

The Role of Technological Readiness in Activating Knowledge Management in Algerian Public Sector Institutions

Yassine DJELLID ^{1 *}

¹ University of Algiers 3 (Algeria) , djellid.yassine@univ-alger3.dz

Received: 23/03/2026

Accepted: 08/06/2026

Published: 30/06/2026

Abstract:

This study aims to determine the strategic role of technological readiness in activating Knowledge Management within Algerian public sector institutions. It analyzes how digital infrastructure, integrated information systems, and human resource competencies contribute to transforming data into applicable institutional knowledge to support decision-making and performance. The study adopts a descriptive-analytical approach that combines a review of scientific literature with an analysis of the Algerian institutional context and national digital development indicators. The study concluded that technological readiness directly contributes to stimulating the Knowledge Management cycle, from generation to application. However, this relationship is not automatic; rather, it depends on aligning technology with organizational practices. The results reveal that rigid bureaucracy and inflexible structures in Algerian public institutions act as inhibiting factors that limit the effectiveness of this cycle. Accordingly, the study emphasizes the necessity of moving towards an integrated readiness environment that transcends mere physical technical modernization, to ensure a continuous flow of knowledge and its transformation into a strategic asset that enhances institutional flexibility and adaptability within the Algerian context.

Keywords: Knowledge Management; Technological Readiness; Digital Transformation; Institutional Performance.

JEL Classification : D83; O32; H11.

Introduction

In light of rapid economic and technological shifts, contemporary institutions increasingly recognize organized knowledge as a vital strategic asset. Its significance extends beyond ensuring operational continuity to forming the fundamental pillar for enhancing adaptive capacity and institutional excellence. This recognition has propelled Knowledge Management (KM) to the forefront of organizational priorities, where activating expertise flows and documenting intellectual capital has become an inevitable response to complex environmental variables. In this context, the role of KM transcends traditional administrative practices to encompass the systematic methods through which information is generated, shared, and invested, thereby building resilient institutions capable of transforming their knowledge base into added value that supports decision-making efficiency.

These transformations gain particular strategic importance when applied to the Algerian institutional environment, specifically within institutions active in the public sector. Amid national efforts toward comprehensive digitalization, the variable of "Technological Readiness" emerges as a decisive factor in the success of this transition. Technological readiness here does not merely imply the acquisition of hardware or software; rather, it represents a state of integration between digital infrastructure, information systems, and human capital qualified to assimilate these shifts. Despite noticeable technical investments, a gap remains between possessing the means and the actual "readiness" to harness them in activating knowledge processes. Consequently, there is an urgent need to study the strategic role of technological readiness, not just as a technical support, but as a structural enabling framework that enhances the ability to generate, document, and share knowledge systematically to ensure the sustainability of expertise and develop performance outcomes.

Within this framework, the research focuses on addressing the central question: **What is the strategic role of technological readiness in activating Knowledge Management within Algerian public sector institutions?** To answer this question, the study stems from a primary hypothesis stating that: Technological readiness has a direct effect on KM activation, by providing the necessary fundamental infrastructure for the systematic generation, documentation, and sharing of information. This approach allows for analyzing how readiness levels interact with organizational practices to support the institution's knowledge assets.

The significance of this study lies in two main dimensions: Theoretically, it contributes to enriching the academic literature on the role of technological readiness as a mediating and enabling variable for KM activation within a specific structural and cultural context. Practically, it

offers an evidence-based assessment of these readiness levels in Algerian institutions and provides a vision for decision-makers regarding digital investment priorities aimed at maximizing knowledge returns. Accordingly, the study aims to :

- Analyze the concept of Knowledge Management and discuss its core processes as a pivotal variable in modern institutions.
- Define the dimensions of technological readiness and its role in securing institutional knowledge flows.
- Examine the organizational reality of Algerian public institutions to determine the requirements for successful KM processes in light of available readiness levels.

To achieve these objectives, the study adopts a descriptive-analytical methodology aimed at a comprehensive understanding of how technological readiness contributes to supporting KM practices, highlighting the requirements for developing Algerian institutions toward advanced levels of knowledge-based investment.

