

The Impact of Digital Transformation in Information and Communication Technology on Human Resource Development Strategies A Case Study of the Algerian Mobilis Company

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Abstract

This study aims to understand the impact of digital transformation in information and communication technology on human resource development strategies, with a focus on Algeria Telecom Mobile “Mobilis,” as an institution operating in the telecommunications sector, which is rapidly changing both technologically and organizationally. The study is based on the fundamental idea that digital transformation does not merely mean introducing new technological systems, but also contributes to reshaping human resource functions and methods of attracting, training, evaluating the performance of, and managing the knowledge and career paths of talents.

The study adopts a descriptive-analytical approach, with a proposed field model that can be tested using a questionnaire and the SPSS program. Recent literature indicates that digitalization can help automate routine processes, improve data-driven decision-making, and develop digital learning and talent management. However, its success remains dependent on the availability of digital skills, leadership, organizational culture, governance, and information security. Studies on Algeria indicate the existence of significant opportunities for digital transformation, alongside challenges related to infrastructure, skills shortages, resistance to change, and data protection.

Keywords: Digital transformation; information and communication technology; human resource management; human resource development; digital human resources; Mobilis Algeria

Introduction

Digital transformation has become one of the most prominent changes experienced by economic institutions today, thanks to the rapid development of information and communication technology, cloud computing, big data, artificial intelligence, and digital work platforms. The use of technology is no longer limited to automating operational processes, but has extended to include the redesign of business models, organizational structures, decision-making methods, and human resource management.

The importance of this topic is increasing for telecommunications institutions because they rely heavily on technology, digital infrastructure, and specialized human skills. Mobilis is an appropriate example for studying this relationship, as it operates in a competitive environment that requires the continuous development of its services, processes, and employees' skills.

The concept of digital human resource management has also come to go beyond merely converting paper files into electronic files. It includes redesigning human resource functions using digital technology, such as e-recruitment, digital training, performance management, employee data analysis, and the provision of digital services to employees. Strohmeier confirms that digital human resource management represents an important development in the use of technology within the human resource function, with the need to distinguish between digitalization and digital transformation.¹

Recent studies also indicate that digital transformation in human resource management can increase efficiency through the automation of routine tasks, support for data-driven decision-making, and the improvement of talent management, learning, and development. However, these results are not achieved automatically merely by acquiring technology.²

Study Problem

To what extent does digital transformation in information and communication technology affect human resource development strategies in the Algerian Mobilis Company?

Sub-Questions

1. What is the nature of digital transformation in information and communication technology?
2. What is meant by human resource development strategies in the digital environment?
3. How does the use of digital systems affect training and continuous learning?
4. What is the impact of digital transformation on performance and talent management?
5. What are the organizational and human requirements necessary for the success of digital transformation of human resources at Mobilis?

Study Hypotheses

Main Hypothesis:

There is a significant effect of digital transformation in information and communication technology on human resource development strategies in the Algerian Mobilis Company.

Sub-Hypotheses:

- There is a significant relationship between digital technological infrastructure and human resource development.

- There is a significant relationship between the use of digital information systems and the improvement of training and learning.
- There is a significant relationship between digital analytics and the improvement of performance management.
- There is a significant relationship between employees' digital skills and the effectiveness of human resource development strategies.
- Digital organizational culture and leadership supporting digital transformation affect the success of human resource development.

First: The Conceptual Framework of Digital Transformation

1. Concept of Digital Transformation

Digital transformation refers to a process broader than merely introducing technology, as it is associated with redesigning organizational processes, functions, and relationships based on digital capabilities. Specialized literature emphasizes the importance of distinguishing between “digitization,” “operational digitalization,” and “digital transformation” as a deeper organizational and strategic change.³

In the field of human resources, digital transformation appears through the introduction of electronic human resource management systems, e-learning platforms, data analysis tools, solutions based on artificial intelligence, and digital self-services for employees.

2. Information and Communication Technology and Organizational Transformation

Information and communication technology helps the institution collect, process, store, and exchange information rapidly, and this changes the nature of administrative processes. It also contributes to reducing reliance on manual processing and providing faster information to support administrative decisions.

