

***The role of Knowledge management in ensuring the quality of higher education
“An exploratory study from the faculty point of view at Biskra University”***

دور إدارة المعرفة في ضمان جودة التعليم العالي —دراسة استطلاعية من وجهة نظر الهيئة التدريسية بجامعة بسكرة—

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Abstract:

This study aims to identify the role of knowledge management application requirements in ensuring the quality of higher education, through an exploratory study from the faculty members' perspective at the University of Biskra. To achieve the study's objectives, a questionnaire was designed and distributed to a sample of 300 faculty members. Data were analyzed using the SPSS statistical program. The findings revealed a significant relationship between knowledge management application requirements and the assurance of quality (inputs, processes, and outputs) at the university under study. The results also indicated a meaningful role of knowledge management requirements in enhancing the overall quality of higher education.

Keywords: Higher education; Quality; Organizational culture; Knowledge management; Administrative leadership

Jel Classification Codes : I23; I31; J24; L15.

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Introduction:

Knowledge and information constitute the true lifeblood of contemporary organizations and serve as a strategic and modern managerial tool that enables adaptation to the requirements of the current era. Indeed, knowledge has become the most critical resource for wealth creation, excellence, and innovation within the intellectual context shaped by the rise of globalization, privatization, the information and communication revolution, and the expansion of relationships among diverse human societies.

Knowledge management (KM) permeates virtually every process and activity within an organization, either directly or indirectly, since information represents the core of organizational operations and the driving force behind various administrative activities across all human institutions.

Implementing knowledge management requirements provides an essential mechanism for ensuring and improving the quality of the educational process. It aims to identify the degree of alignment between the prevailing practices within an educational institution and the established standards in various fields to achieve *quality assurance benchmarks*. Algerian universities, in particular, have shown a growing interest in enhancing their performance to meet quality assurance standards within their educational systems. This emphasis stems from several factors, including:

- the rapid quantitative expansion in the number of universities;
- the increasing societal demand for higher education;
- significant advancements in diverse academic programs;
- the local and global labor market's need for highly qualified graduates who meet international standards and can compete effectively in dynamic work environments.

1. Research Problem:

In light of the preceding discussion, the research problem can be articulated as follows:

“What are the requirements for implementing knowledge management from the perspective of the academic staff at Biskra University, and what role do these requirements play in ensuring the quality of higher education?”

To address this central question, the following sub-questions were formulated:

- Is there a relationship between the requirements for implementing knowledge management and ensuring the quality of inputs at the university under study?
- Is there a relationship between the requirements for implementing knowledge management and ensuring the quality of **processes** at the university under study?
- Is there a relationship between the requirements for implementing knowledge management and ensuring the quality of outputs at the university under study?

2. Research Hypotheses:

To answer the aforementioned questions, the following *null hypotheses* (H_0) were formulated:

- H_{11} : There is no statistically significant relationship between the requirements for implementing knowledge management and ensuring the quality of inputs at the university under study.
- H_{12} : There is no statistically significant relationship between the requirements for implementing knowledge management and ensuring the quality of processes at the university under study.
- H_{13} : There is no statistically significant relationship between the requirements for implementing knowledge management and ensuring the quality of outputs at the university under study.
- H_{14} : There is no statistically significant effect of the requirements for implementing knowledge management on ensuring the overall quality of higher education at the university under study.

3. Research Objectives:

This study seeks to achieve the following objectives:

- To identify the requirements for implementing knowledge management in Algerian universities from the perspective of the academic staff at Biskra University.
- To examine the relationship between the requirements for implementing knowledge management and the assurance of input quality at the university under study.
- To explore the relationship between the requirements for implementing knowledge management and the assurance of process quality at the university under study.
- To determine the relationship between the requirements for implementing knowledge management and the assurance of output quality at the university under study.

4. Significance of the Study:

The significance of this study lies in the following aspects:

- It seeks to shed light on the requirements for applying knowledge management in universities, emphasizing the importance of the knowledge management approach as a managerial framework for improving and developing administrative systems in Algerian universities.
- The study aims to enhance administrative performance through the optimal utilization, generation, storage, sharing, and application of knowledge. Furthermore, it investigates the relationship between knowledge management and administrative processes, highlighting its role in improving the quality of institutional outcomes.

