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The Possibility of the Application of Requirements Knowledge Management Systems in accordance with standard ISO 30401:2018/ A Case Study at Middle Technical University- Technical College of Management / Baghdad: Kemungkinan Penerapan Sistem Manajemen Persyaratan sesuai dengan standar ISO 30401:2018 / Studi Kasus di Universitas Teknik Menengah - Sekolah Tinggi Manajemen / Baghdad

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Abstract

General Background: Knowledge management systems play a crucial role in supporting organizational learning and decision-making in modern institutions. **Specific Background:** ISO 30401:2018 provides a structured framework for implementing knowledge management systems across organizations. **Knowledge Gap:** Limited empirical evaluation exists regarding how ISO-based knowledge management requirements are applied and their contribution to organizational performance. **Aims:** This study evaluates the application of knowledge management system requirements based on ISO 30401 and examines their role in improving institutional practices. **Results:** The findings indicate that structured knowledge processes, including creation, sharing, and application, are associated with improved coordination, decision-making, and administrative performance, although implementation levels vary across organizations. **Novelty:** The study applies an ISO-based framework to systematically assess knowledge management practices within organizational contexts. **Implications:** The results highlight the importance of institutional commitment and continuous learning in implementing knowledge management systems aligned with international standards.

Keywords: Knowledge Management, ISO 30401, Organizational Performance, Knowledge Systems, Institutional Development

Key Findings Highlights

Structured knowledge processes support internal coordination and efficiency

Variation observed in organizational readiness and system implementation

Standard-based frameworks guide systematic knowledge practices

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1. Introduction

Knowledge management systems are considered to be vital tools that play an important role in improving the performance of institutions, innovation, and efficiency in different fields. The changing world that we see today has made knowledge an essential resource for any organization, which plays a direct role in gaining a competitive advantage. It is for this reason that many learning institutions have expressed their interest in using knowledge management systems to improve the standards of learning and scientific research.

ISO 30401:2018 can be regarded as an internationally accepted norm that outlines criteria for forming and managing an efficient knowledge management system. The main agenda of this norm is to help organizations develop an efficient strategy to identify, document, and communicate knowledge with the objective of fostering learning and innovation. However, it has been observed that many organizations struggle with implementing this norm, especially in the education industry.

This study seeks to explore the feasibility of implementing the ISO 30401:2018 knowledge management system requirements at the Al-Mustansiriya University – Technical Administrative College, located in Baghdad. Through the case study, the status of knowledge management practices at the college today will be assessed, together with the difference or gap that exists in the practices against the requirements in the ISO 30401:2018 standard. This study has great significance in helping to increase the understanding on the improvement of knowledge management practices within learning organizations, which in turn facilitates the objectives of learning organizations. Additionally, the study can act as a reference point for learning organizations on the improvement of knowledge management practices.

This research is divided into four major chapters. Chapter One contains two major topics: the methodology of the research, which describes the process followed in conducting the study, and an overview of existing studies to situate the study into perspective. Chapter Two provides a strong theoretical background with major dependence on the Arabic literature as it pertains to the primary study variable: Knowledge Management Systems Methodology (ISO 30401:2018). Chapter Three focuses entirely on the application aspect of the study, connecting theoretical aspects to reality. Chapter Four wraps up with two major topics: the main outcomes of the study and recommendations to enhance the applicability of the study variable.

1.2 Research Problem Addressed in this study

By informing the researcher about the reality of knowledge management at the Central Technical University - College of Administrative Technology, we noticed a weakness in the knowledge management available in the college. This is due to the failure to implement knowledge management systems in accordance with approved systems and standards, as efforts are limited to collecting information without effective mechanisms for exchanging it or employing it to improve academic and administrative performance and the educational process within the college, in addition to neglecting acquired knowledge and skills. This category also lacks the desire to exchange information with their colleagues in the same department, due to the absence of binding procedures that encourage this. Therefore, senior management in the college under study should (analyze the reality of knowledge management, evaluate gaps, and develop effective mechanisms for implementing knowledge management systems) as basic steps to improve the organization's performance.

1.1 Research Questions

Therefore, the research problem can be expressed by raising the following questions:

1. What is the availability of the requirements of the standard in (ISO 30401:2018) Administrative Technical College?
2. What is the size of the gap between the actual performance of knowledge management and the requirements of the benchmark under study in the investigated college?
3. What are the strengths and weaknesses in applying knowledge management requirements measured against the standard under study in the researched college?

1.2 Research Significance

The importance of the current research is summarized as follows:

1. This investigation constitutes a guiding anchor for understanding how to apply the requirements of knowledge management systems measured against the referenced standard under study, which helps educational institutions improve their performance by enhancing knowledge and exchanging it among individuals.
2. This investigation plays a role in familiarizing senior management at the Administrative Technical College/Baghdad with the strengths and weaknesses in improving the efficiency of its employees through knowledge management systems in accordance with the specification under scrutiny.
3. It also augments awareness of the importance of knowledge management systems in improving institutional performance, which contributes to achieving the goals of the Central Technical University and developing effective strategies for continuous learning.

1.3 Research Objectives

In light of the research problem and the questions raised, the research takes up the task of:

1. Determining the availability of requirements for implementing knowledge management systems in accordance with the provisions of the referenced standard in the Administrative Technical College/Baghdad, research sample.

2. Measuring the size of the gap between the actual reality of knowledge management systems at the Administrative Technical College/Baghdad, research sample, and knowledge management systems evaluated against the relevant ISO-governed canon.