1- Literature Review

The evolution of digital transformation has profoundly reoriented scholarly debates by shifting the focus from technology as mere hardware to its role in reshaping knowledge as a dynamic organizational capability. This perspective recognizes that the true value of digitalization emerges not from information storage, but through the continuous processes of conversion and strategic activation. Central to this understanding is the knowledge spiral model (Nonaka & Takeuchi, 1995), which provides the theoretical scaffolding for how organizational value is generated through the interaction between tacit and explicit knowledge. Their framework moved the field beyond possession-based views, positioning knowledge as a processual flow deeply embedded in organizational dynamics.

Building upon this, Davenport & Prusak (1998) argued that KM is not merely a technical system but a deeply embedded practice shaped by culture and routines. Consequently, effective KM requires aligning technological infrastructure with structural dimensions that facilitate integration (Gold et al., 2001), ensuring that digital systems achieve impact only when woven into core institutional processes (Alavi & Leidner, 2001). Despite this conceptual convergence, a divergence persists between treating technological readiness as a direct driver versus a contingent factor mediated by organizational capabilities. This complexity suggests that the influence of technology may not be uniform across the KM cycle, but rather varies depending on the functional stage under consideration. Empirical evidence indicates that while digital readiness supports knowledge processes in public institutions, these

investments generate sustainable value only when embedded within the institution's functional core (Kurahyadi, 2025; Crusoe et al., 2024). Thus, the availability of modern tools is a precursor to, rather than a guarantee of, institutional knowledge capability.

Within the Algerian context, emerging studies have documented how digital transformation initiatives and platforms like Microsoft Teams or Moodle facilitate knowledge generation and sharing (Belgacemi & Dehimi, 2025; Bouaissa et al., 2025; Chib, 2023). However, the prevailing emphasis in the local research landscape remains largely centered on structural infrastructure and tool adoption. As Algeria's digital expansion accelerates, a more granular examination becomes essential to move beyond descriptive measurement and understand how technological readiness reconfigures the internal logic of knowledge processes. This necessitates investigating whether readiness operates merely as a structural support or as a transformative condition capable of reshaping the core stages of creation, documentation, and application.

2- Theoretical and Conceptual Framework

2-1- Knowledge Management Theory

Knowledge Management has evolved from a technical information-handling activity into a strategic capability essential for building institutional value and enhancing competitive advantage. Beyond mere data storage, knowledge is conceptualized as a "fluid mix of framed experience, values, contextual information, and expert insight" (Davenport & Prusak, 1998, p. 5), reflecting a social product of continuous interaction between individuals and their organizational environment.

Central to this theoretical evolution is the SECI model (Nonaka & Takeuchi, 1995), which posits that organizational knowledge is generated through the spiral interaction between tacit and explicit knowledge across four processes: socialization, externalization, combination, and internalization. This foundational logic highlights that knowledge-based economies depend primarily on an organization's ability to transform individual insights into collective institutional assets. In the era of rapid digital transformation, this concept has expanded to include "interactive knowledge environments" where technology serves as more than an automation tool; it creates collaborative spaces for collective and open knowledge generation (Machado et al., 2022). Consequently, modern KM requires integrative capabilities that combine organizational learning with advanced technological implementation to sustain competitiveness.

From a capabilities-based perspective, KM achieves institutional impact only when technological infrastructure is aligned with supportive organizational structures. Systems become effective when woven into daily

operations, supporting the full knowledge cycle: creation, storage, transfer, and application. At the team level, this interaction fosters flexible solutions capable of adapting to environmental shifts, while at the institutional level, it builds "organizational memory", a fundamental mechanism for preserving experience and mitigating knowledge loss (Argote & Ingram, 2000).

