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ISO STANDARDS: A LEVER FOR KNOWLEDGE CAPITALIZATION IN COMPANIES

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Abstract. *In an economic context characterized by intensified competition and increasingly complex organizational challenges, effective knowledge management has become a vital strategic lever. Recognizing its importance in establishing a high-performing management system, the International Organization for Standardization (ISO) introduced ISO 9001:2015 and ISO 30401:2018 to structure and facilitate knowledge management initiatives within companies. A study conducted on a sample of companies in western Algeria, presented in this article, highlights the significant impact of ISO 9001 certification and the adoption of ISO 30401:2018 guidelines on the perception and level of integration of knowledge management.*

Keywords: *knowledge performance, organizational knowledge, knowledge capitalization, ISO 9001, ISO 30401, Algeria.*

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Introduction

In an economic environment characterized by intensifying competition and increasing complexity of organizational challenges, effective knowledge management stands out as an indispensable strategic lever. Recognizing the importance of creating, disseminating, and preserving knowledge for a high-performing management system, the International Organization for Standardization (ISO) seeks, through the ISO 9001:2015 and ISO 30401:2018 standards, to make a significant contribution to the structuring and facilitation of knowledge management processes within companies.

ISO 9001:2015, by explicitly introducing the concept of “organizational knowledge”, highlights its central role in operational continuity, product and service quality, as well as continuous improvement. As for ISO 30401:2018, it provides a specific methodological framework for designing, implementing, and evaluating a knowledge management system aligned with the strategic objectives of the organization.

In this paper, we conduct an empirical study to analyse to what extent and by which mechanisms these standards promote the adoption of a structured and organized approach to knowledge management in companies.

Literature Review

Knowledge management: issues, benefits, and constraints

The concept of knowledge management (KM)

Knowledge is an abstract and powerful concept, but it still lacks a precise definition. Since ancient times, from Greek philosophers to contemporary knowledge management specialists, numerous attempts have been made to define it, without reaching a clear consensus (Bolisani et al., 2018). That being said, knowledge management (KM) can be defined as “the art of creating value

by exploiting intangible assets" (Amidon, 2001). This discipline is closely linked to the valorization of intellectual capital, organizational growth, and the need for companies to enhance their collective intelligence and overall performance. Expertise, whether individual or collective, represents a crucial differentiating advantage in a competitive context. Thus, it becomes imperative for an organization to view competencies as the foundation for its continuous improvement and strategic sustainability.

Knowledge management in organizations

The economic development of companies, combined with the increasing use of communication technologies, creates a greater need for securing and optimizing information and knowledge (Aliyev, 2022). These are not only the basis for producing goods and services but also a strategic lever for competitiveness. One of the major challenges of contemporary management is ensuring the smooth and continuous flow of knowledge within organizations (Nonaka et al., 2008). While their creation and transmission are essential steps, their formalization through tangible supports, such as documents or searchable databases, remains fundamental to ensure their sustainability and accessibility to all organizational stakeholders.

Benefits and challenges of knowledge management

A substantial body of scientific work highlights the benefits of effective knowledge management within organizations (see, for instance, Heredia-Calzado & Duréndez, 2019). This management serves as a critical strategic lever, directly supporting organizational efficiency, enhancing internal collaboration, and strengthening competitive advantage. By optimizing knowledge management, organizations can access major benefits, including:

• Improved decision-making through simplified access to reliable and up-to-date knowledge;

• Optimization of processes and encouragement of continuous improvement;

• Strengthening organizational resilience and adaptability, particularly in uncertain environments;

• Increased competitiveness by highlighting unique intangible assets.

The accessibility of knowledge plays a key role in employee professional development and organizational innovation. It is crucial to view knowledge as dynamic assets, constantly evolving, and to cultivate an organizational environment where knowledge is shared, verified, and enriched collaboratively.

