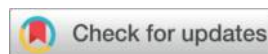




"THE IMPACT OF TECHNOLOGY ON THE MANAGEMENT OF HUMAN RESOURCES IN ALGERIA."



BOUCHAMA MOHAMMED

-Tlemcen university , Algeria

- bouchama_mohammed@yahoo.com

MEKKAOUI SIDI MOHAMMED

-Tlemcen university, Algeria

Mekkaoui1990@gmail.com

ABSTRACT

Human resource management evolves with the development of technical means and technology, as technology continues to play a pivotal role, reshaping traditional practices and offering new opportunities and challenges. This research paper discusses the profound impact of technology on human resource management, highlighting emerging trends and how to address the associated challenges. The paper is dedicated to emphasizing the importance of technology in human resource management by illustrating its role at all levels of managing HR, from recruitment to the overall structuring of an employee's career path. Additionally, the paper underscores the importance of adopting these technological advancements in shaping the future of HR management practices. The study is a statistical analysis using a survey to gather employees' opinions and reach conclusions that demonstrate the importance of technology in managing the career path of any government employee.

Keywords:

Technology, human resource management, recruitment, case study, employee career path.

INTRODUCTION

The use of technology is considered one of the most important approaches for developing the role of human resources and achieving organizational goals efficiently and with high quality, which has created a distinction between different organizations. This has made this technology impose a new reality within the entire organization to reach a high level of development in various fields.

The use of information technology by different employees within the organization is actually a highly impactful advantage. By relying on advanced technology, employees can perform their tasks with flexibility, ease, and speed, while also giving them the opportunity to refine and acquire modern technical and informational expertise. On the other hand, it enables the organization to update and develop its various interests and departments, thereby achieving satisfactory performance quality, which positively reflects on its outputs and products, without ignoring potential negative effects.

However, in Algeria still suffers from some shortcomings in the process of developing technology use despite all the efforts made by the state in this field.

This has led us to raise the following issue:

What are the factors that have led to limiting the use of technology in human resource management and improving the efficiency of these institutions' pe For this reason, we distributed the questionnaire to a sample of 50 employees working in various public departments in order to obtain results that highlight the source of the problem.rformance?

PREVIOUS STUDIES

is very important in any research to review previous studies in any type of study. Accordingly, in this section, we will attempt to present some studies that have addressed the topic of technology in human resource management.

1. Study Xinyan Liu Exploration into the Impact of Digital Transformation on the Human Resource Management Process in the Public Sector; nternational Business & Economics Studies; Vol. 6, No. 5, 2024.

This study addressed the rapid advancement of science and technology, and the emergence of digital transformation as a major force driving change across all industries globally. In the public sector, human resource management is experiencing unprecedented changes as a result of this digital wave. This paper aimed to explore the comprehensive impact of digital transformation on human resource management operations in the public sector, and to identify the challenges imposed by this transformation through a detailed analysis.

2. Study Hamza Zakaria and Hassiba Almi; Digital Transformation and Its Impact on Human Resources Strategies in Algeria: Challenges and Opportunities; Journal of Contemporary Business and Economic Studies Vol.(08) No.(01) (2025)

This study examined how digital transformation affects human resources strategy in Algeria, highlighting the challenges and opportunities associated with integrating technology into personnel management. It also emphasized Algeria's efforts to develop both the public and private sectors, improving efficiency, reducing costs, and

increasing employee engagement. However, the researchers found that there are limitations regarding infrastructure, a lack of skills, resistance to change, and concerns related to data privacy and security. The study conducts a comparison between local case studies such as Sonatrach and Algeria Telecom, and multinational companies like IBM and Shell, to identify the best ways to overcome these challenges. The research underscores the importance of investing in digital skills, technological infrastructure, and innovation.

Automation, predictive analytics, and flexible work arrangements can help organizations improve human resources strategies to achieve long-term success. The conclusion provides practical advice for Algerian companies and institutions to successfully digitalize human resources.