In the public sector, KM is increasingly vital for ensuring policy continuity and improving service quality. Recent reports emphasize that public institutions adopting KM strategies are better positioned to enhance administrative transparency and digital governance (OECD, 2025). Within this framework, technological readiness is not an end in itself but an enabling framework. In this context, research suggests that digital investments yield sustainable improvements only when systematically integrated with KM practices. This reinforces the proposition that technological abundance does not automatically translate into knowledge capability; rather, transformation occurs through functional embedding, where knowledge resources are systematically integrated within organizational practices to produce strategic outcomes.

2-2- Dimensions of Knowledge Management in Public Sector

Knowledge management in public sector institutions is based on an integrated system where human resources converge with organizational rules and technical means to enhance institutional performance and achieve sustainability goals. This intersection reflects a fundamental shift in the role of knowledge; it is no longer merely a procedural process for information circulation, but has become a strategic capability that enables public Sector institutions to adapt to rapid economic and technological changes.

The human element is considered the fundamental driver of this system; as knowledge in the public work environment is a cumulative result of employees' experiences and their interactive skills. According to the thesis of Nonaka and Takeuchi (1995), institutional excellence stems from the ability to transform "tacit knowledge" inherent in individuals' minds into explicit and applicable knowledge assets through professional interaction and continuous learning. In light of modern trends, developing the digital skills of the human resource represents a basic pillar for enhancing flexibility and the capacity for innovation within the institution (Santoro et al., 2018).

Internal structures and policies represent the organizational dimension that governs the pathways of this knowledge, where flexible organizational frameworks ensure the seamless flow of expertise between various departments and sectors. The success of this dimension is linked to the effectiveness of communication channels, as Heisig (2009) emphasizes that institutions adopting open communication structures are most capable of

generating practical value from their knowledge stock, while centralization and administrative complexity remain challenges that may limit the speed of response to surrounding variables.

As for the technical dimension, it constitutes the supporting infrastructure for storage and retrieval processes; as information systems and digital platforms provide knowledge with its institutional character and make it accessible across temporal and spatial boundaries. Gold et al. (2001) explain that the true value of technology emerges when it is deeply integrated into the daily "operational processes" of the institution, transforming from mere technical tools into an inherent part of the workflow.

Finally, the cultural and cognitive dimension serves as the incubator that ensures the cohesion and sustainability of these dimensions; as it embodies the system of values that encourages individuals to share expertise and develop collective intellectual capital. Success in the public sector transcends the quality of technical systems to be linked to the existence of an organizational culture that believes knowledge sharing is the source of strength and sustainability. As recent studies (Serenko, 2023) have indicated, institutions that succeed in embedding this participatory culture achieve higher levels of performance and institutional excellence.

2-3- The Strategic Importance of KM in Public Sector

Knowledge Management has become a pivotal driver of strategic transformation for public sector institutions navigating rapid digitalization, complex governance demands, and economic responsibilities. Public institutions are no longer merely administrative bodies; they operate within economic ecosystems, where organizational knowledge functions as a strategic asset that directly impacts both policy effectiveness and resource optimization (Vignieri & Zeinali, 2022). By ensuring timely access to information and structuring digital content, KM enables institutions to make informed decisions, reduce information asymmetry, and overcome operational silos that often impede both administrative efficiency and economic performance.

Beyond administrative efficiency, KM serves as a catalyst for organizational learning, innovation, and economic value creation. Integrating digital tools with knowledge practices allows institutions to adapt internal processes to emerging societal and market challenges, while simultaneously preserving critical institutional expertise amid workforce turnover and structural reforms (Alvarenga et al., 2020). In this context, tacit knowledge—once confined to individual experience—can be transformed into actionable insights that improve service delivery, optimize resource allocation, and support evidence-based economic decision-making.

The synergy between KM and good governance principles also enhances accountability, transparency, and public trust, which are critical for institutions managing significant economic functions (Serenko, 2023). Effective knowledge practices empower public organizations to respond strategically to both societal needs and economic pressures, ensuring long-term institutional resilience. Achieving such outcomes requires a holistic integration of human expertise, organizational structures, and digital technologies, underpinned by a culture that values continuous learning, collaboration, and strategic knowledge sharing.