Pillars of knowledge management anchoring

The success of a knowledge management strategy relies on two essential pillars. The first is establishing an organizational culture conducive to collaboration and knowledge sharing. This culture encourages the co-construction of knowledge, a key factor in generating added value and supporting continuous improvement (Adeinat & Abdulfatah, 2019). The second pillar lies in adopting high-performance technological tools. These tools must allow for the organization, verification, and secure transmission of knowledge while meeting the specific needs of organizations. Their effectiveness also depends on their ability to integrate into a dynamic of continuous evolution (Ruggles, 2009).

Constraints for the implementation of knowledge management

Knowledge management (KM) has become a strategic issue for organizations seeking to improve their competitiveness in a rapidly evolving, information-rich economic environment. However, despite its theoretical importance and the potential benefits it offers, its implementation in companies often faces several major constraints.

Ambiguity for practitioners

Although the concept of knowledge management is well-defined theoretically, it remains ambiguous for many practitioners (Alvesson, 1993). Academic definitions highlight processes such as identifying, creating, codifying, and sharing organizational knowledge. However, these concepts are often too abstract for operational managers, who struggle to translate them into concrete actions

in their professional environment. This conceptual gap hinders the adoption of a structured knowledge management approach.

Confusion between knowledge management and competency management

Another recurring constraint is the confusion between knowledge management and competency management (Al-Hawamdeh, 2002). While competency management mainly focuses on the individual development of employees and their adaptation to specific roles, KM takes a more global approach. It aims to create a shared organizational memory that is accessible to all, beyond individual capabilities. This lack of understanding of the fundamental differences can limit the effectiveness of implemented initiatives, with companies focusing more on traditional training programs rather than integrated knowledge management systems.

Lack of awareness of the benefits

The absence of awareness regarding the benefits of KM is also a major obstacle. Many organizations underestimate the strategic benefits of effective knowledge management (Hislop et al., 2018), such as increased innovation, improvement of internal processes, and resilience to economic disruptions. This lack of vision often prevents decision-makers from investing in KM initiatives, considering them secondary or non-priority projects.

Complexity of implementation and associated costs

The implementation of a knowledge management process is inherently complex (Pacheco & Paul, 2023). It involves several critical steps, such as:

• Identifying knowledge: Recognizing strategic knowledge within the organization, often dispersed and tacit.

• Codifying knowledge: Transforming tacit knowledge into explicit, usable formats, a task that requires significant resources.

• Transmission and sharing: Ensuring that knowledge is accessible and usable by the relevant employees, while maintaining security and confidentiality.

Furthermore, the cost associated with these processes, including technological development, employee training, and time required to integrate new practices, represents a significant barrier (Albers, 2009). These high initial investments can discourage companies, especially small and medium-sized enterprises.

Attempt to contribute through international standards

The constraints associated with knowledge management in companies, as mentioned earlier, are not insurmountable but require a structured and adapted approach, as well as a simplified methodology to encourage understanding and the implementation of knowledge management processes in companies. In this sense, the International Organization for Standardization has launched initiatives aimed at this goal. Indeed, ISO, through standards such as ISO 9001:2015 and ISO 30401:2018, seeks to help organizations develop a system that fosters value creation through knowledge (Maximo et al., 2020).

The contribution of ISO 9001:2015

Before the release of the 2015 edition, the 2008 version of ISO 9001 already addressed the notion of competence (knowledge & experience), i.e., the ability to apply knowledge and expertise to achieve expected results in the workplace (Wilson & Campbell, 2016). The 2015 version made it a standalone requirement. Integrated in section 7 “SUPPORT”, this requirement mandates that the company identify and manage the knowledge necessary to achieve product and service conformity. The associated chapter 7.1.6 “Organizational Knowledge” in ISO 9001 invites companies to regard this knowledge as a vital resource for the organization’s sustainable success and take appropriate measures accordingly.

This requirement primarily concerns the knowledge an organization needs “to carry out its processes and ensure the conformity of products and services”. The organization must ensure that this knowledge is maintained and accessible. Additionally, it must consider how to acquire and

make available knowledge that may be needed in the future, in addition to the knowledge already in place.