ADOPTING TECHNOLOGICAL DEVELOPMENT IN HUMAN RESOURCES

There are a number of definitions regarding the importance of adopting technology in the management of human resources; Tannenbaum defines the human resources information system as 'a system that helps an organization acquire information about its human resources, store it, process it, analyze it, retrieve it, and distribute it.' Technology can be used for various purposes within human resources functions, such as recruitment and selection, performance evaluation, compensation and benefits, training and development, health and safety, employee relations and legal issues, employee retention, work-life balance, or simply to manage human resources and employee information throughout the entire employment process.¹

Many other studies have also emphasized that the implementation of information technology in the public sector should be supported by reliable human resources and modern technology to enhance the efficiency, effectiveness, and productivity of the organization. A

¹ Tannenbaum, S. 'HRIS: User group implications', Journal of Systems Management, 1990, Vol. 41, No. 1, p27.

similar analysis was built in this study, confirming that one of the main benefits of human resource management technology lies in reducing human errors that occur in traditional administrative processes. By automating processes such as data entry in the management of human resources at various levels, the risk of human error can be minimized, leading to more accurate and consistent reporting. Human resource management technology also provides quicker and easier access to employee information, such as job history, certifications, and training. Consequently, managers can make better and faster decisions regarding the allocation of human resources.¹

In human resources management, information technology is considered one of the important technologies that affects all aspects of social, economic, and political life. The most significant area impacted by information technology when it is introduced into an organization or the public sector is human resource management and HR functions. Some of the results of using information technology in practicing human resource management are as follows:²

- A) Accuracy and speed in administrative performance
- B) Transparency and integrity in the system and achieving objectives
- C) More precise use of information widely and in a timely manner through networks
- D) Conducting necessary training through virtual education
- E) Rapid evaluation
- F) Timely feedback
- G) Development activities
- H) Developing employees' skills

¹ rifki Suwaji, Muhammad Muliyadi, The Role of HR Technology in HR Management Transformation: Improving Organisational Efficiency and Productivity, Jurnal Informasi dan Teknologi, 2024, Vol. 06, No. 02, p85.

² Abedin Piray, Hameidreza Hatamikhbari, Kamran Janfeshan, Masomeh Ghahramani, The Role of Information Technology in Human Resource Management, Journal of Basic and Applied Scientific Research, 2013, Vol. 03, No. 01, p1035.

- I) Performing repetitive operations using device systems
- J) Accurate control and evaluation
- K) Fairness
- L) Higher organization

Digital and technological transition in Algeria

The current state of digital innovation in Algeria shows significant progress, particularly in key sectors such as finance, telecommunications, and e-commerce. Algerian companies increasingly rely on digital technologies to improve their operations, launch new products and services, and maintain their competitiveness in the market. However, challenges persist, such as limited Internet access in certain parts of the country and the need for digital infrastructure.¹

Indeed, according to the Digital Economy and Society Index (Dutta & Lanvin, 2020), Algeria ranked 107th out of 130 economies worldwide. This index is calculated based on 60 indicators divided into four pillars:²

- ✓ Technological performance (access, content, and future technology), 108th place;
- ✓ Actors (individuals, government, and business) ranked higher, in 86th place;
- ✓ Governance, broken down by trust level, regulation, and inclusion, where it seems to be very poorly ranked, in 120th place;
- ✓ The impact of digitalization on the economy, quality of life, and the achievement of sustainable development goals, with 101st place among the countries reviewed.

¹ Nadia Boumediene, L'Innovation Digitale dans les Services en Algérie: Pratiques et Résultats Digital Innovation in Services in Algeria: Practices and Results, industrial Economics Review, 2024, v14, N°4, p273.

² Hariti Yasmine, Boukhezer-Hammiche Nacira, La créativité technologique en Algérie à l'ère de la numérisation, COLLOQUE NATIONAL Le rôle de l'enseignement supérieur et de la recherche scientifique dans la construction et le développement de l'économie du savoir en Algérie à la lumière de la tendance à l'économie numérique Université de Batna 1–El-Hadj Lakhdar, Faculté des sciences économiques, commerciales et sciences de gestion Laboratoire d'études économiques de l'industrie locale LEEIL, p7

Algeria today firmly asserts its ambition to become a continental leader in digital transformation by 2030. During an information day organized in Algiers, Ms. Meriem Benmouloud, High Commissioner for Digitalization with ministerial rank, outlined the contours of the national digital transformation strategy, emphasizing that the many achievements already accumulated by Algeria represent a solid foundation for achieving this long-term goal. She notably highlighted the implementation of a structured and progressive approach, built on an integrated vision of technological, economic, human, and institutional challenges.¹

As for The regulatory and policy framework for digital innovation in Algeria is constantly evolving to adapt to technological advancements. Measures have been taken to encourage the adoption of digital technologies across various sectors, with a focus on services. This is reflected in laws and regulations aimed at supporting the development of the digital economy and protecting sensitive data. The government is also working to promote digital innovation by offering financial incentives and support programs to companies investing in this field. Furthermore, strategic collaborations with international partners are being considered carefully and thoughtfully, thoroughly examining all possible options in order to identify the best solutions to address this complex situation. Every aspect has been meticulously analyzed, taking into account all relevant factors, in order to make informed decisions that would minimize undesirable consequences and maximize potential benefits for the parties involved. Algeria aims to fully take advantage of global best practices in digital innovation by adopting a proactive approach and by establishing strong partnerships with leading international players. This strategy aims to strengthen the competitiveness of the Algerian economy, encourage the creation of skilled jobs, and accelerate the country's digital transformation.