In conclusion, KM in public sector institutions functions as an integrated strategic system that not only strengthens institutional performance and governance but also underpins their economic role, enabling public organizations to respond proactively to the challenges of a digital, knowledge-driven, and economically interdependent environment.

2-4- The Dynamics of KM Processes in Public Sector Institutions

Knowledge management processes constitute the operational framework that transforms organizational knowledge from a simple informational resource into a strategic institutional capability. In public sector organizations, this transformation is essential for sustaining performance and supporting institutional objectives. While consensus exists regarding the importance of these processes, theoretical perspectives diverge: some emphasize structural dimensions, while others highlight technological drivers within digital organizations (Alavi & Leidner, 2001; Heisig, 2009). This underscores that KM functions as a complex socio-technical system, shaped by the interplay of organizational structures, technology, and institutional culture.

The generation of knowledge reflects the dynamics of organizational learning rather than a mere technical step. The continuous interaction between tacit and explicit knowledge remains foundational, yet digital transformation introduces new modalities. In the era of big data and AI, knowledge generation increasingly relies on algorithmic systems that complement human expertise, producing a hybrid institutional knowledge that combines technological and human intelligence (Dwivedi et al., 2021).

Similarly, knowledge storage and retrieval have shifted from routine administrative functions to strategic components of intellectual capital. Structured storage reduces errors, while effective retrieval transforms raw data into actionable insights that inform policy and decision-making (Vaio et al., 2021). This transition highlights a move from static repositories toward integrated institutional intelligence systems that underpin organizational performance.

Knowledge sharing and transfer remain central yet contested processes. Technical systems facilitate flow, but research increasingly emphasizes the primacy of culture: digital platforms alone cannot ensure effective sharing without participatory organizational cultures that encourage collaboration across units (Mergel et al., 2019). Bridging the gap between technological infrastructure and collaborative culture is therefore a critical challenge in public institutions.

Finally, knowledge utilization and evaluation determine whether information translates into tangible value and organizational learning. Weak utilization disconnects knowledge from practice, whereas data-driven governance and predictive analytics enhance strategic decision-making. Evaluating knowledge impact must go beyond quantitative measures to capture its contribution to institutional flexibility and adaptability. Ultimately, public institutions face the challenge of transitioning from KM as an administrative task to a dynamic strategic capability, capable of supporting organizational transformation in uncertain environments.

3- Technological Readiness and Knowledge Management

3-1- Technological Readiness as a Knowledge Capability

Technological readiness can no longer be reduced to a simple indicator of digital infrastructure availability; it is more appropriately understood as an integrated organizational capability that shapes how institutions generate, process, and mobilize knowledge in dynamic environments. While the Technology–Organization–Environment (TOE) framework provides an early explanation of the conditions influencing technological adoption (Tornatzky & Fleischer, 1990), its focus remains largely confined to adoption determinants, offering limited insight into the deeper transformations that technology induces in knowledge processes. For this reason, contemporary research increasingly treats technological readiness as a strategic capability rather than a static condition. From a dynamic capabilities perspective, the value of technology lies in how it is leveraged to support learning and knowledge recombination. As noted by Teece (2007), organizational competitiveness depends on the ability to sense environmental changes, seize emerging opportunities, and reconfigure internal resources accordingly.

In this sense, technology operates less as a tool and more as an enabling structure that sustains knowledge creation and renewal, aligning digital investments with the broader strategic objectives of the institution (Kadri, 2025). Evidence from public sector digital transformation reinforces this view, as technological investments, in isolation, rarely lead to effective knowledge management. As Mergel et al. (2019) point out, their impact depends on the extent to which they are embedded in institutional routines, since digital systems that remain disconnected from everyday practices tend

to fragment rather than circulate knowledge. This challenge is further amplified by the rise of artificial intelligence and big data analytics, which have expanded the cognitive role of technology by enabling pattern recognition and predictive analysis from complex datasets (Taherdoost & Madanchian, 2023).

