



The digital environment and its repercussions on human resources in the Algerian public institution Field study: At the National Institute for the Training of Local Communities Mujahid: Zidani Mohammad, Djelfa

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Abstract:

The digital environment represents one of the most significant transformations impacting various economic and social sectors in the modern era, playing a crucial role in restructuring work organization methods and human resource management within public institutions.

This study seeks to explore the implications of the digital environment on human resource activation in Algerian public institutions, through the application of social science concepts including social interaction, organizational culture, rationalization, human capital, and social capital.

The study findings indicate that digital transformation enhances professional efficiency, strengthens employee competencies, and generates interactive dynamics within workplace relationships that promote job satisfaction and professional stability while reducing work-related pressures. However, it simultaneously encounters challenges related to technology adoption and organizational culture adaptation

Keywords: digital environment; human resources; digital transformation; public institution.

General Introduction

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The digital environment has emerged as an undeniable reality within public institutions, driven by rapidly evolving technological developments stemming from the information and communication revolution and the proliferation of information technology across all facets of daily life. This transformation has profoundly impacted the economic, social, and cultural structures of Algerian public institutions, compelling them to reassess their management approaches, restructure their cultural and organizational frameworks, and adopt more flexible and efficient methodologies—both practical and scientific—in human resource management.

The examination of the digital environment's role in human resource activation extends beyond mere technical considerations. It encompasses a complex interplay of sociological and organizational dimensions, including power structures, professional culture, social interaction within organizations, and the quality of relationships between employees and leadership.

This research endeavors to provide a scientific sociological analysis that elucidates the implications of emerging digital interactions and their impact on human capital development as a dynamic and active force, ultimately enhancing the operational effectiveness and performance of Algerian public institutions.

In light of the above, the following central research question emerges:

What are the repercussions of the digital environment on human resources in Algerian public institutions?

Sub-questions:

1. How does digital transformation affect employee performance at the National Institute for the Training of Local Government Employees in Djelfa?
2. What are the principal obstacles within digital tools that hinder the enhancement of professional capacity at the National Institute for the Training of Local Government Employees in Djelfa?

The digital environment and professional culture transformations: a sociological approach.

1.LITERATURE REVIEW



1.1 Digital environment as a concept:

The digital environment refers to the set of technological tools and practices associated with data networks and communications, which are used to perform professional and managerial activities within organizations. This environment is characterized by speed, interactivity, and transparency, and contributes to changing traditional communication patterns and reshaping organizational structures through the logic of networks and information flow (**Castells, 2010**). The digital environment is not limited to being a technical medium, but rather represents a new social space in which professional practices overlap with cultural and symbolic dimensions, affecting methods of coordination, control, and meaning production within institutional work (**Leonardi, 2014**).

2. Social interaction within the organization and the implications of digitization:

Digitization has brought about a structural transformation in the nature of social interaction within institutions, as professional interaction is no longer based solely on face-to-face encounters, but rather takes place through digital media that reshape communication symbols and patterns of meaning production. From the perspective of symbolic interaction theory, social interaction is understood as a continuous process of constructing meaning through symbols circulating between actors (**Blumer, 1969**).

In this context, digital media —such as email, instant messaging, and collaborative platforms— constitute a new symbolic space within which professional roles and job identity are redefined.

The professional actor reformulates his self-image through what can be called «digital performance», which is manifested in writing styles, speed of response, and the level of digital organization, which intersects with Goffman's concept of impression management, but within a virtual and changing interactive space

(**Goffman, 1973**). Thus, professional identity becomes as much a product of screen interaction as it is of direct interaction, reflecting the transition of social interaction to a broader network logic (**Castells, 2010**).

From a cultural analysis perspective, digitization contributes to reshaping organizational culture by introducing new values such as digital transparency, networking, real-time performance tracking, and temporal flexibility. These values lead to a redistribution of power within the organization by enhancing digital control and increasing reliance on data in decision-making, creating new forms of



collaboration that go beyond traditional hierarchical structures (**Hall, 1997; Leonardi, 2014**).

Information control, technical competence, and the ability to manage digital codes also become essential elements in building new professional cultural capital within the organization, leading to the formation of a hybrid professional identity in which the real overlaps with the digital (**Castells, 2012**). The role of the digital recipient or user cannot be overlooked, as he must be treated as an actor with interpretive competence and the ability to resist media and cultural flow, and to contribute to the production of a mass culture that may bring about profound transformations within his professional community (**Hall, 1997**).

Combining the symbolic perspective with cultural analysis, it becomes clear that digitization is not only changing communication tools, but also reconstructing the mechanisms of meaning production within the organization, influencing how professional roles are understood, colleagues are perceived, and power relations are shaped-processes that take place through new digital cultural codes (**Blumer, 1969; Goffman, 1973**).