3. Identifying the strengths and weaknesses of the requirements of knowledge management systems measured against the relevant ISO-governed canon in the Administrative Technical College/Baghdad, research sample.

1.4 Research Methodology

The case study approach (Case Study) was adopted because it is the most appropriate approach to reach its goals, and which leads to the actual diagnosis of the problem in order to arrive at realistic solutions that can be applied

1.5 Limitations of research

1- Time Limitations: These are set as the year 2025, and it relied on checklists, personal interviews, observations, and obtaining real data.

2- Spatial Limitations: The researcher selected the Technical Administrative College / Baghdad as a sample to conduct the practical part of the research.

3- Scientific Limitations: These are represented by the applicability of knowledge management system requirements according to the ISO 30401:2018 standard / A case study at the Middle Technical University – Technical Administrative College / Baghdad.

1. Research methodology and some previous studies

2.1 Data Collection Methods

In the theoretical framework, the researcher relied on books, theses, dissertations, Arab and foreign journals, as well as ISO publications, and browsing the international information network (Internet). As for the data collection methods for the practical side, they relied on field visits to the research site and conducting personal interviews with relevant parties in the studied college .

Regarding the practical aspect, obtaining sources for developing the applied side depended on personal interviews, checklists, records, and official documents in the studied college .

A three-point Likert scale was utilised to assess the actual implementation level of knowledge management systems according to ISO 30401:2018. Relative weights were determined, followed by quantitative data analysis and result interpretation. Table (1) shows the items of the three-point scale and their weights .

(1) Table: The tripartite scale to demarcate the degree of conformity with the standard

0	1	2
Not implemented Not documented	Partially implemented, partially documented	Fully implemented and fully documented

Source: (Hassan, 2024)

After determining the degree of conformity for each axis of the ISO 30401:2018 standard, in light of what is included in the results of the inspection checklists, the following equations are adopted to extract the percentage of conformity and the size of the gap (Hassan, 2024, p. 8).

Weighted arithmetic mean

$$= \frac{\sum (\text{weight} \times \text{frequency})}{\sum \text{frequencies}}$$

\sum frequencies

Percentage of conformity

$$= \frac{\text{Weighted arithmetic mean}}{\text{Highest score on the scale}}$$

Highest score on the scale

Gap size

$$= 1 - \text{percentage of conformity}$$

2.2 Some Previous Studies

Some previous Arab and foreign studies on knowledge management systems measured against the backdrop of ISO 30401:2018. The research problem is anchored in

A study by Zigd & Moqimeh (2022).

This study undertakes to demarcate the extent of the impact of the knowledge management system according to the ISO30401 standard on human resources performance in the Skikda Port Authority. The research problem is anchored in addressing the effect of the knowledge management system according to ISO30401 on the performance of human resources in the Skikda Port Authority. The main question posed was: To what extent does the knowledge management system according to ISO30401 affect the performance of human resources at the Skikda Port Authority? The study relied on the descriptive-analytical method, using a questionnaire to collect data, which was distributed to a random sample of 304 workers. The data was analyzed using SPSS software. The results revealed that the Skikda Port Authority has the willingness and readiness to implement and strengthen the knowledge management system methodology according to ISO30401, by complying with all its requirements. The level of application is high, and the knowledge management system is considered the most successful means of improving the organization's outputs.

The study by (Mahmoud et al., 2025) is directed towards testing the impact of knowledge management system requirements measured against the backdrop of (ISO30401:2018) with its dimensions: leadership, planning, support, operation, improvement) on absorptive capacity with its dimensions (acquisition, assimilation, transformation, exploitation) in the General Company for Foodstuff Trading, affiliated with the Iraqi Ministry of Trade. The researched company suffers from a clear weakness in recognizing the value of internal and

external knowledge in achieving objectives and reaching the desired competitiveness. This was observed by the researchers during the field visit, which highlighted the company's need to better utilize its knowledge assets to augment performance by adopting a set of knowledge management standards and guiding principles as one of the main solutions aimed at supporting procedures related to leveraging acquired knowledge to transform routine human resource management practices towards excellence, creativity, and keeping up with developments. The research relied on the case study method and used a questionnaire form, based on a set of descriptive and analytical statistics represented by percentages, standard deviation, mean, and relative importance, through the use of statistical programs (SPSS 26, Amos). It was also found that the validity of the research hypothesis, this appears to show a positive effect of knowledge management system requirements in enhancing the absorptive capacity of knowledge.

The study by Prida et al. (2021) is conceived to provide a management framework based on the requirements of the ISO 55001 asset management system and the ISO 30401 knowledge management system. It seeks to identify the company's key knowledge areas that are essential for decision-making, business sustainability, and growth, and to conduct a gap analysis to estimate whether the core knowledge and main industrial capabilities align with the company's current resources. The fundamental question underpinning this study is the absence of a system or a set of principles and procedures aimed at organizing and guiding how knowledge is collected, shared, and used within the organization. The study relied on an exploratory survey methodology and used a questionnaire form, relying on a set of descriptive and analytical statistics, including percentages, standard deviation, mean, and relative importance. The research population consisted of educational institutions in Spain, and the sample was from the University of Seville.