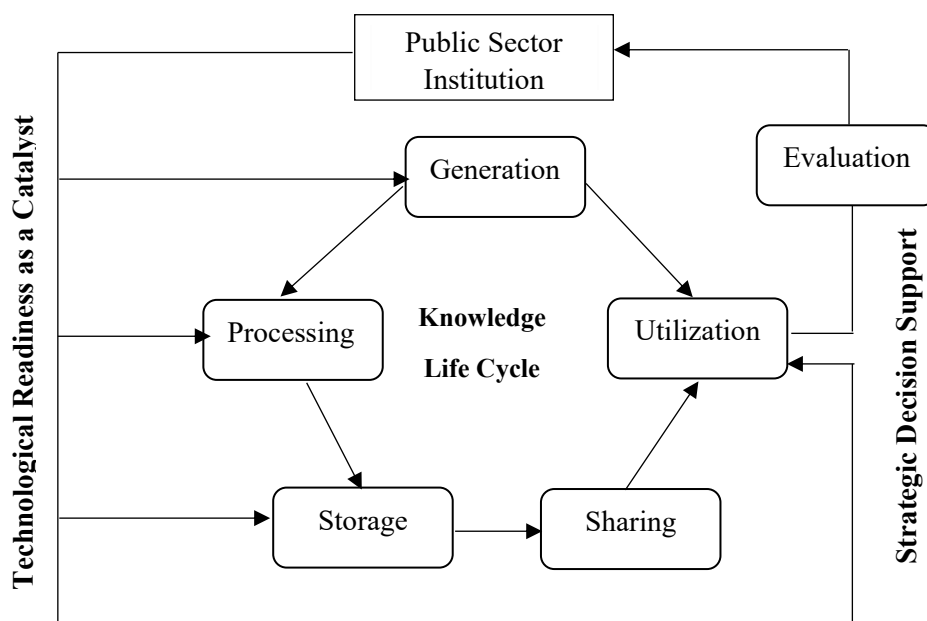
However, such transformation introduces governance concerns, where over-reliance on algorithmic outputs may introduce biases or reduce the space for human judgment in complex decision contexts (Abourobah et al., 2023). This discussion is closely related to absorptive capacity, or the organization's ability to assimilate and apply external knowledge internally. In public institutions, however, this process faces structural barriers due to bureaucratic complexity. As highlighted by the OECD (2024), a persistent gap remains between formal digital strategies and actual practices, which limits the effectiveness of knowledge governance.

Consequently, technological readiness should be approached as a multidimensional construct that integrates infrastructure, human capabilities, and governance to effectively transform digital resources into strategic knowledge assets.

3-2- Technological Readiness as a Catalyst for KM Life Cycle

Technological readiness extends beyond mere digital infrastructure; it functions as an integrated capability that shapes how institutions generate, process, and utilize knowledge. In dynamic environments, its strategic value emerges when aligned with organizational routines, absorptive capacity, and human expertise, transforming technological resources into actionable knowledge assets (Boudjelkha, 2025).

During knowledge generation, insights arise from interactions between human expertise, AI algorithms, and operational data, enabling pattern recognition and predictive analysis (Liao et al., 2023). Knowledge processing converts these raw inputs into reliable, decision-relevant outputs, while storage and management ensure institutional memory, prevent knowledge loss, and support continuous learning. Knowledge sharing and transfer are effective only when technology is embedded within participatory organizational cultures, bridging gaps across departments and hierarchical levels. Finally, knowledge utilization and evaluation transform information into strategic decisions and measurable institutional value, with absorptive capacity acting as a critical mediator. This integrative perspective positions technological readiness as a catalyst that drives the full KM life cycle, linking digital infrastructure, human capabilities, and organizational culture to foster innovation, adaptive governance, and sustainable performance, as illustrated in the following Figure:

Figure number (1): Technological Readiness and KM Life Cycle

Source: Elaborated by the author.