3. Digital Transformation and Human Resource Management

Digital transformation of human resources has come to include: Human Resource Information Systems (HRIS), e-recruitment, training and e-learning, digital performance management, human resource analytics, digital talent management, internal communication platforms, employee self-services, and artificial intelligence applications in some human resource functions. Recent studies have concluded that digital transformation can shift the human resource function from a traditional administrative role to a more strategic role, provided that integration is achieved between technology, strategy, organizational culture, and skills.⁴

Second: Human Resource Development Strategies in the Digital Environment

1. Training and Development Strategy

Training is one of the areas of human resources most affected by digital transformation, as it has become possible to deliver courses through e-learning platforms, virtual classrooms, and interactive content. The benefit of digital training is not limited to reducing its cost; digital systems also allow programs to be customized according to employees' needs, their progress to be monitored, and learning outcomes to be evaluated.

2. Digital Skills Development Strategy

The spread of technology has led to an increased need to develop employees' digital skills. This includes the ability to use information systems, analyze data, work through digital platforms, and deal with modern communication tools.

3. Performance Management Strategy

Digital systems make it possible to collect performance data continuously and link individual performance indicators to organizational objectives.

4. Talent Management

Digital transformation helps establish databases of competencies, identify available skills and skill gaps, and identify employees with high potential.

5. Knowledge Management

Digital platforms help preserve organizational knowledge and share it among employees, which is important in telecommunications institutions that rely on specialized technical knowledge.

Third: The Relationship between Digital Transformation and Human Resource Development

The relationship between digital transformation and human resource development can be illustrated through the following diagram:

Digital Transformation in Information and Communication Technology

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Digital Infrastructure ← Human Resource Information Systems ← Analytics and Data ←
 Digital Learning and Training ← Digital Communication and Collaboration

↓

Human Resource Development Strategies

- Skills Development
- Talent Management
- Performance Management
- Continuous Learning
- Knowledge Management
- Career Path Planning

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Improving Organizational Efficiency and Flexibility

Recent studies indicate that the success of digital transformation in human resources depends on the interaction between technology, processes, culture, and human capabilities, rather than on technological investment alone.⁵

Fourth: Case Study of the Algerian Mobilis Company

1. General Presentation

Mobilis represents one of the institutions operating in the telecommunications sector in Algeria, a sector that relies heavily on information and communication technology. This context makes Mobilis an appropriate case for studying the relationship between digital transformation and human resource development, because the nature of the institution's activity requires human resources with technical and managerial competencies capable of dealing with continuous developments in services, networks, and digital platforms.

A previous university study examined the case of ATM-Mobilis from the perspective of the impact of digital transformation on institutional performance and relied on a case study methodology and interviews with officials. This provides a useful starting point for studying the relationship between digital transformation and human resources.⁶

2. Digital Transformation and Its Expected Impact on Human Resources at Mobilis

The impact of digital transformation at Mobilis can be studied through five main dimensions: digital infrastructure, administrative digitalization, digital learning, data analysis, and digital communication.

Fifth: The Field Approach

Independent Variable: Digital transformation in information and communication technology, measured through digital infrastructure, use of information systems, administrative digitization, digital communication, data analysis, and the use of digital applications and platforms.

Dependent Variable: Human resource development strategies, measured through training and development, skills development, performance management, talent management, knowledge management, and career path planning.

Proposed Statistical Model

The model can be tested using:

- Cronbach's Alpha coefficient to measure reliability.
- Arithmetic means and standard deviations.
- Pearson correlation coefficient.
- Simple linear regression analysis.
- Multiple regression analysis.
- ANOVA test when necessary.
- Testing differences according to demographic variables.

Sixth: Results and Discussion

Based on recent literature, digital transformation has a positive impact on human resource development strategies when appropriate organizational and human conditions are available. Recent studies have shown that digital technology can help automate processes, make data-driven decisions, manage talent, and support learning and development.⁷ Other studies have also indicated that transformation requires alignment among strategy, technology, organizational culture, and organizational ethics.⁸

With regard to the Algerian context, studies indicate that there are opportunities for digital transformation in the field of human resources, alongside challenges related to infrastructure, lack of digital skills, resistance to change, and data security and privacy.⁹ Therefore, the impact of digital transformation at Mobilis can be stronger when the organization combines investment in technology with parallel investment in human resources.

Seventh: Conclusion

The theoretical approach demonstrates that digital transformation in information and communication technology has become an important factor in reshaping human resource development strategies. Modern human resource management is no longer based solely on traditional administrative procedures; rather, it is required to develop digital systems that help manage data, improve learning, develop skills, and manage performance and talent.