Findings obtained from the research clearly show that intangible assets form a major reservoir for creating value; hence, efficient management of organizational knowledge as well as human capital is critical for maximizing the addition of value. The research paper, "ISO 30401 Validation as a New Basis in Research and Value Creation of Knowledge Management" by Hashemi et al. (2022), seeks to develop a management model that is consistent with the ISO 30401 knowledge management system standards, whose purpose is to improve knowledge management methods in organizations. The major issue at stake lies in the fact that it is not sufficient to organize and manage knowledge sharing and use at Iranian organizations; hence, it may result in lost opportunities, stifling, and a negative influence on business sustainability and development. On the other hand, it seeks to determine if ISO 30401 is a new standard that may work effectively as a basis for research on creating value and knowledge management as well as a certification standard. The study used a descriptive and analytical method, as well as a questionnaire, to focus on Iranian institutions as their populations. The study findings show that ISO 30401 is a standard that incorporates all research into a global standard that is functional and viable. The research clearly explains how ISO 30401 may directly contribute to creating value, as well as highlighting some possible managerial efforts to increase it. In addition, it provides a direction or suggestion on how future operation processes should work as a certification body, as well as implementing it at a management level, outlining steps that should be taken to develop or add value when implementing ISO 30401 as a standard.

3. The theoretical Framework of the study

3.1-An Overview of knowledge management as a concept

The concept of knowledge management focuses on its effectiveness in enhancing innovation by leveraging modern technologies associated with technical and scientific developments, in addition to the application of human intelligence by individuals. This management also contributes to the establishment of an informational society by promoting the exchange of ideas, which allows for better utilization of the available intellectual resources and bring ups opportunities for innovation and development (Al-Enezi, 2018, p. 24).

Marwa et al. (2018, p. 4) define knowledge management as "the process adopted by an organization to harness collective intelligence in achieving its strategic goals, which involves obtaining precise knowledge from the right individuals at the right time."

Chifiero (2020, p. 21) defines it as "the process determined by the organization to identify, capture, organize, and disseminate intellectual assets in a way that serves its interests and contributes to achieving sustainable long-term performance."

Valeri (2023, p. 1), on the other hand, described it as "a set of processes aimed at transforming intellectual resources into tangible values, with a primary focus on intangible assets."

Heisig (2024, p. 233) pointed out that it is a "conceptual and organizational framework that encompasses various activities and approaches necessary to understand the sources of knowledge in the organization and its circumstances, and to manage and utilize these sources in a way that supports the achievement of its objectives and maximizes their benefits."

The researcher defines knowledge management as "a set of processes and practices aimed at identifying, collecting, organizing, and distributing knowledge within an organization or community. These processes include all activities that help improve the use and sharing of knowledge among individuals and teams, thereby enhancing innovation and efficiency."

3.2 Knowledge management processes

Knowledge management processes are as follows: (Ghaniyah, 2025, p. 6), (Suleiman, 2025, p. 212), and (Al-Saeedi et al., 2025, p. 335)

1. Knowledge Diagnosis: Knowledge diagnosis is considered one of the fundamental elements in any knowledge management program, as policies and other programs are built based on the results of this diagnosis. Through this process, the types of knowledge available within the organization can be identified.

2. Knowledge Acquisition: Many researchers and knowledge management specialists agree that sources of knowledge acquisition can be either internal, through sharing experiences and practices, attending conferences, seminars, and discussions, or external, where knowledge management brings in knowledge across organizational boundaries by using technological developments that provide facilities such as the World Wide Web (Al-Amin & Wael, 2025, p. 41).

Knowledge Generation: The process of knowledge generation refers to creativity in producing new knowledge, which is achieved through the collaboration of work teams and support groups. This process contributes to the development of new ideas and practices that help in identifying problems and continuously finding innovative solutions for them.

Knowledge Storage: The knowledge storage process is concerned with organizational memory, where knowledge is retained through different forms, such as documents, electronic databases, expertise stored in expert systems, as well as knowledge embedded in organizational processes. The knowledge gained from others, as well as professional networks, also falls under knowledge storage (Al-Dosari & Al-Nouh, 2024, p. 321).

Knowledge management systems greatly improve both organizational and individual performance in terms of utilizing the knowledge available within the organization to aid in search and retrieval processes, as well as improving the efficiency of decisions made by

improving access to and subsequent retrieval of knowledge relevant to decisions (Muttaqi, 2020, p. 2). Santoro (2018, p. 5) describes knowledge management systems as follows: “Knowledge Management System: an information system used to manage knowledge within an organization, with the primary aim to improve knowledge-creation, storage, sharing, and application processes more efficiently.” However, knowledge management systems can also be described in terms of Natek & Lesjak (2021, p. 167) as follows: “Software solutions that employ diverse and mostly up-to-date information technologies to develop efficient knowledge management applications.”

According to (Tarambiwa et al, 2024, p. 2), it is defined as “an organizational environment that contributes to encouraging the exchange of knowledge among individuals through a culture of collaboration and trust, and provides tools that facilitate participation and collective learning.”

The researcher defines knowledge management systems as a set of processes and procedures that support the creation of organizational knowledge, its documentation, and transfer among employees, in a way that bolsters decision-making and improves performance efficiency, aiming to improve work processes, support decisions, increase productivity, and prevent the loss of expertise.