4- The Reality of KM Activation in Algerian Public Institutions

4-1- Indicators of KM Implementation Readiness in Algeria

Analyzing the activation of knowledge management in Algerian public institutions serves as a fundamental approach to assessing institutional capability in transforming knowledge into a strategic asset that contributes to sustainability and the enhancement of institutional performance value. Within the Algerian public sector, this activation process occurs within a transitional institutional configuration, where digital modernization paths interact with existing organizational frameworks. From a strategic management perspective, the measurement of KM effectiveness is not solely determined by technology adoption rates; rather, it extends to the institution's capacity to adapt its digital resources to enhance knowledge production mechanisms and support organizational learning and institutional intelligence.

Table number (1) below summarizes the readiness levels of Algerian public institutions for KM activation by illustrating the indicators associated with readiness dimensions, their relationship with the knowledge management lifecycle stages, and the resulting strategic implications:

Table number (1): KM Activation Indicators in Algerian Public Institutions

***The Role of Technological Readiness in Activating Knowledge Management
in Algerian Public Sector Institutions***

Readiness Dimension	Indicator	Algerian Context (2023)	KM Lifecycle Stage	Strategic impact
Technological Infrastructure	Network Readiness Index	103/134	Storage & Sharing	Fragile Knowledge Ecosystems
Institutional Digitization	Digitalization rate of public services	45%	Codification	Limited Knowledge Traceability
Human Capital	Digital training coverage (2021-2023)	42%	Creation & Sharing	Persistent Skill Asymmetries
Organizational Culture	Internal platform usage	Low – Moderate	Sharing	Reduced Knowledge Transparency
Ecosystem Integration	E-participation index	Low	External Absorption	Weak Open Knowledge Governance

Source: Elaborated by the author based on (OECD, 2024; Portulans Institute, 2023; United Nations, 2022; MPT, 2023).

Based on the data and indicators presented in Table number (1), an interpretive analysis reveals that the activation of knowledge management in Algerian institutions is fundamentally governed by three interdependent systemic contradictions:

- **First:** Technological modernization strategies remain predominantly infrastructure-centered rather than knowledge-ecosystem-oriented. While investments in digital platforms and e-services have significantly improved administrative accessibility, they have not yet produced fully integrated knowledge governance architectures capable of supporting institutional intelligence and predictive policy analytics. The current focus on service delivery often overlooks the deeper requirement for data interoperability and systemic knowledge circulation across various institutional units.
- **Second:** Human capital development policies remain oriented toward operational digital literacy rather than advanced knowledge analytics competencies. Contemporary knowledge economies require cognitive capabilities related to data interpretation, knowledge synthesis, and collaborative problem-solving rather than basic technological usage skills alone. This persistent skill asymmetry and cognitive gap significantly limit the strategic deployment of advanced KM systems

that require high levels of analytical judgment and the ability to convert raw data into actionable institutional insights.

- **Third:** Organizational culture continues to privilege procedural compliance and strict administrative control over knowledge experimentation and organizational learning dynamics. Such cultural constraints reduce the willingness of employees to share tacit knowledge and weaken the transformation of individual experiential knowledge into collective institutional intelligence.

Consequently, digital transformation initiatives should be reinterpreted not as isolated modernization programs but as core components of a broader institutional knowledge governance strategy. The strategic objective must be the transformation of public institutions into learning-oriented systems capable of supporting innovation, institutional resilience, and sustained performance quality.

4-2- Challenges to KM Activation in Algerian Institutions

The analysis of knowledge management reality within Algerian public sector institutions indicates that the activation of this strategic domain is associated with a complex structure of interrelated organizational, technological, human, and strategic determinants. This reality reflects the nature of the ongoing institutional transformation within an international context increasingly moving towards a knowledge-based economy, where the ability to generate and utilize organizational knowledge has become a crucial factor in improving performance quality and enhancing decision-making efficiency.

Empirical studies further reveal that the transition toward knowledge management is closely linked to the ability of these organizations to build an integrated knowledge environment that integrates digital infrastructure, human analytical capabilities, and prevailing organizational culture patterns. Monitoring institutional performance indicators suggests that challenges associated with KM activation are structural in nature rather than purely technical, as organizational factors interact with technological determinants to shape the level of knowledge maturity within public institutions.