3. Social capital as an organizational culture in the digital environment

Contemporary institutions have undergone profound transformations due to digitalization, with social capital emerging as a pivotal intangible resource that contributes to enhancing organizational integration, facilitating collaboration, and producing shared meaning. Social capital is defined as the sum of relationships and networks that enable individuals to access cognitive and social resources and achieve effectiveness within the organization (**Nahapiet & Ghoshal, 1998**).

Social capital consists of three main dimensions: the structural dimension related to the form of networks, the relational dimension based on trust and mutual obligations, and the cognitive dimension represented by shared values and meanings. In the digital environment, these dimensions are reformulated within networked spaces, where digital interaction becomes a field for negotiating meaning and redefining professional roles through everyday symbolic practices produced by digital platforms, such as evaluation mechanisms, discourse rules, and digital appearance patterns (**Blumer, 1969; Castells, 2012**).

From a cultural analysis perspective, organizational culture is reframed within what might be called «digital rationalization», where professional practices and rituals are transformed into data-driven processes and algorithmic transparency, and organizational values are embodied in unwritten digital codes of conduct enforced by technology (**Giddens1991; Schein, 2010**).

The concept of human resources management in modern administrative thought:



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Human resources management is defined as a set of policies and practices that aim to attract, develop, motivate, and maintain human resources in a way that achieves a balance between the organization's goals and the needs of individuals. Under modern management thought, human resources management is no longer a traditional administrative function, but rather a strategic partner in decision-making and achieving organizational advantage.

4.Organizational culture and digital transformation

Organizational culture refers to the symbolic and value system that regulates professional behavior within an organization (Schein, 2010). With digital transformation, this culture is being produced and renewed through internal communication platforms, digital knowledge management, and corporate digital codes such as recognition badges and electronic assessment mechanisms. According to cultural analysis, digitization does not abolish traditional organizational culture, but rather reshapes it within a more rational and controlled institutional system (Giddens, 1991).

5. Sociological transformations of the digital environment

The sociological transformations of the digital environment are manifested at three basic levels:

First, social interaction has shifted from a face-to-face to a digital, networked mode.

Second, organizational culture is changing toward the values of innovation, engagement, and continuous learning.

Third, deepen rationalization and digital bureaucracy through electronic systems that reduce routine procedures, in line with Weber's conception of modern rationalization (Weber, 1978).

6. The repercussions of the digital environment on human resources in Algerian institutions

The digital environment contributes to enhancing job efficiency by accelerating task completion and improving the quality of decision-making. It also contributes to developing training and education through e-learning and distance learning platforms. However, the reality of digital transformation in Algerian



institutions still faces multiple challenges, most notably resistance to change, weak digital infrastructure, and lack of continuous training, which are problems that can be understood sociologically in light of the weight of bureaucracy and weak organizational and cultural capital within the institution (Schein, 2010; Giddens, 1991).

Second: The methodological framework

1. Research problem

The problem lies in revealing the level of impact of the digital environment on the activation of human resources in public institutions, specifically at the National Institute for the Training of Local Authorities in Djelfa.

Research hypotheses

1. There is a positive relationship between the use of digital systems and improved human resource performance.

2. Digital training contributes to accelerating administrative procedures within the institute and raising employee efficiency.

3. Study methodology

The research was based on:

- Descriptive analytical approach to studying theoretical concepts.
- Field analysis using observation and interviews.

4. Data collection tools

- An interview with the departments' executives, the Secretary-General, and the Director of the Institute.

- Direct note of used digital platforms.

5. Study sample

The sample consisted of:

executives from the Training Department - Director and Secretary General of the Institute.

- frames from the interest of user management and the frugal.
- senior technicians in automated media.
- permanent professors at the institute

6. Analysis methods:

Data were analyzed using:

- Analysis of interview content.

3. Interview topics

The interviews focused on:

. The reality of digitization within public institutions - the National Institute of Local Authorities as a model.

. The impact of the digital environment on professional performance.



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- . Level of digital training for employees.
- . Organizational and human difficulties digitally.
- . The extent to which users are willing to adopt digitization.

.4 .Field Study Results

The field study results indicate that the digitization level within the institute is moderate and relatively satisfactory. While certain digital systems have been implemented, they remain significantly underutilized, with paper-based records continuing to dominate numerous administrative procedures. The majority of participating executives acknowledged that digitization has contributed to improved administrative file processing, enhanced transparency, and streamlined archival management and follow-up processes. However, inadequate digital training emerges as one of the most prominent factors limiting the optimal utilization of these systems.

In this regard, executives unanimously affirmed that digital training programs are irregular, fail to encompass all job categories, and predominantly focus on basic skills without advancing toward more sophisticated competencies. The findings further revealed several obstacles impeding digital transformation implementation, primarily including: inadequate digital infrastructure, resistance to change rooted in traditional work culture, insufficient availability of advanced technological devices, and the absence of a clear organizational vision to systematically guide the digitization process within the institute.