The framework provided by ISO 9001:2015

It becomes clear that implementing KM remains a challenge due to its complexity. ISO 9001:2015, relating to quality management systems, introduced an innovative approach by placing KM at the core of organizational practices, offering a framework for its promotion and implementation (Demir et al., 2023).

ISO 9001:2015 provides a structured methodology for knowledge management, focusing on several essential elements:

• Identification of critical knowledge: The standard requires companies to identify the strategic knowledge necessary to achieve their goals, including technical, operational, and organizational knowledge.

• Updating and preserving knowledge: It encourages organizations to formalize and document essential knowledge, ensuring its sustainability and accessibility, even in case of staff departures or team changes.

• Sharing and transferring knowledge: ISO 9001:2015 emphasizes the importance of disseminating relevant knowledge through training, mentoring, and technological tools.

Facilitating the implementation of knowledge management

The standard not only promotes KM but also facilitates its implementation through:

• A universal and adaptable framework: ISO 9001's risk- and opportunity-based approach allows companies to design KM processes tailored to their specific needs, regardless of their size or sector.

• Integration into the quality management system (QMS): By incorporating KM into the QMS, the standard encourages a systemic approach, linking knowledge to decision-making processes, risk management, and continuous improvement.

• Support for innovation: By consolidating organizational knowledge, the standard strengthens companies' ability to innovate, respond to market changes, and develop superior products and services.

Benefits for organizations

Implementing the principles of ISO 9001:2015 for KM can offer significant benefits:

• Reduction of knowledge loss: Employee departures or organizational changes no longer lead to critical knowledge loss.

• Improved efficiency: Processes are optimized by better leveraging available knowledge.

• Strengthened resilience: Companies become more agile and better prepared for challenges through structured, accessible collective knowledge.

• Stakeholder satisfaction: Better knowledge management helps deliver consistently high-quality products and services, thus strengthening customer and partner trust.

ISO 30401:2018: A specific standard for knowledge management

In addition to the contribution of ISO 9001, ISO introduced another standard in 2018 specifically for knowledge management in organizations: ISO 30401:2018.

ISO 30401:2018, Knowledge Management Systems, sets rigorous principles and requirements for knowledge management, enabling organizations to acquire competencies to optimize the value of their organizational knowledge (Pesqueux, 2020).

This standard, part of the supporting standards family, redefines expectations for knowledge management. Unlike ISO 9001, where knowledge was addressed generically, this new standard aims specifically to position organizational knowledge as a strategic lever. Its dual goal is to provide recommendations for optimizing knowledge and to serve as a basis for audit, certification, and evaluation processes.

Organizational knowledge is recognized as a key factor for effectiveness, collaboration, and competitiveness. It offers opportunities for professional development, particularly through

structured processes that allow for the creation, consolidation, application, and reuse of knowledge. Decentralized organizations, operating in diverse contexts, can maximize the benefits of sharing practices and cross-learning. However, this knowledge is often siloed or held by experts, exposing the organization to critical losses in the event of departures or transformations (de Géry, 2023).

Methods

Problem statement and objectives of the study

This study aims to analyse the extent to which ISO 9001 certification and the adoption of ISO 30401:2018 guidelines influence knowledge management within companies.

The objective of this research is twofold. On the one hand, it compares the perception and implementation of knowledge management between certified and non-certified companies. On the other hand, it evaluates the impact of ISO standards on the structuring and operationalization of knowledge management.

Population and Sampling

The target population consists of medium-sized companies (120 to 230 employees) from the western region of Algeria, operating in various sectors, some of which are ISO 9001 certified, while others are not.

The sampling follows a stratified approach, taking into account the size, sector, and certification status of the companies. It includes two distinct groups:

- Group 1: ISO 9001 certified companies
- Group 2: Non-certified companies

Data collection

A total of 150 structured questionnaires were distributed to 30 companies (15 certified and 15 non-certified). For each company, the questionnaire was administered to five categories of managers:

- General Manager
- Human Resources Director (HRD)
- Operational Manager
- Sales and/or Logistics Manager
- Administrative Manager

In addition, semi-structured interviews were conducted in six companies (3 certified and 3 non-certified) to deepen and/or support the analysis of the results obtained.