3.3 Factors for the Success of Knowledge Management Systems

The critical factors have been divided into six main dimensions, which specifically consist of: (Aburub, 2024, p. 1140) 1. Top Management Support: The organizational structure shows the presence of three main levels (top management, supervisors, and peers). Support from top management for the knowledge management system is of greater importance compared to their support for traditional transaction systems. 2. System Quality: System quality refers to a set of characteristics related to the performance of the information processing system itself. Many information systems researchers consider system quality to be one of the essential attributes that must be present in an information system. These desired attributes include ease of access, system flexibility, integration, response speed, the extent to which it meets user expectations, in addition to reliability, ease of use and learnability, usability, and other features that bolster the system's efficiency and effectiveness.

3. Information/Knowledge Quality: Information quality belongs to the performance metrics of information systems, that is, the quality of the information primarily produced by the system in the form of reports. Accuracy, precision, timeliness, reliability, completeness, conciseness, relevance, understandability, meaning, appropriate timing, comparability, and formatting are the desired characteristics.

4. Knowledge Intensity: While most contemporary employees are considered knowledge workers, their demand for information and knowledge varies depending on the nature of the tasks involved. Knowledge intensity is defined as the degree to which an individual's tasks involve acquiring, processing, and distributing information and knowledge.

5. Knowledge Sharing and Its Technologies: A market-oriented approach is an organizational culture that includes three equally important behavioral components: customer orientation, competitor orientation, and interfunctional coordination. When organizations succeed in generating superior value for buyers, the customer orientation becomes evident as sellers understand the entire buyer value chain.

6. Responsiveness to knowledge: Market orientation includes behavioral activities involving the production, dissemination, and response to information about customers and competitors, as market orientation can only achieve a relative advantage when it is uncommon among competitors.

3.4 The Origin and Concept of Knowledge Management Systems According to ISO 30401:2018

An organization needs to adopt specific rules that can be better defined through (ISO) standards, as organizations seek to implement quality management systems according to these standards (Faris & Mawlood, 2024, p. 75). The International Organization for Standardization (ISO) was established in 1946 and includes experts from 25 countries. It is considered an independent, non-governmental organization, and it officially began its activities in 1947, with its headquarters located in Geneva, Switzerland. The organization has 163 members and primarily oriented to facilitate global trade (Hussain, 2024, pp. 6-7). The International Organization (ISO) reviews the standards every five years. To ensure that the organization's committees understand the challenges faced by organizations in adapting to the new rules, the amendments focus on some details that are easier to implement (Al-Halfi, 2023, p. 15).

The ISO organization published its ISO 30401 specification entitled “Knowledge Management System” initially as an open draft, which is a transitional phase during which the organization receives objections, comments, and suggestions. This specification is considered the first of its kind globally, aiming to provide a comprehensive framework for knowledge management. However, it is not the only specification that addressed the topic of knowledge, as it was preceded by the ISO 9001 specification related to quality management, which addressed organizational knowledge in clause (7.1.6) (Al-Ghamdi & Al-Qarni, 2020, pp. 199-200). Since 2014, ISO has directed its efforts towards developing the ISO 30401 specification for knowledge management, which strives to identify, develop, share, and maintain the highest levels of knowledge quality and international practices worldwide. In 2018, ISO issued the first international specification in knowledge management, ISO 30401:2018, which provides organizations with an effective means to achieve and maintain competitive advantage through four main processes in knowledge management: creating knowledge, storing it, transferring it, and applying it. The transfer and identification of knowledge are considered essential among individuals or business units, as they are a critical element for the success of knowledge management and require.

The international standard in knowledge management ISO 30401:2018 can be defined as “a set of standards or foundations that form the infrastructure and comprehensive guide for organizing, facilitating, and supporting the implementation of knowledge management processes to ensure maximum benefit from knowledge, ultimately achieving the desired organizational goals” (Ziad and Mahmoud, 2025, p. 79).

3.5 Objectives of Knowledge Management Systems According to ISO 30401, p. 2018

According to both (Maximo et al, 2020, p. 2) and (Kattafa & Alazzawi, 2025, p. 53) (Saeed, 2022, p. 40), the objectives of the standard include the following:

1. Establishing a management system that effectively contributes to creating added value through knowledge.
2. Enhancing knowledge retention, sharing, adaptation, and application, enabling individuals to make effective decisions and take consistent actions.
3. Reducing unnecessary and repetitive work.
4. Identifying knowledge gaps.
5. Developing the capabilities needed to promote continuous learning, preserve knowledge, and renew it.
6. Providing resources that lead to significant organizational changes.

7. Promoting the growth of individuals and the organization through knowledge management processes and communities of practice. Characteristics of Knowledge Management Systems According to ISO 30401:2018
- Knowledge management systems are characterized by several features that distinguish them from other activities and systems within the organization. The most prominent of these characteristics are (Saeed & Khalil, 2023, p. 147) and (Shalabi & Ahmed, 2025, p. 151):
1. Enhancing the production of new knowledge within the organization.
 2. Encouraging knowledge sharing among employees rather than merely storing it.
 3. Supporting the knowledge lifecycle, which includes discovering, organizing, storing, and retrieving knowledge.
 4. Increasing organizational effectiveness by leveraging previous knowledge in current contexts.
 5. Focusing on knowledge rather than information and data, and using technology to effectively collect and apply knowledge.

1- Practical Aspect (The Reality of Implementing Knowledge Management Systems According to ISO 30401:2018 in the Technical Administrative College)

In this section, the results of analyzing the knowledge management systems checklist according to the international standard ISO 30401:2018 will be presented, along with the gaps identified between the clauses measuring this variable and the actual reality of implementation in the college under study, after using a three-point Likert scale to delineate the indicators.