5. Study Variables

Independent Variable:

The independent variable is represented by the *requirements for implementing knowledge management*, which include four main dimensions:

- Organizational structure
- Organizational culture

- Managerial leadership
- Information technology

Dependent Variable: The dependent variable refers to *quality assurance*, which encompasses:

- Quality assurance of inputs
- Quality assurance of processes
- Quality assurance of outputs

6. Study Boundaries

- **Human Boundary:** The study sample was limited to the academic staff members at Mohamed Khider University of Biskra (Algeria).
- **Subject Boundary:** The study focused exclusively on the *requirements for implementing knowledge management* and their role in *ensuring the quality of higher education*.
- **Spatial Boundary:** The empirical investigation was conducted on a randomly selected sample consisting of 300 faculty members from Mohamed Khider University of Biskra

I: Theoretical Framework of Study Variables

This section addresses the theoretical foundations related to the main variables of the study namely, *knowledge management* and *quality assurance*.

I-1: Knowledge Management

I-1-1. Concept of Knowledge Management

Knowledge Management (KM) is defined as the set of processes that assist organizations in generating, acquiring, selecting, organizing, utilizing, disseminating, and transforming essential information and experiences that are crucial for various managerial activities such as decision-making and problem-solving (Laudon, 2004, p. 98).

I-1-2. Requirements for Implementing Knowledge Management

a. Organizational Structure

The organizational structures most conducive to effective knowledge management are those characterized by *flexibility*, *environmental adaptability*, *ease of communication*, and *responsiveness to change*.

Organizational structure is typically based on *specialization* and *division of labor* according to specific functions, with each employee reporting to a direct supervisor. Top management maintains strong control over the organization as a whole, influencing the flow and distribution of information throughout the institution (Jay, 2000, p. 45).

b. Information Technology

In contemporary organizations, increasing attention has been devoted to maximizing the organization's capacity to create new knowledge and foster an internal environment that encourages information sharing. Consequently, greater investment is directed toward human capital, effective recruitment, and the creation of supportive internal systems.

To ensure the continuous exchange of knowledge, four essential conditions must be met:

1. The ability to *perceive*, *monitor*, and *scan* significant aspects of the external environment;
2. The ability to link this information with the organization's *values* and *behavioral guidelines*;
3. The ability to identify *constraints* that may affect these values and principles; and
4. The ability to initiate appropriate *corrective actions* when inconsistencies arise.

Empirical studies have shown that *knowledge management systems* enhance organizational communication in terms of speed, quality, transparency, and participation. Moreover, they contribute to greater efficiency by reducing problem-solving time and lowering labor costs (Sturt, 2002, p. 84).

c. Organizational Culture

Organizational culture refers to the shared values, beliefs, and perceptions prevalent among employees within an organization, which shape interpersonal relationships and expectations among members.

Effective implementation of knowledge management requires an organizational culture that aligns with the principles of *continuous learning* and *knowledge sharing*. It should foster *team spirit* and collaboration. Therefore, institutions must reengineer their processes, reorganize their structures, and redesign job descriptions and evaluations to enhance innovation and creativity (Dell, 2001, p. 76).

d. Managerial Leadership

Managerial leadership is an *interactive process* between the leader and subordinates who share common goals and work collectively to achieve them. Leadership manifests in the ability to influence followers without solely relying on formal authority—through persuasion and motivational techniques that promote the attainment of shared objectives.

Leadership is a critical factor in adopting and implementing knowledge management practices. Some leadership theories are more suitable for KM than others; for example, *trait-based leadership theories* are considered less compatible, whereas *participative leadership* and *selfless leadership* (non-ego leadership) are more consistent with the leadership style required for effective knowledge management (Al-Hadi, 2009, p. 87).

I-1-3. Importance of Knowledge Management

The importance of knowledge management lies in its role as a *core component of organizational success, survival, and sustainability*. It enables organizations to develop a forward-looking vision that defines their desired position in the future.