The case of Mobilis, as an organization operating in the telecommunications sector, highlights the importance of linking digital transformation with human capital development. Technology can increase operational efficiency, but it does not achieve the required organizational value

unless it is accompanied by the development of skills, organizational culture, leadership, and change management.

Recommendations

1. Develop an integrated strategy for the digital transformation of human resources.
2. Continuously invest in the digital skills of employees.
3. Develop e-learning and electronic training platforms.
4. Adopt digital indicators to measure human resource performance.
5. Develop human resource data analysis systems.
6. Strengthen a culture of innovation and continuous learning.
7. Involve employees in digital transformation projects.
8. Enhance data protection and privacy.
9. Link digital transformation with talent management plans.
10. Conduct periodic evaluations of the return on investment in digital technology for human resources.

Footnotes

1. Stefan Strohmeier, "Digital Human Resource Management: A Conceptual Clarification," *German Journal of Human Resource Management* 34, no. 3 (2020): 345–65,
2. Shaymaa Jasim Khudhaire and Amal Jaber Fzaea, "Digital Transformation of Human Resource Management and Its Impact on Employee Efficiency: A Systematic Literature Review," *American Journal of Management Practice* 3, no. 1 (2026).
3. Strohmeier, "Digital Human Resource Management."
4. Jie Zhang and Zhisheng Chen, "Exploring Human Resource Management Digital Transformation in the Digital Age," *Journal of the Knowledge Economy* (2023),
5. Dhananjay Mazumdar, Ashutosh B. Murti, and Parijat Upadhyay, "Unveiling Trends in Digital Transformation of Human Resource Management," *Global Business and Organizational Excellence* (2026),
6. Samar Angham Berroumana and Sara Zidane, "Le rôle de la transformation digitale dans l'amélioration de la performance de l'entreprise: cas entreprise de télécommunication ATM-Mobilis" (master's thesis, École Nationale Supérieure de Management, 2021).
7. Rania Ahmed El Garem, "HR Digital Transformation: Enhancing Human Resource Management through Technology," *Future Business Journal* 12 (2026), article 5.
8. Komang Ariyanto et al., "Digital Transformation of Human Resource Management," *Asian Journal of Human Services* 30, no. 4 (2026),
9. Zakariyya Hamzah and Hasibah Alami, "Digital Transformation and Its Impact on Human Resources Strategies in Algeria: Challenges and Opportunities," *Journal of Contemporary Business and Economic Studies* 8, no. 1 (2025): 155–74.

References

First: Foreign References

Ariyanto, Komang, et al. "Digital Transformation of Human Resource Management." *Asian Journal of Human Services* 30, no. 4 (2026).

Berroumana, Samar Angham, and Sara Zidane. “Le rôle de la transformation digitale dans l’amélioration de la performance de l’entreprise: cas entreprise de télécommunication ATM-Mobilis.” Master’s thesis, École Nationale Supérieure de Management, 2021.

El Garem, Rania Ahmed. “HR Digital Transformation: Enhancing Human Resource Management through Technology.” *Future Business Journal* 12 (2026): article 5.

Khudhaire, Shaymaa Jasim, and Amal Jaber Fzaea. “Digital Transformation of Human Resource Management and Its Impact on Employee Efficiency: A Systematic Literature Review.” *American Journal of Management Practice* 3, no. 1 (2026).

Mazumdar, Dhananjay, Ashutosh B. Murti, and Parijat Upadhyay. “Unveiling Trends in Digital Transformation of Human Resource Management.” *Global Business and Organizational Excellence* (2026).

Strohmeier, Stefan. “Digital Human Resource Management: A Conceptual Clarification.” *German Journal of Human Resource Management* 34, no. 3 (2020): 345–65.

Zhang, Jie, and Zhisheng Chen. “Exploring Human Resource Management Digital Transformation in the Digital Age.” *Journal of the Knowledge Economy* (2023).

Second: Arabic References

Hamzah, Zakariyya, and Hasibah Alami. “Digital Transformation and Its Impact on Human Resources Strategies in Algeria: Challenges and Opportunities.” *Journal of Contemporary Business and Economic Studies* 8, no. 1 (2025): 155–174.

Ghouati, Hamza, and Mohamed Latrach. “Digital Human Resource Management: Requirements and Challenges.” *Algerian Journal of Security and Development* 13, no. 2 (2024): 67–82.

Third: Electronic and Methodological Sources

The Chicago Manual of Style. “Notes and Bibliography: Sample Citations.” University of Chicago Press.