Reality of Implementing Clause Four (Context of the Organization)

The checklist in Table (1) portrays for us the actual level of implementation and documentation of the requirements of Clause Four (Context of the Organization) in the application and documentation of knowledge management systems measured against the backdrop of (ISO 30401:2018) at the college. The sample gained a weighted calculation yielding a mean of (0.76) out of (3) points for this aspect, with a conformity rate of (38%), this reflects a gap of (62%).

Table (1): Item 4 checklist (organizational context)

Not implemented, not documented	Partially implemented, partially documented	Fully implemented, fully documented	Specification requirements 4- Organization context	T
0	1	2		
4.1 Understanding the organization and its context				
		√	The college administration identifies internal issues that are related to its purpose and activities and affect its ability to achieve the desired results from its energy management system and improve its performance in the field of energy.	1
		√	The college administration identifies external issues that are related to its purpose and activities and affect its ability to achieve the desired results from its energy management system and improve its performance in the field of energy.	2
4.2 Understand the needs and expectations of stakeholders				
√			The college administration works to identify and analyze the requirements of the parties concerned.	3
√			The department evaluates the requirements of concerned parties in the regulatory framework, such as culture, environment, and infrastructure.	4
4.3 Define the scope of the knowledge management system				
	√		The college administration determines the extent to which the knowledge management system can be applied to determine the field of application.	5
	√		The college management works to identify and evaluate the priorities of the knowledge areas that have the greatest value to the company and the parties concerned with them and to which the knowledge management system should be applied.	6
	√		When determining the scope, management takes into account internal and external issues and the needs and expectations of concerned parties.	7
√			The college administration has documented information about the field of application of the knowledge management system.	8
4.4 Knowledge management system				
4.4.1 General				
√			The college administration has a knowledge management system in accordance with the requirements contained in ISO 30401:2018.	9
√			The college administration is working to improve the knowledge management system in accordance with the requirements contained in ISO 30401:2018.	10
4.4.2 Knowledge development				
The college administration works to verify that the knowledge management system covers the following:				11
	√		The college administration works to verify that the knowledge management system covers the activities of acquiring new knowledge.	A
	√		The college administration works to verify that the knowledge management system covers current knowledge application activities.	for
	√		The college administration works to verify that the knowledge management system covers activities for dealing with outdated or invalid knowledge.	C
	√		The college administration works to ensure that the knowledge management system covers current knowledge activities and retention.	D
4.4.3 Knowledge transfer and transformation				
	√		The college administration works to ensure that the organizational knowledge management system	12

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			contains activities, behaviors, and supports all types of priority knowledge flows identified in the field of its system, such as human interaction, absorption, and learning.	
4.4.4 Knowledge management enabling factors				
	√		Knowledge management works to apply the system to all enabling elements in the company, such as operations, human capital, technology, infrastructure, and knowledge management culture, to create an effective system that achieves its goals.	13
4.5 Knowledge management culture				
√			The college administration works to prove that organizational culture has been taken into account as a means to support the knowledge management system.	13
0	1	2	Weights	
6	9	2	Duplicates	
0.76	Weighted arithmetic mean (average)			
38%	Matching percentage			
62%	Gap size			

Source: Prepared by the researcher in light of knowledge management systems in accordance with specification (ISO 30401:2018)

Reality of Implementing Clause Five (Leadership)

The checklist in Table (2) portrays for us the level of implementation and actual documentation of the requirements of Clause Five (Leadership) through the application and documentation of knowledge management systems in accordance with the standard (ISO 30401:2018) in the college. The sample had a composite weighted mean of 0.70 out of 3 points for this axis, demonstrating adherence of 35%, this reflects a gap of 65%.

Not implemented, not documented	Partially implemented, partially documented	Fully implemented, fully documented	Specification Requirements 5- Driving	T
0	1	2		
5.1 Leadership and commitment				
		√	College management promotes organizational values that enhance trust as a foundational element of knowledge management.	15
		√	The college administration ensures that the knowledge management policy and its objectives are established, compatible with the strategic direction, and can be evaluated.	16
		√	The college administration works to integrate the requirements of the knowledge management system into its work.	17
	√		Managing the change process towards adopting and implementing a knowledge management system and developing a culture that values, supports and enables knowledge management.	18
√			The college administration ensures that the knowledge management system achieves the desired results.	19
√			Management inspires working individuals to contribute to the effectiveness of the knowledge management system.	20
√			The college administration supports other administrative roles related to the knowledge management system and demonstrates its leadership as it applies to its areas of responsibility.	21
5.2 Policy				
√			The knowledge policy fits the purpose of the college.	22
	√		Senior management provides a framework and guidelines for defining, reviewing and achieving knowledge management objectives.	23
	√		Senior management ensures commitment to providing necessary regulatory and other requirements.	24
√			The college administration determines the expectations and needs of all employees regarding the use of the knowledge management system and spreading a culture that values knowledge.	25
√			The college administration ensures commitment to continuous improvement of the knowledge management system.	26
	√		The college administration strikes a balance between knowledge exchange and knowledge protection.	27
√			The knowledge management policy is available as documented information.	28
5.3 Roles, responsibilities and powers				
	√		Management ensures that responsibilities are defined and authority is delegated for each function related to the knowledge management system, and that they are communicated and understood by employees.	29
√			The administration ensures the participation of working individuals and the effective application of knowledge management systems within the college.	30
	√		Administrative levels submit reports (feedback to senior management on the level of performance of the knowledge management system).	31
0	1	2	Weights	
8	6	3	Duplicates	
0.70	Weighted arithmetic mean (average)			

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35%	Matching percentage
65%	Gap size

Source: Prepared by the researcher in light of knowledge management systems measured against the backdrop of (ISO 30401:2018)

Reality of Applying Clause Six (Planning)

The checklist in Table (3) displays rather well the level of application and actual documentation of the requirements of Clause Six (Planning) in the application and documentation of knowledge management systems as per the guidelines of (ISO 30401:2018) at the college. The sample had a weighted calculation yielding a mean of (1.375) out of (3) points for this axis, with an adherence measured at (68.75%), this in fact means a gap of (31.25%).