Knowledge management stimulates creativity and innovation across all managerial levels, enhances organizational flexibility through effective coordination and structure design, and transforms organizations into *knowledge-based communities* capable of adapting to rapid environmental changes and managing growing complexities in the business landscape.

Moreover, KM enables organizations to make well-informed decisions based on accurate data and reliable information, improving both efficiency and effectiveness. It assists managers in better organizational control, reduces performance-related costs, and streamlines operational methods.

Many scholars emphasize that knowledge management represents the evolutionary transition from an *industrial economy* to a *knowledge-based economy*, and ultimately to a *knowledge society*, characterized by *knowledge-driven organizations* (Al-Awad, 2008, p. 74).

I-2: Quality

I-2-1 The concept of quality

According to the American Society for Quality (ASQ), quality refers to “the totality of features and characteristics of a product (good or service) that bear on its ability to satisfy stated or implied needs” (Heizer, 2001, p. 171).

Similarly, quality has been defined as “the capability of a product (good or service) to achieve complete satisfaction of explicit and implicit customer requirements at the lowest internal cost” (John, 2000, p. 24).

Another definition states that quality is “the degree to which a product (good or service) conforms to its intended use, as required and desired by the customer” (Amitava, 1996, p. 331).

In the context of education, quality refers to the extent to which an educational system meets the agreed-upon standards of *efficiency and effectiveness* across its key components inputs, processes, outputs, and environment, in order to maximize value and achieve the objectives of both the system and its beneficiaries (students and society).

I-2-2. Quality Assurance

Quality assurance (QA) can be defined as “a continuous and systematic process for evaluating the quality of higher education systems, institutions, or programs. It emphasizes accountability, development, and the provision of reliable judgments and information through a well-established and agreed-upon process” (Maria José Lemaitre, 2007, p. 57).

Furthermore, quality assurance has been described as “a mechanism encompassing all systems, resources, and information used by universities and higher education institutions to maintain and improve academic standards and quality. It covers teaching, student learning, scholarship, and research, and defines the academic standards that students must achieve to obtain a degree or qualification” (Abu Daqah, 2011).

II: The Empirical Study

This section presents the applied dimension of the research, focusing on the requirements for implementing knowledge management (KM) from the perspective of the academic staff at Biskra University, and examining its role in ensuring the quality of higher education.

II-1: Research Procedures

This part outlines the methodological procedures of the study, including the research design, population and sample, data collection tools, validity and reliability tests, as well as the statistical methods used to analyze the data and verify the hypotheses

II-1-1. Research Methodology

The study employed the descriptive-analytical approach, which aims to describe phenomena as they exist in reality, analyze their characteristics, interpret their causes, and identify relationships among variables. This approach is considered suitable for studies that seek to explore relationships and measure the degree of association between variables in social and administrative sciences.

II-1-2. Study Population and Sample

The research was conducted at Mohamed Khider University of Biskra, which comprises the following faculties:

- Faculty of Exact Sciences and Natural and Life Sciences (6 departments);
- Faculty of Science and Technology (6 departments);
- Faculty of Law and Political Science (2 departments);
- Faculty of Humanities and Social Sciences (3 departments);
- Faculty of Economic, Commercial, and Management Sciences (3 departments);
- Faculty of Letters and Languages (2 departments).

The total population of the study consisted of approximately 1,000 faculty members. A random sample of 400 questionnaires was distributed among academic staff members across all faculties. Out of these, 300 valid questionnaires were retrieved and used for analysis, representing a sufficient and statistically acceptable sample size for the study's objectives.

II-1-3. Research Instrument

To collect the necessary data, the researchers developed a structured questionnaire designed to assess the role of knowledge management implementation requirements in ensuring quality assurance in higher education at Algerian universities.

The instrument consisted of **35 items** distributed across the following dimensions:

- Requirements for implementing knowledge management: 20 items
- Quality assurance of inputs: 5 items
- Quality assurance of processes: 5 items

- Quality assurance of outputs: 5 items

A five-point Likert scale was used to measure responses, ranging from *strongly agree* to *strongly disagree*, to capture the degree of respondents' perceptions regarding each item.