The following Table number (2) presents an analytical synthesis of the most significant challenges affecting knowledge management activation within Algerian public sector institutions, while illustrating the strategic impact of each challenge on institutional knowledge system performance.

**Table number (2): Knowledge Management Activation Challenges
In Algerian Public Sector Institutions**

Main Challenge	Type	Strategic Institutional Effect on KM
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***The Role of Technological Readiness in Activating Knowledge Management
in Algerian Public Sector Institutions***

Hierarchical & Bureaucratic Logic	Structural	Produces institutional knowledge asymmetry and hinders horizontal flows
Gaps in Technological Readiness (NRI)	Infrastructure	Prevents the emergence of integrated institutional knowledge ecosystems
Behavioral Reservation & Cultural Barriers	Human/Behavioral	Limits the transformation of tacit professional experience into shared assets
Absence of Integrated KM Governance	Strategic	Weakens the alignment between digital initiatives and knowledge objectives
Specialized Competency Polarization	Human Capital	Creates cognitive gaps in advanced knowledge production and utilization

Source: Elaborated by the author based on (OECD, 2024; Portulans Institute, 2023; United Nations, 2022; MPT, 2023).

Table number (2) illustrates that technological limitations are only the visible manifestation of deeper governance and structural constraints within Algerian public institutions. Dense bureaucratic procedures and rigid hierarchical configurations hinder horizontal knowledge flows and create organizational silos, where tacit knowledge remains confined to functional units instead of being integrated into shared institutional memory systems (Chong & Choi, 2005). In the Algerian context, this structural fragmentation tends to perpetuate localized decision-making and reduces opportunities for cross-unit knowledge integration.

At the human capital level, knowledge capabilities emerge as a key factor in explaining the success of KM activation. Contemporary scholarship emphasizes that institutional knowledge effectiveness is not measured by information availability alone, but by an organization's ability to transform operational data into strategic analytical intelligence. Despite ongoing digital training efforts, national reports suggest that programs within the Algerian public sector continue to prioritize basic digital literacy over advanced analytical competencies. This capacity gap appears to constrain the effective use of digital tools for complex problem solving, innovation, and evidence-based policy formulation. At the strategic level, the absence of integrated digital and knowledge governance remains a significant institutional limitation, as modern KM requires a comprehensive governance architecture that links digital policy, human capital development, and organizational processes (OECD, 2024).

Digital transformation policies in the Algerian public sector continue to exhibit a predominantly service-centered approach. While initiatives often succeed in improving administrative accessibility through online portals, they frequently fall short of restructuring internal knowledge production mechanisms or fostering institutional learning environments. In this context, technological modernization tends to enhance user access points rather than fundamentally transform how knowledge is created, shared, and utilized within administrative structures. Furthermore, the economic dimension represents a structural constraint; effective KM systems require sustained long-term investments in digital infrastructure, data analytics, and specialized expertise in knowledge governance.

Overall, the challenges associated with activating knowledge management within Algerian public institutions reflect a broader institutional transformation dynamic, rooted in the transition from procedural administrative governance toward more knowledge-driven models. Addressing these challenges calls for a reconfiguration of the relationships between technology, organizational structures, and governance mechanisms, within an integrated framework that positions knowledge management as a strategic driver of institutional performance and public innovation.

4-3- Strategic Pathways for KM Activation in Algerian Public Sector

The ongoing organizational and technological transformations within Algerian public institutions are not only generating favorable conditions for Knowledge Management, but are also delineating a set of strategic pathways through which KM can be effectively activated and institutionalized. Rather than being reduced to isolated opportunities, these developments collectively reflect a gradual transition toward knowledge-oriented governance, where digital infrastructure, human competencies, and institutional practices converge to enable the systematic mobilization of knowledge.