Results

Comparison of perceptions between certified and non-certified companies

In this first part of the study, we aim to compare the perception of the concept of “knowledge management” between the managers of ISO 9001 certified companies and those of non-certified companies. This approach is based on the assumption that certified companies are expected to master this concept, as knowledge management is one of the requirements of the ISO 9001:2015 standard. Indeed, according to paragraph 7.1.6 of this standard, organizations must determine, keep updated, and make available the knowledge necessary for the implementation of their processes and the conformity of their products and services.

Table 1. Perceptions of KM between certified and non-certified companies

How would you define knowledge management?	ISO 9001/2015 Certified Companies	Non-Certified Companies	Difference (%)
Information and Document Management	10%	19%	-9%
Capitalization and Sharing of Knowledge	66%	15%	+51%
Training and Competency Development	8%	22%	-14%
Individual Effectiveness Management	4%	7%	-3%
Management of Expertise	12%	37%	-25%

Tests and data interpretation

Chi-square analysis (X^2):

The Chi-Square test yielded the following results:

• Chi-Square Statistic = 66.01

• P-value = 1.57×10^{-13}

• Degrees of Freedom = 4

The p-value is extremely low (well below 0.05), indicating that the difference in perceptions of "knowledge management" between ISO 9001 certified and non-certified companies is highly significant. In other words, there is a strong relationship between ISO 9001 certification and the understanding of the concept.

Data interpretation

Notably, we observe that:

• Certified companies (ISO 9001) perceive knowledge management as a process of capitalization and sharing of knowledge (66% compared to only 15% for non-certified companies, a difference of +51%).

• Non-certified companies tend to confuse knowledge management with the management of expertise (37% compared to only 12% for certified companies, a difference of +25%) and with employee training (+14%).

• Non-certified companies are more likely to associate this concept with training and competency development (22%), whereas this association is much weaker in certified companies (8%).

• Information and document management is more frequently cited by non-certified companies (+9%), indicating a more administrative view of the concept.

In conclusion, it is clear that ISO 9001 certified companies have a better understanding of the true meaning of knowledge management and perceive it primarily as a process of knowledge sharing and capitalization. In contrast, non-certified companies have a more vague perception, associating the concept with expertise management and employee training, which reflects a lack of structure in their approach.

The impact of ISO 9001 certification thus seems significant in the structuring and implementation of a more coherent approach to knowledge management.

Furthermore, semi-structured interviews confirmed these results and provided additional explanations. Certified companies, as part of their certification process, have undergone specific training on this aspect, in accordance with the requirements of the ISO 9001:2015 standard.

Additionally, several years of practical implementation have reinforced their understanding and mastery of knowledge management.

Level of integration of knowledge management

The data collected and presented in the table below aim to measure the level of integration of knowledge management by comparing two categories of companies, certified and non-certified. This evaluation is based on four indicators formulated as questions.

Table 2. Level of integration of knowledge management

Does your company:	ISO 9001/2015 Certified Companies	Non-Certified Companies
Integrate knowledge management formally into its company policy?	Yes 66%	Yes 3%
Does it integrate knowledge into a management procedure?	Yes 82%	Yes 4%
Does it have a documented knowledge collection support?	Yes 85%	Yes 4%
Does it use specific methods for structuring and sharing knowledge?	Yes 92%	Yes 2%

Tests and data interpretation

Chi-square analysis (X^2):

• All categories show high Chi-Square values with very low p-values (<0.05), indicating a statistically significant association between ISO 9001 certification and the integration of knowledge management.

• Most significant category: "Specific methods and sharing of knowledge" (X^2 = 176.33, p < 0.0001).

• Least significant category (but still significant): "Formal integration of knowledge management" (X^2 = 121.10, p < 0.0001).