II-1-4. Validity and Reliability of the Instrument

a. Validity

The content validity of the questionnaire was verified by presenting it to a panel of experienced university professors specializing in the field of *management* and *higher education quality assurance* from various Algerian universities. They were asked to evaluate the questionnaire items in terms of clarity, relevance, and appropriateness to the study objectives. Based on their feedback and recommendations, several modifications were made to improve the precision and suitability of the instrument.

b. Reliability

To ensure the internal consistency of the instrument, Cronbach's Alpha coefficient (α) was computed for each dimension of the questionnaire:

Table (01): Validity of the instrument and reliability of the form

Dimension	Cronbach's Alpha (α)
Requirements for Knowledge Management	0.852
Quality Assurance of Inputs	0.863
Quality Assurance of Processes	0.742
Quality Assurance of Outputs	0.712
Overall Reliability	0.825

Source: Prepared by the researchers based on SPSS outputs.

These results indicate that the instrument possesses a high degree of reliability and is suitable for achieving the study's objectives, as all values exceed the acceptable threshold of 0.70 commonly recommended in behavioral and administrative research.

II-1-5. Statistical Analysis Methods

To analyze the collected data and test the research hypotheses, a combination of descriptive and inferential statistical techniques was employed using specialized statistical software. The main methods included:

- Frequencies and Percentages: Used to describe and analyze respondents' demographic characteristics and their distribution across study variables.
- Arithmetic Mean (Mean Scores): Used to identify the average level of respondents' perceptions regarding each dimension of the study.

- Pearson's Correlation Coefficient: Applied to examine the strength and direction of relationships between independent and dependent variables.
- Cronbach's Alpha (α): Used to assess the internal consistency and reliability of the measurement scales.
- Multiple Regression Analysis: Employed to measure the *significant impact* of the independent variables (KM requirements) on the dependent variables (quality assurance dimensions).
- F-test: Applied to determine the *overall significance* of the regression model and the collective effect of independent variables.
- T-test: Used to test the *statistical significance* of differences in mean values and to verify the validity of the proposed hypotheses.

Through the combination of theoretical and empirical analysis, the study seeks to deepen understanding of how *knowledge management practices* can serve as a strategic tool for enhancing *quality assurance* in higher education institutions. The integration of KM principles into university systems is expected to promote administrative efficiency, academic excellence, and continuous improvement, aligning Algerian universities with global standards of quality and competitiveness.

II-2: Analysis of Study Results and Hypotheses Testing

II-1. Description of the Study Sample Characteristics

Table (02): Characteristics of the Study Sample

Variable	Category	Frequency	Percentage (%)
Gender	Male	100	33.33
	Female	200	66.67
Total		300	100
Age	20–25	—	—
	26–30	10	3.33
	31–35	90	30.00
	36 and above	200	66.67
	Total	300	100
Academic Rank	Assistant Lecturer (B)	50	16.67
	Assistant Lecturer (A)	50	16.67
	Lecturer (B)	50	16.67
	Lecturer (A)	150	50.00
	Total	300	100
Years of Service	Less than 5 years	20	6.67
	5–10 years	80	26.67
	10–15 years	100	33.33
	15 years and above	100	33.33
	Total	300	100

Source: Prepared by the researchers based on SPSS outputs.

From the above table, the following observations can be made:

- The majority of the respondents are female (66.67%), while males represent 33.33%, indicating that female participation in university employment exceeds that of males.
- Regarding age distribution, 3.33% of the respondents are between 26–30 years, 30% between 31–35 years, and 66.67% are above 36 years old, suggesting that most respondents are mature and experienced.
- Most of the participants have more than 15 years of service, which indicates that the sample consists mainly of faculty members with substantial institutional experience.
- Concerning academic rank, the distribution covers all teaching categories: Assistant Lecturer (A and B) 33.34%, Lecturer (B) 16.67%, and Lecturer (A) 50%, confirming that the study represents all academic levels within the faculty.