In this perspective, the emerging pathways of KM activation in the Algerian public sector can be synthesized as follows:

Table number (3): Strategic Pathways and Indicators for KM Activation in Algerian Public Institutions

Strategic Pathway	Source	Quantitative Indicator
Expansion of Digital Infrastructure	(United Nations, 2022); (World Bank, 2022)	35% increase in digital services (2020-2023)

Improvement of Technological Readiness	(Portulans Institute, 2023)	60% of central administrations equipped with advanced systems
Development of Human Capital	(MPT, 2023)	%42of employees received specialized digital training
Accumulation of Local Digital Experiences	(HCN, 2025)	25% reduction in processing time; 18% increase in user satisfaction
Alignment with International Governance Frameworks	(OECD, 2025)	Integration of KM into governance and reform strategies

Source: Elaborated by the author.

The strategic pathways presented in Table (3) illustrate how the activation of Knowledge Management in Algeria is evolving from a mere conceptual framework into a structured institutional reality. At the foundational level, the 35% growth in digital services reflects the rapid expansion of digital infrastructure, which serves as the primary enabler for institutional transformation. This structural expansion is further reinforced by enhanced technological readiness, with approximately 60% of central administrations now equipped with advanced systems (Portulans Institute, 2023). These technological assets allow institutions not only to collect data but also to transform it into actionable knowledge, supporting the development of internal knowledge ecosystems and evidence-based decision-making (United Nations, 2022).

The significance of these technological gains is subsequently amplified through the development of human capital. The fact that 42% of the workforce has received specialized digital training (HCN, 2025) represents a strategic lever that enables Algerian institutions to translate individual expertise into shared organizational knowledge. When these competencies are embedded into daily routines, they strengthen institutional memory and mitigate the risks of knowledge loss resulting from staff turnover or retirement. The practical effects of these pathways are exemplified in Algiers Province, where digitalization has optimized knowledge flows, reduced processing times by 25%, and increased user satisfaction. These outcomes demonstrate that systematic KM activation is not merely a theoretical objective but is practically achievable within the Algerian institutional context. Finally, alignment with international governance

frameworks (OECD, 2025) ensures that these technological and human investments are integrated into a coherent "Knowledge Architecture." By embedding KM principles within institutional governance, Algerian public institutions position knowledge at the core of their strategic agenda, fostering a learning-oriented culture and supporting adaptive, sustainable performance and institutional innovation.

Conclusion

This study confirms that technological readiness in Algeria's public sector has evolved from a mere technical support factor into a structural catalyst reshaping the dynamics of Knowledge Management. The findings indicate that this readiness has a direct effect on the activation of KM by providing the fundamental infrastructure necessary for the systematic generation and documentation of information. This transformation reinforces the position of knowledge as a strategic asset, essential for strengthening institutional resilience and adaptive performance amidst rapid digital shifts. However, the analysis reveals that the effectiveness of these technical means remains contingent upon their alignment with existing organizational frameworks and the capacity of human capital to assimilate these requirements, as traditional hierarchical structures and bureaucratic complexities continue to present objective challenges to the fluid flow of institutional expertise.

Based on these findings, the research highlights the importance of reinforcing technical systems with flexible organizational mechanisms that ensure the continuity of knowledge flow and prevent the loss of accumulated expertise. This necessitates establishing a national system for documenting professional expertise and developing advanced training programs focused on knowledge analytics and data-driven decision-making. Furthermore, designing institutional incentive mechanisms is essential to promote knowledge sharing and reduce resistance to change. Investments in digital transformation should also be strategically directed toward institutions with lower readiness levels to reduce institutional digital disparities, ensuring that KM becomes a core component of continuous organizational learning and institutional innovation.

In this context, the focus on structural and technological variables in this research paves the way for subsequent studies to explore other behavioral and organizational factors that may intersect with this process, particularly those related to a professional culture resistant to change. Furthermore, investigating the impact of modern technologies on automating knowledge discovery remains a promising avenue for deepening the understanding of advanced knowledge management models in Algerian public institutions.

Ultimately, transitioning from KM as an administrative task to a dynamic strategic capability remains the primary challenge for achieving sustainable performance and structural adaptability in an increasingly complex environment.

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