Data interpretation

This study aims to compare the level of integration of knowledge management between ISO 9001/2015 certified and non-certified companies. The analysis relies on four key indicators:

a. Integration of knowledge management into company policy

• 66% of certified companies formally integrate knowledge management into their company policy, compared to only 3% of non-certified companies.

• In contrast, 92% of non-certified companies do not consider this integration, showing a significant disparity between the two groups.

b. Consideration of knowledge in a management procedure

• 82% of certified companies integrate knowledge management into their procedures, whereas only 4% of non-certified companies do.

• Again, the majority of non-certified companies (94%) do not consider this aspect.

c. Existence of documented support for knowledge collection

• 85% of certified companies have documented support, while only 4% of non-certified companies do.

• 96% of non-certified companies have no dedicated documentation for knowledge management, highlighting a significant gap.

d. Use of specific methods for structuring and sharing knowledge

• 92% of certified companies use specific methods to structure and share knowledge.

• In contrast, only 2% of non-certified companies have such practices.

e. Comparative analysis and implications

• ISO 9001/2015 certified companies show a high level of integration of knowledge management, with values exceeding 80% in all the dimensions studied.

• Non-certified companies exhibit very low adoption, with a high proportion (>90%) stating they do not integrate these practices at all.

• These results suggest that ISO 9001 certification strongly encourages the structuring and formalization of knowledge management practices, likely due to the documentation and continuous improvement requirements of the standard.

Finally, this part of the study highlights a significant gap between certified and non-certified companies in terms of knowledge management integration. These results emphasize the importance of ISO 9001 certification as a lever to structure and formalize knowledge management within organizations.

Impact of ISO standards on knowledge management performance

Based on the previous results concerning the first group of ISO 9001 certified companies, which show a high degree of application of knowledge management principles and practices, we further deepened the study to evaluate the extent of the impact of these practices on their performance.

Tests and Data Interpretation

Cronbach's alpha test

The analysis revealed a Cronbach's alpha coefficient of 0.79, indicating satisfactory internal reliability of the questionnaire.

This result suggests solid internal consistency, confirming that the items measure the same concept in a coherent manner.

Table 3. Impact of ISO standards on KM performance

In your company:	None	Low	Medium	Important	Very Important
To what extent do you think ISO 9001 certification has contributed to improving knowledge management?	4%	5%	17%	63%	11%
To what extent have ISO 9001/30401 encouraged the adoption of a systematic knowledge management approach?	12%	12%	15%	51%	10%
To what extent has ISO certification facilitated the transmission and capitalization of knowledge within your company?	5%	7%	19%	58%	11%
Have you observed an improvement in performance due to knowledge management?	12%	23%	27%	31%	7%

Data interpretation

a. Contribution of ISO 9001 to the improvement of knowledge management

A significant majority of respondents (74%, i.e., 63% + 11%) believe that ISO 9001 plays a crucial role in improving knowledge management. According to some interviewed respondents, this positive perception can be explained by several factors:

• Standardization of processes: ISO 9001 imposes documented practices that favour the structuring and organization of knowledge, thus ensuring more effective management.

• Improved traceability: Due to documentation and procedural management requirements, information becomes more easily accessible, better exploited, and less susceptible to the loss of critical knowledge.

• Anchoring a culture of continuous improvement: ISO 9001 promotes organizational learning by incorporating gap analysis and corrective actions, thereby strengthening the sustainability and evolution of knowledge within organizations.

Thus, for these companies, ISO 9001 is widely perceived as a strategic lever for knowledge management, with significant recognition of its impact.

However, despite this largely favourable trend, a minority of certified companies do not perceive such a marked impact. Indeed, 4% of respondents consider its contribution negligible, while 5% find it weak. This reluctance could be attributed to a purely administrative and bureaucratic implementation of the certification, without a true exploitation of its potential for knowledge management. In these cases, ISO 9001 is more seen as a simple label facilitating access to certain markets, rather than an effective management system and a lever for continuous improvement.

b. Promotion of a systematic knowledge management approach by ISO 9001/30401

According to these results, almost two-thirds of respondents (61%, i.e., 51% + 10%) consider that ISO 9001 and ISO 30401 play an important or very important role, for the following reasons:

• ISO 30401 is specifically designed for knowledge management, which explains why more than half of respondents find it encourages a systematic approach.