II-2. Analysis of Study Results

A. Analysis of the First Dimension: Knowledge Management Requirements

Table (03): Analysis of Items Related to Knowledge Management Requirements

Dimension	Mean	Std. Deviation	Level of Importance
Organizational Structure Requirements			
1. The relationship between supervisors and subordinates is based on cooperation and trust.	3.79	0.95	High
2. A balance exists between authority and responsibility granted to employees.	4.00	0.92	High
3. Transition from individual to team-based work practices.	3.75	0.93	High
4. Reduction of hierarchical levels to enhance proximity between organizational levels.	3.85	0.94	High
5. Decentralization that allows knowledge sharing among employees.	3.87	0.91	High
Total (Organizational Structure)	3.85	0.91	High
Organizational Culture Requirements			
6. Promoting teamwork to exchange experiences and ideas.	3.67	1.01	High
7. Spreading values that encourage initiative and creativity.	3.75	1.07	High
8. Management encourages employees to generate innovative ideas.	3.71	1.05	High
9. Providing sufficient time for employees to share and apply knowledge.	3.70	1.03	High
10. Adopting knowledge sharing as a key performance evaluation criterion.	4.00	1.02	High
Total (Organizational Culture)	3.76	1.05	High
Leadership and Management Requirements			
11. Providing learning and continuous development opportunities.	3.79	1.35	High

12. Emphasizing teamwork and cooperative task execution.	3.70	1.36	High
13. Ability to influence subordinates.	3.80	1.34	High
14. Possession and control of information related to future plans.	3.83	1.37	High
15. Enhancing administrative interaction between leaders and employees.	3.90	1.33	High
Total (Leadership and Management)	3.80	1.32	High
Information Technology Requirements			
16. Providing internet access to all employees.	3.85	0.85	High
17. Availability of online forums for documenting and sharing knowledge.	3.90	0.85	High
18. Using electronic tools for virtual meetings and remote knowledge exchange.	3.79	0.86	High
19. Existence of an internal database network for accessing institutional information.	4.00	0.84	High
20. Availability of a university website accessible to all users.	3.84	0.87	High
Total (Information Technology)	3.87	0.84	High
Overall Mean for Knowledge Management Requirements	3.82	1.20	High

Source: Prepared by the researchers based on SPSS outputs.

Interpretation of Results

- **Information Technology Requirements:** Ranked first in terms of importance with a mean of 3.87 (SD = 0.84), indicating a high level of acceptance among respondents. Mean scores ranged between 3.79–4.00, suggesting a strong presence of IT-based knowledge management infrastructure. The highest-rated item (No. 19, M = 4.00, SD = 0.84) confirms that the university possesses an internal information network for database access, while the lowest-rated (No. 18, M = 3.79, SD = 0.86) indicates limited availability of digital tools for remote meetings and knowledge exchange.
- **Organizational Structure Requirements:** Ranked second, with a mean of 3.85 (SD = 0.91), also indicating strong agreement among respondents. Mean scores ranged from 3.75–4.00. The highest-rated item (No. 2, M = 4.00, SD = 0.92) highlights that the university balances authority and responsibility effectively. Conversely, the lowest-rated (No. 3, M = 3.75, SD = 0.93) suggests that transition from individual to team-based work remains limited.
- **Leadership and Management Requirements:** Ranked third, with a mean of 3.80 (SD = 1.32). The highest-rated item (No. 15, M = 3.90, SD = 1.33) shows that the university enhances administrative interaction between leaders and employees, whereas the lowest-rated (No. 12, M = 3.70, SD = 1.36) indicates a lack of focus on teamwork and collective task execution.
- **Organizational Culture Requirements:** Ranked fourth, with a mean of 3.76 (SD = 1.05), still reflecting a high level of acceptance. The highest-rated item (No. 10, M = 4.00, SD = 1.02) demonstrates that the university uses knowledge sharing as a key evaluation criterion, while the lowest-rated (No. 6, M = 3.67, SD = 1.01) reveals that teamwork and knowledge-sharing culture need further enhancement.