These challenges underscore the necessity for comprehensive institutional reform that addresses both technical and cultural dimensions to ensure successful digital integration and maximize human resource potential.

5. Sociological analysis of the results

From the perspective of organizational sociology:

The study results demonstrate that digitization within organizations is not limited to its technical dimension, but rather represents a cultural shift that is reshaping patterns of social interaction within the professional space. From the perspective of symbolic interaction theory, digital media contribute to the production of new communication codes through which professional meanings and organizational roles are reformulated, as the professional identity of executives is shaped through daily interactive practices within digital platforms, such as response patterns, information exchange, and coordination methods (**Blumer,**



1969). This transformation has led to the emergence of new professional communication networks.

They represent symbolic spaces for interaction and the construction of shared meaning, but their effectiveness remains linked to the extent to which actors are able to employ these digital symbols efficiently.

On the other hand, the results highlight that the success of digital transformation remains dependent on the level of social capital within the organization, as it is an intangible resource based on trust, cooperation, and common standards that facilitate collective action (**Nahapiet & Ghoshal, 1998**). The need to continuously strengthen human capital reveals an imbalance in the distribution of digital competencies, leading to the emergence of a digital gap between frameworks that negatively affects professional harmony and the quality of organizational follow-up. According to this perspective, weak digital formation not only limits technical efficiency, but also hinders the accumulation of social capital and limits the ability of digital professional networks to perform their integrative function within the organization.

CASE STUDY :

.6. Sample field interview

Below is a brief sample of an interview conducted with a staff member working in the user management department at the National Institute of Local Government Employees in Djelfa, while preserving the scientific nature of the article and not compromising confidentiality:

Question 1: How do you evaluate the level of digitization within the institute?

Answer: "It can be said that digitization exists, but it is not at the required level". We have some digital platforms, but a lot of the work is still done on paper due to lack of adequate training or some technical glitches that delay the work".

Question 2: Have digital tools affected your professional performance?

Answer: "Yes, especially at the level of archiving and file processing. Digital files are easier and faster, but we are not taking full advantage of the potential because we need more specialized training courses".



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Question 3: What are the most important obstacles you face?

Answer: "The most prominent obstacles are the weakness of the Internet, lack of equipment, and the lack of a clear policy for developing human resources digitally". There is also resistance among some older employees".

Question 4: Are workers ready to adopt digitalization?

Answer: "The staff is strongly prepared, but some are afraid of technology because they have not received sufficient training". I believe that configuration is the key to successful digital transformation.

Third: Presenting and analyzing the results of the field study

1. Interview results

Content Analysis Results from Interviews with Staff at the National Institute for Local Government Training in Djelfa

The content analysis of interviews conducted with staff at the National Institute for Local Government Training in Djelfa revealed the following key findings:

- A substantial proportion of employees utilize digital systems in their daily work activities.
- Employee satisfaction with digital applications is generally positive; however, there is a clear demand for enhanced equipment provision and improved network infrastructure, particularly internet connectivity.
- Digital platforms have significantly accelerated file processing procedures, as confirmed by institute staff in compliance with directives from the Ministry of Interior, Local Authorities, and Transport.
- Certain administrative tasks remain paper-based, particularly administrative correspondence related to municipal and state employee training programs, indicating the absence of comprehensive digitization.
- **Communication between** training-related entities and the institute continues to rely on traditional methods, such as formal administrative correspondence, rather than utilizing email for administrative communication.

Identified Obstacles:

Participants unanimously acknowledged that the digital environment has become essential for enhancing administrative management efficiency. Nevertheless, several persistent challenges were identified:



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- **Limited digital competencies** among some employees, despite ongoing training initiatives such as programming courses designed to improve skill levels within the institute.
- Insufficient modern information technology equipment to support comprehensive digital operations.
- **Lack of software standardization** across different departments and functions, hindering seamless integration and interoperability.

Conclusion

This study demonstrates that the digital environment contributes effectively and substantially to human resource activation at the National Institute for the Training of Local Government Employees in Djelfa, by enhancing work quality, expediting administrative procedures, and strengthening communication effectiveness.

The findings reveal that the digital environment serves as a critical catalyst for developing and activating human resources within Algerian public institutions, contingent upon the provision of adequate infrastructure and the transformation of traditional organizational culture into a more open and flexible framework. Furthermore, sociological analysis confirms that digital transformation transcends mere technical implementation; it constitutes a complex social process that fundamentally reshapes organizational values, interpersonal relationships, and interaction patterns.

Ultimately, the successful integration of digital technologies in public institutions requires not only technological readiness but also a comprehensive cultural and organizational shift that embraces innovation, adaptability, and collaborative practices. This dual approach ensures that digital transformation fulfills its potential in maximizing human capital development and institutional performance.

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