• ISO 9001, which requires the formalization and structuring of activities: This standard urges companies to establish formal processes for sharing, storing, and creating knowledge.

• ISO 30401 encourages digitalization: It promotes the use of databases and digital tools to centralize knowledge.

• Employee training and involvement: ISO 30401's recommendations encourage defining clear responsibilities in knowledge management.

However, it is essential to note that the impact of ISO certification is not unanimously agreed upon by respondents. Indeed, 24% of participants (12% who consider its impact null and 12% who deem it weak) express reservations about the effectiveness of this standard. This perception could be explained by the fact that some certified companies only meet the minimum requirements of ISO 9001 to maintain their certification, without fully integrating ISO 30401's guidelines. This minimalist approach may limit the potential impact of the standard on knowledge management.

c. Facilitation of knowledge transmission and capitalization by ISO certification

The study results on this point reveal that more than two-thirds of respondents (69%, i.e., 58% + 11%) consider that ISO certification has a significant and very significant impact on the transmission and capitalization of knowledge within companies. This significant majority highlights notable recognition of the effectiveness of ISO certification in these areas. Conversely, a minority of 12% (5% considering the impact null and 7% rating it as weak) does not perceive any substantial effect.

These data indicate that, for the majority of respondents, ISO certification effectively facilitates the transmission and capitalization of knowledge within organizations. This positive perception can be attributed to several interrelated factors, based on the responses from the interviewed managers. First, the formalization of tacit knowledge is encouraged by ISO standards, which prompt the documentation of procedures, feedback, and best practices, making implicit knowledge more accessible and transferable. Next, the establishment of document management systems is often a result of ISO certification, enabling companies to centralize knowledge and prevent its loss. Finally, some practices promoted by these standards, such as internal audits and feedback loops, encourage collaboration and facilitate knowledge sharing between teams. These combined elements contribute to strengthening knowledge management within certified organizations. Additionally, the previously mentioned reasons may also provide explanations for the 12% who expressed reservations on this issue.

d. Improvement of performance through knowledge management

The perceived impact of knowledge management on performance is more nuanced compared to other criteria. Indeed, 31% of participants believe this improvement is significant, but only 6% consider it very significant. Additionally, 35% of respondents (12% + 23%) consider the improvement negligible or weak. These figures suggest that the effect of knowledge management on performance is less pronounced, which could indicate difficulty in directly linking ISO certification to measurable performance gains.

Several explanations can be proposed to understand this perception:

• The indirect link between knowledge management and performance: While the structuring of knowledge is beneficial, the direct impacts on performance are often harder to quantify.

• Lack of clear metrics: Few companies measure the impact of knowledge management practices on their financial or operational results.

• Reluctance to change: Adopting new practices takes time, and the impact on performance may not be immediately visible.

• Regarding the mixed perception, several factors may be considered:

  ◦ Some employees and managers do not see an immediate correlation between knowledge management and profitability.

  ◦ Even when knowledge is well-structured, it is not always effectively utilized in strategic decision-making.

Discussion

Synthesis of study results

This study highlights the significant impact of ISO 9001 certification and the adoption of the guidelines from ISO 30401:2018 on knowledge management within companies. The comparative

analysis between certified and non-certified companies revealed major differences both in perception and in the implementation of knowledge management practices.

A more structured perception in certified companies

The results demonstrated that ISO 9001 certified companies perceive knowledge management as a strategic process for capitalization and knowledge sharing (66% compared to 15% for non-certified companies). In contrast, non-certified companies have a more administrative and fragmented perception, associating knowledge management more with the management of expertise or employee training. The statistical analysis confirmed a significant difference between the two groups, suggesting that ISO 9001 certification plays a key role in the dissemination and understanding of the concept.

A more advanced level of knowledge management integration

The study also showed that certified companies more systematically integrate knowledge management into their organizational structure:

• 66% of certified companies integrate it into their company policy (compared to 3% of non-certified companies).