Table (3): Checklist for Clause Six (Planning)

Not implemented, not documented	Partially implemented, partially documented	Fully implemented, fully documented	Specification requirements 6- Planning	T
0	1	2		
6.1 Procedures for dealing with risks and opportunities				
	√		The college studies internal and external issues and the requirements of the parties concerned.	31
The College identifies risks and opportunities to be addressed in order to:				
	√		The college identifies the risks and opportunities that must be addressed in order to ensure the ability of the knowledge management system to achieve the desired results.	A
		√	The College identifies risks and opportunities that need to be addressed in order to prevent for undesirable effects.	
		√	Achieve continuous improvement.	C
		√	The college develops plans to address risks and how to exploit opportunities.	33
6.2 Knowledge management objectives and planning to achieve them				
		√	The college sets knowledge management objectives in relevant functions and levels.	34
The college sets goals for knowledge management that are:				
		√	Meets business needs and aligns with business objectives.	A
		√	Meets the priority requirements of interested parties.	for
√			Consistent with knowledge management policy.	C
		√	Take into account applicable requirements.	D
	√		Measurable.	e
	√		Observable.	and
		√	Reportable.	g
		√	Updateable.	H
√			The college maintains documented information about the objectives of knowledge management.	36
√			The college determines what will be done, what resources are required, and who will be responsible when planning how to achieve knowledge management goals.	37
0	1	2	Weights	
3	4	9	Duplicates	
1.375			Weighted arithmetic mean (average)	
68.75%			Matching percentage	
31.25%			Gap size	

Source: Prepared by the researcher in the light of knowledge management systems as per the guidelines of (ISO 30401:2018)

The reality of the implementation of the seventh clause (support)

The checklist in Table (4) shows the level of application and actual documentation of the requirements of the seventh clause (support) in the application and documentation of knowledge management systems in accordance with the standard (ISO 30401:2018) in the college, as the college has achieved a weighted arithmetic average for this axis with a weighted ability of (1) out of (3) grades, with a conformity ratio of (50%), which indicates that there is a gap of (50%).

(4) Table: Checklist for Clause 7 (Support)

Not implemented, not documented	Partially implemented, partially documented	Fully implemented, fully documented	Specification Requirements 7- Support	T
0	1	2		

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7.1 Resources			
		√	The college works to identify and provide resources such as financing, manpower, technology, and administrative commitment necessary for establishment, implementation, maintenance, and measurement. 38
7.2 Efficiency			
	√		The college works to delineate the necessary competencies for individuals who deal with the knowledge management system. 39
		√	Ensures assigned individuals are qualified on the basis of appropriate education, training or experience 40
		√	Actions are taken to gain the necessary competence and to evaluate the effectiveness of the actions taken. 41
		√	Maintains appropriate documented information as evidence of competency. 42
7.3 Awareness			
The College ensures that people working under its control are aware of:			43
√			Knowledge management policy. A
√			Their contribution and responsibility to the effectiveness of the knowledge management system and the benefits of improving cognitive performance. for
√			Consequences of non-compliance with system requirements. C
7.4 Contact			
	√		The college determines internal and external communications related to the knowledge management system. 44
Select the following college:			45
	√		What will be communicated. A
	√		When to communicate. for
	√		With whom to communicate. C
	√		How to communicate. D
7.5 Documented Information			
7.5.1 General			
√			The college's knowledge management system contains documented information in accordance with ISO 30401:2018 and documented information that the organization determines and deems necessary for the effectiveness of the knowledge management system. 46
√			The college's knowledge management system contains documented information that the organization determines and deems necessary for the effectiveness of the knowledge management system. 47
7.5.2 Creation and update			
		√	The college includes identification, description, and formatting (such as title and date) when creating or updating documented information. 48
		√	Format (such as language, software version, or graphics) and media (such as paper or electronic). 49
		√	Review and approve suitability and adequacy. 50
7.5.3 Control of documented information			
The documented information required by the knowledge management system and this document must be controlled to ensure that:			51
√			their availability and suitability for use, where and when needed; A
√			Adequately protected (for example, from loss of confidentiality, misuse, or loss of integrity). for
To control documented information, the organization must address the following activities, as appropriate:			52
	√		Distribution, access, retrieval, and use. A
	√		Storage and preservation, including maintaining readability. for
	√		Change control (for example, version control). C
	√		Retention and disposal. D
0	1	2	Weights
7	10	7	Duplicates
1			Weighted arithmetic mean (average)
50%			Matching percentage
50%			Gap size

Source: Prepared by the researcher in light of Knowledge Management Systems as per the guidelines stipulated by (ISO 30401:2018) Reality of Implementing Clause Eight (Processes)

The checklist in Table (5) shows the level of implementation and actual documentation of the requirements of Clause Eight (Processes) in applying and documenting Knowledge Management Systems as per the guidelines stipulated by (ISO 30401:2018) in the college. The sampled community (i.e. the college) clocked an average weighted score of (1) out of (3) for this axis, with an adherence measured at (50%), this in fact means a gap of (50%).