¹ [Transformation numérique : l'Algérie dévoile son objectif d'ici 2030](#)

Through these concerted efforts, Algeria seeks to become a major player in digital innovation in Africa and support sustainable economic growth in the region. The government will continue to work closely with the private sector, civil society, and international partners to create an environment conducive to innovation and promote collaboration and the exchange of ideas. In summary, Algeria has clearly defined its vision for digital innovation and is investing strategically to unlock its full potential and strengthen its position on the global stage.¹

The importance of technology in managing human resources in Algeria

The integration of electronic human resources (E-HRM) systems in Algeria has recently accelerated in both the public and private sectors, influenced by the global implications of digital transformation. E-HRM systems digitize all human resources processes at various levels on electronic platforms to enhance efficiency and transparency in HR procedures.

Scope of E-HRM implementation: E-HRM systems in Algeria are still in their early stages. Recent research shows that many Algerian organizations, especially those in urban areas and the private sector, recognize the benefits of digital HR platforms. E-HRM solutions are designed to automate routine tasks, reduce administrative burden, and facilitate evidence-based decision-making. Some large companies have adopted cloud-based HR systems that allow employees to access personal information, request leave, and manage benefits through electronic portals.

Even with these developments, the use of electronic Human Resource Management (E-HRM) systems remains limited in most companies, especially small ones, particularly in rural areas where there

¹ L'Innovation Digitale dans les Services en Algérie: Pratiques et Résultats Digital Innovation in Services in Algeria: Practices and Results, Previously cited reference,p282.

are a range of infrastructure challenges such as poor internet connectivity, lack of capabilities, and technologies. Additionally, there are a number of issues related to the employees themselves and their ability to use technology. The cultural resistance to digitization by many HR practitioners and employees complicates the widespread adoption of these solutions.

Many social, economic, and cultural factors affect the human resources environment in Algeria, presenting numerous challenges and opportunities. In light of the country's transition to a diversified economy, there are significant difficulties that must be addressed or at least adapted to when setting human resources strategies: Youth employment: One of the prominent issues in Algeria is the high youth unemployment rate, which reaches 31.9% for the 15-24 age group. As a result, the government is implementing various efforts, such as the digital communication platform, to connect youth with counseling services related to employment issues and to disseminate social and economic programs. Skills development: Furthermore, there is growing recognition of the need to develop skills in line with the requirements of a modern and diversified economy. Consequently, the government has launched initiatives such as 'My Profession'.¹

CONCLUSION

¹ Hamza Zakaria , Hassiba Almi, Digital Transformation and Its Impact on Human Resources Strategies in Algeria: Challenges and Opportunities, Journal of Contemporary Business and Economic Studies Vol.(08) No.(01) (2025),p160

In conclusion, technology has had a significant impact on human resource management, changing the way organizations recruit, manage, and develop their employees. Researchers and those interested in studying human resources increasingly rely on technology to automate routine tasks, from the beginning of recruitment to the termination of employment. With the rise of remote work, virtual onboarding tools, video conferences, and collaboration tools have become essential for managing a distributed workforce. Although technology offers many benefits for human resource management, such as increased efficiency, productivity, and engagement, it also presents challenges. HR departments must consider data privacy and security issues, ensure that the technology they use is accessible and inclusive for all employees, and balance the benefits of automation with the need for a human touch in HR processes. As technology continues to evolve, HR professionals will need to keep up with the latest trends and innovations to stay ahead. By leveraging technology their advantage, organizations can build a more efficient, effective, and engaged workforce that is well-equipped to meet the challenges of today's rapidly changing business environment.

This paper has highlighted the profound impact of technology on the field of human resource management in Algeria. It is evident that technology has become an indispensable tool in reshaping human resource management practices in the public sector, including the adoption of HR management software, data analysis, and automation, indicating a shift towards more efficient and strategic HR processes. These technological developments have contributed to facilitating recruitment, training, performance management, and enhancing employee engagement, ultimately leading to improved productivity in the public sector and the services it provides. However, amidst the benefits brought by technology, significant challenges have emerged. Integrating new technologies often requires substantial investments in infrastructure, training, and talent acquisition. Additionally, there are

concerns regarding data privacy, security, and the potential for job losses.

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