• 82% of certified companies integrate it into a management procedure (compared to 4% of non-certified companies).

• 92% of certified companies use specific methods for structuring and sharing knowledge (compared to 2% of non-certified companies).

These results demonstrate that ISO 9001 certification strongly contributes to the formalization and structuring of knowledge management practices, likely due to the documentation and continuous improvement requirements imposed by the standard.

A positive but nuanced impact on performance

The impact of certification on the performance of knowledge management was also evaluated. A majority of certified companies perceive ISO 9001 as playing a key role in improving knowledge management (74% of respondents consider its impact as important or very important). However, a minority (9%) rate its influence as weak or non-existent, which may be explained by a more administrative implementation of the certification, without a real adoption of its practices.

Regarding the improvement of organizational performance, the results are more nuanced:

• 31% of respondents believe that knowledge management has a significant impact on performance.

• 35% judge its impact as weak or non-existent, highlighting the difficulty in directly measuring the benefits in terms of productivity and profitability.

This mixed perception may be explained by the fact that companies do not always have clear indicators to measure the direct effect of knowledge management on their economic and operational performance.

ISO 30401: An underused lever

Finally, although ISO 30401 is a standard specifically focused on knowledge management, its integration remains limited. Only 61% of certified companies believe it promotes a systematic approach, while 24% consider its impact weak or non-existent. This situation is likely due to the fact that most companies focus their certification on ISO 9001 without fully exploiting the guidelines of ISO 30401.

Conclusion

In conclusion, effective knowledge management has become a crucial strategic lever for organizations operating in an increasingly competitive and complex economic environment. The ISO 9001:2015 and ISO 30401:2018 standards provide structured frameworks for integrating knowledge management into quality management systems. ISO 9001:2015 emphasizes the importance of organizational knowledge to ensure the conformity of products and services, while ISO 30401:2018 offers specific guidelines for establishing, implementing, and improving a

knowledge management system aligned with the organization's strategic objectives. The adoption of these standards allows companies to capitalize on their intellectual capital, improve their overall performance, and strengthen their competitive advantage by fostering a culture of sharing and preserving knowledge. Thus, organizations that integrate these normative approaches are better positioned to adapt to current and future challenges, ensuring their sustainability and long-term success.

The study conducted on a sample of companies from the western region of Algeria confirms that ISO 9001 certification plays a key role in the perception, integration, and structuring of knowledge management within companies. Certified companies adopt a more formal and strategic approach to knowledge management, unlike non-certified companies, which have a more fragmented and administrative view of the concept.

However, while ISO certification has a positive impact, its influence on performance remains perceived in a variable way. This observation highlights the need for companies to go beyond mere administrative compliance and genuinely exploit the potential of ISO standards to improve their knowledge capitalization and transmission.

Finally, although ISO 30401 is a major asset for structuring knowledge management, its adoption remains limited and requires better awareness within companies to maximize its use.

In summary, this research highlights the importance of ISO certification as a strategic lever for knowledge management, but also the need for a deeper adoption of best practices to fully capitalize on it.

Study limitations and perspectives

This research presents certain limitations while opening up promising avenues for further study.

Study limitations:

• The study is limited to a specific region and sector, reducing the generalisability of the results.

• The findings rely on respondents' subjective perceptions, necessitating quantitative validation.

• The study does not measure the evolution of knowledge management following ISO certification.

• There is a lack of analysis on synergies with other management systems (e.g. ISO 27001, ISO 14001).

• The research does not explore in detail the organisational and human barriers to adopting ISO standards.

Research Perspectives:

• Comparing companies of different sizes, sectors, and countries to refine the findings.

• Analysing the differences in adoption and benefits related to ISO standards.

• Measuring the gains in productivity, innovation, and knowledge retention.

• Studying the role of big data and AI in knowledge management.

• Identifying barriers to change and proposing adoption strategies.

• Tracking companies over several years to assess the long-term sustainability of ISO practices.

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