent Management Processes/Using Software Robots
	Digital Education and Learning	Existence of a Learning Management System /Providing Virtual and Online Education /Using Adaptive and Customized Education / Lifelong Learning Culture /Digital Skills Training
	Employee Competencies	Basic software and digital skills/Ability to work with HR systems/Proficiency in analytical and interactive tools/Quick learner of new technologies/Readiness to solve digital problems
Organizational Dimension	Structural Reforms	Creating Agile and Flexible Structures/Eliminating Bureaucracy in Processes/Interdisciplinary and Digitally Oriented Teams/Adapting the Organizational Structure to the Digital Environment/Clarifying Digital Organizational Roles
	Financing	Budget allocated to digital projects / Spending on digital training and development / Investment in technologies / Rate of return on digital transformation capital / Innovative financing model (venture capital, participatory, etc.)
Cultural Dimension	Digital Mindset	Employee and Managers' Embrace of Technology/Readiness to Leave Traditional Methods/Understanding the Role of Technology in Competitiveness/ Embrace Digital Learning/Desire for Continuous Change
	Digital Readiness	Internal Technological Infrastructure/Employee Skills and Knowledge/ Cultural Maturity for Digitalization/Experience of Digital Transformation/Accurate Recognition of Opportunities and Challenges
Process dimension	Knowledge Management	Knowledge Sharing in Digital Platforms/Electronic Documentation and Archiving/Using Internal Knowledge Platforms/Digital Organizational Learning System/Quick Access to Knowledge Resources
	Digital Support	Technical Support Systems / Rapid Digital Response to HR Needs / Self-Help Knowledge Bases / Administrative Support Chatbots / 24/7 Availability of Digital Services
	Digital Strategy	Digital HR Roadmap/Developing Specific Digital HR Goals/Aligning Digital Goals with the Grand Strategy/Digital HR Policies/Planning Digital Transformation Scenarios

Discussion and Conclusion

The aim of the present study was to identify the dimensions and components of digital transformation in human resource management at Kerman University of Medical Sciences. The findings revealed that this transformation comprises six main dimensions: technological, managerial, human, organizational, cultural, and process-related dimensions.

The technological dimension includes modern technologies such as digital security,

national technological infrastructure, organizational digital infrastructure, and data management. The managerial dimension emphasizes top management support and managers' digital orientation. The human dimension encompasses employee participation, smart human resource management, digital training and learning, and employee competencies. The organizational dimension involves structural reforms and financial resourcing. The cultural dimension highlights digital mindset and digital readiness, while the process dimension includes knowledge management, digital support, and digital strategy.

Each of these dimensions plays a vital role in providing the conditions and capabilities required for digital transformation. For instance, technological infrastructure and effective data management, strong commitment and support from top management, development of employees' digital skills and training, structural reforms and allocation of financial resources, a digital culture and mindset, and support for knowledge management and digital strategies are all essential for the successful implementation of digital transformation. The results of this study are consistent with and confirm the findings of previous research.

Based on the findings, it is recommended that the university adopt appropriate strategies and processes to adapt to the digital work environment. These strategies include balancing remote and on-site work, developing employees' digital skills, promoting collaboration and knowledge sharing, and providing technological facilities to effectively leverage employees' capabilities. In addition, offering training programs aligned with job analysis, fostering a culture of remote work and digital communication with stakeholders, and preparing human resource managers to utilize emerging technologies are considered essential operational measures.

Utilizing this roadmap can serve as a managerial dashboard to monitor implementation stages, identify barriers, and strengthen human resources, while also enabling HR to lead digital transformation initiatives and support organizational advancement in a rapidly changing digital environment.

KEY WORDS

Digital Transformation, Human Resource Management, Making Human Resources Smarter.