(5) Table: Checklist for Clause 8 (Operations)

Not implemented, not documented	Partially implemented, partially documented	Fully implemented, fully documented	Specification Requirements 8- Operations	T

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0	1	2		
		√	The college administration plans, implements and controls the processes necessary to meet requirements and includes the identified factors in procedures for dealing with risks and opportunities.	53
	√		The college administration plans to monitor the changes and take the necessary measures to reduce any negative impact.	54
√			The college administration ensures that outsourcing processes are compatible with the knowledge management system and are controlled.	55
0	1	2	Weights	
1	1	1	Duplicates	
1	Weighted arithmetic mean (average)			
50%	Matching percentage			
50%	Gap size			

Source: Prepared by the researcher in light of Knowledge Management Systems as per the criteria set out by (ISO 30401:2018)

The reality of implementing Clause Nine (Performance Evaluation)

The checklist in Table (7) shows the actual level of implementation and documentation of the requirements of Clause Nine (Performance Evaluation) by applying and documenting Knowledge Management Systems as per the criteria set out by (ISO 30401:2018) in the college. The sampled community (i.e. the college) clocked a weighted average score of (0.71) out of (3) points for this axis, with an adherence measured at (35.5%), this can be translated as a gap of (64.5%).

Table (7): Checklist of Clause Nine (Performance Evaluation)

Not implemented, not documented	Partially implemented, partially documented	Fully implemented, fully documented	Specification requirements 9- Performance evaluation	T
0	1	2		
9.1 Monitoring, measurement, analysis and evaluation				
√			The college administration ensures that it determines what needs to be monitored and measured, which includes measuring conformity with the requirements of this standard, ISO30401:2018.	55
		√	The college uses methods of monitoring, measuring, analyzing and evaluating to ensure the validity of the results.	56
		√	The college determines when monitoring and measurement should be conducted.	57
		√	The college works to analyze and evaluate the results of monitoring and measurement.	58
	√		The college administration maintains appropriate documented information as evidence of monitoring and measurement results	59
	√		The college administration evaluates the cognitive performance and effectiveness of the knowledge management system.	60
9.2 Internal audit				
√			The college administration works to implement internal audits at planned intervals to provide information on whether the knowledge management system complies with the requirements of this standard and the college's own requirements for its knowledge management system.	61
√			The college works to implement and maintain the knowledge management system effectively.	62
√			The college administration works to plan, create and implement audit programs.	63
√			The college determines the review criteria and scope of each review.	64
√			The college selects the individuals assigned to conduct audits.	65
√			The college ensures that the results of the review process are communicated to the relevant department.	66
√			The College maintains documented information as evidence of the implementation of audit programs and audit results.	67
9.3 Management review				
	√		Senior management ensures that the knowledge management system is reviewed at planned intervals to ensure its continued suitability, adequacy and effectiveness.	68
	√		Management review includes consideration of previous management reviews and changes in internal and external issues related to the knowledge management system.	69
	√		The outputs of the management review include decisions related to continuous improvement, opportunities, and any need to make changes to the knowledge management system.	70
	√		The College maintains documented information as evidence of the results of management reviews.	71
0	1	2	Weights	
8	6	3	Duplicates	
0.71	Weighted arithmetic mean (average)			
35.5%	Matching percentage			
64.5%	Gap size			

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Source: Prepared by the researcher in light of knowledge management systems as per the criteria set out by (ISO 30401:2018) Reality of Applying Clause Ten (Improvement)

The checklist in Table (8) well exemplifies the level of application and actual documentation of the requirements of Clause Ten (Improvement) in implementing and documenting knowledge management systems according to standard (ISO 30401:2018) at the college. The sample gained a composite weighted mean of (1.75) out of (3) points in this area, with a compliance rate of (87.5%), this attests to a gap of (12.5%).

(8) Table: Checklist for Clause 10 (Improvement)

Not implemented, not documented	Partially implemented, partially documented	Fully implemented, fully documented	Specification Requirements 10- Improvement	T
0	1	2		
10.1 Non-conformity and corrective actions				
		√	The college works to respond to non-conformities and correct them when there is a case of non-compliance and conformity.	55
		√	The College maintains documented information as evidence of the nature of nonconformities.	56
10.2 Continuous improvement				
	√		The college takes measures to improve the efficiency and effectiveness of the knowledge management system.	61
		√	The college works to plan, implement and monitor the necessary processes to ensure continuous improvement.	62
0	1	2	Weights	
0	1	3	Duplicates	
1.75			Weighted arithmetic mean (average)	
87.5%			Matching percentage	
12.5%			Gap size	

Source: Prepared by the researcher in light of knowledge management systems as per the criteria set out by (ISO 30401:2018)

From the above, it is clear that there is a gap between the actual reality and the knowledge management system as per the guidelines set out by (ISO 30401:2018), as the results can be summarized and categorized in Table (9).

Table (9): Average of the clauses of the international standard (ISO 30401:2018)

	Gap	Matching percentage	Average of 2	Clause
4	62%	38%	0.76	Organization context
5	65%	35%	0.70	Driving
6	31.25%	68.75%	1.375	Planning
7	50%	50%	1	Support
8	50%	50%	1	Operations
9	64.5%	35.5%	0.71	Performance evaluation
10	12.5%	87.5%	1.75	Optimization
	335%	365%	7.295	the total
	47.9%	52.1	1.04	Rate

Source: Prepared by the researcher in light of the results of the international standard (ISO 30401:2018) checklist .

We can illustrate the results using a chart to show the total compliance ratios and the size of the gaps for the standard clauses (ISO 30401:2018) at the Technical Administrative College / Baghdad, as shown in Figure (1).

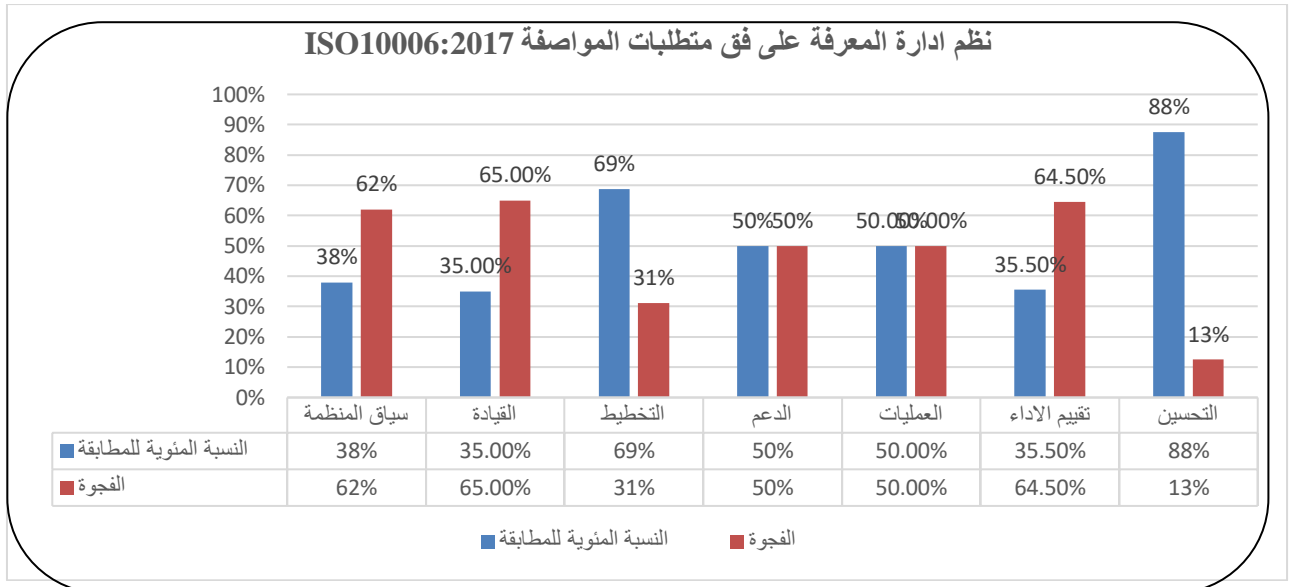


Figure (1): Total compliance rates and gap sizes for knowledge management systems according to the requirements of ISO10006:2017, at the Technical Administrative College / Baghdad

4. Conclusions and recommendations

This section will address a set of conclusions reached during the research and a collection of recommended actions based on the indicated conclusions.

4.1 Conclusions

1. A straight conclusion springs up here is a clear gap between the actual reality and the knowledge management system based on the (ISO 30401:2018) standard, with an overall compliance percentage of 52.1%, which means there is an urgent need to improve performance in this area.

2. The clauses 'Organization Context' and 'Leadership' are the least compliant, achieving percentages of 38% and 35% respectively, this attests to weakness in guidance and top management concerning knowledge management.

3. There is no established and specific procedure for internal audit processes of knowledge management system activities according to (ISO 30401:2018) requirements due to the absence of a specialized unit for internal knowledge management audits, despite the college having a unit dedicated to the quality division.

4. The 'Support' and 'Operations' clauses achieved a 50% compliance rate each, this attests to a need to develop more effective strategies to support the processes involved in knowledge management.

5. The 'Improvement' clause achieved the highest compliance rate (87.5%), yet there is room to expand the scope of improvements and apply them to other clauses.

4.2 Recommendations

We are finally here in a position to recommend a series of steps in that we need to:

1. It is recommended that we the boundaries and scope of the knowledge management system. This entails that we define, document, implement, maintain, and continually improve the system in accordance with the standard specification. This should be coupled with an education and awareness programme encompassing all employees at all administrative levels of the college. A controlled system of documented information related to the knowledge management system shall be established in accordance with the international standard (ISO 30401:2018).

2. A comprehensive assessment of the organisational context is also a must if we are to identify and understand the factors affecting the knowledge management system and to develop appropriate strategies to address them.

3. There should also some strengthening of the role of senior management in supporting and directing the knowledge management system through the development of clear strategies and the provision of necessary resources.

4. Besides, it is necessary to work on developing action plans to fill any gaps that are noted within the different clauses, especially those relating to leadership and organizational factors. It is also important to implement monitoring and evaluation processes to ensure that there is a constant improvement of the knowledge management system.

5. In conclusion, opportunities for conducting workshops and training programs for employees about the importance of knowledge management should be sought with the aim of increasing employees' appreciation of the importance of knowledge management. This is because these programs are expected to play a significant role in optimizing performance and creating a culture of continuous improvement in the organization.

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