Overall Conclusion for the First Dimension

The overall mean score for the first dimension, *Knowledge Management Requirements*, is **3.82**, which is higher than the hypothetical average of 3.00 (SD = 1.20). This result confirms that the studied university actively emphasizes the implementation of knowledge management requirements across its organizational, cultural, leadership, and technological structures.

II-3. Hypotheses Testing and Statistical Analysis

This section presents the verification of the study hypotheses and discusses the relationships between the independent variable (*Knowledge Management Requirements*) and the dependent variable (*Quality Assurance in Higher Education*). Statistical analyses were conducted using SPSS to determine the strength, direction, and significance of these relationships.

II-3-1. Testing the Main Hypothesis

Hypothesis (H₀):

There is no statistically significant relationship between the requirements for implementing knowledge management and the assurance of higher education quality at Biskra University.

To test this hypothesis, a Pearson correlation analysis was performed between the overall score of knowledge management requirements and the composite measure of higher education quality dimensions.

Table (04): Correlation between Knowledge Management Requirements and Higher Education Quality Assurance

Variables	Correlation Coefficient (r)	Significance Level (p-value)
Knowledge Management Requirements ↔ Quality Assurance	0.782	0.000

Source: Researchers' computation using SPSS outputs.

Interpretation: The correlation coefficient ($r = 0.782$) indicates a strong positive relationship between the implementation of knowledge management requirements and the assurance of higher education quality. Since the $p\text{-value} = 0.000 < 0.05$, the null hypothesis (H₀) is rejected, and the alternative hypothesis (H_a) is accepted. Therefore, it can be concluded that the implementation of knowledge management requirements contributes significantly to improving the quality assurance processes at the university.

II-3-2. Testing the Sub-Hypotheses

A :Sub-Hypothesis (1): There is a statistically significant relationship between the requirements of organizational structure and the assurance of higher education quality.

Table (05):Testing the Sub-Hypotheses(1)

Variables	Correlation Coefficient (r)	Significance (p)
Organizational Structure ↔ Quality Assurance	0.692	0.000

Source: Computed by the researchers based on SPSS results

Interpretation: The result ($r = 0.692$, $p = 0.000 < 0.05$) indicates a strong and statistically significant positive relationship between organizational structure requirements and quality assurance.

This suggests that a flexible and decentralized organizational structure enhances communication, trust, and knowledge sharing, which in turn supports quality management practices in higher education.

B:Sub-Hypothesis (2): There is a statistically significant relationship between the requirements of organizational culture and the assurance of higher education quality.

Table (06): Testing the Sub-Hypotheses(02)

Variables	Correlation Coefficient (r)	Significance (p)
Organizational Culture ↔ Quality Assurance	0.664	0.000

Source: Computed by the researchers based on SPSS results

Interpretation: The correlation result ($r = 0.664$) shows a strong positive association between organizational culture and quality assurance, significant at the 0.05 level. This finding confirms that a supportive culture promoting teamwork, innovation, and knowledge exchange is a critical enabler of sustainable quality improvement in universities.

C:Sub-Hypothesis (3): There is a statistically significant relationship between leadership and management requirements and the assurance of higher education quality.

Table (07): Testing the Sub-Hypotheses(03)

Variables	Correlation Coefficient (r)	Significance (p)
Leadership and Management ↔ Quality Assurance	0.711	0.000

Source: Computed by the researchers based on SPSS results

Interpretation: The correlation ($r = 0.711$) demonstrates a strong and statistically significant link between leadership and quality assurance. This suggests that effective leadership practices—characterized by motivation, participation, and transparent communication—play a vital role in fostering knowledge-based quality management.

D:Sub-Hypothesis (4): There is a statistically significant relationship between information technology requirements and the assurance of higher education quality.

Table (08): Testing the Sub-Hypotheses(04)

Variables	Correlation Coefficient (r)	Significance (p)
Information Technology ↔ Quality Assurance	0.743	0.000

Source: Computed by the researchers based on SPSS results

Interpretation: The results ($r = 0.743$, $p < 0.05$) indicate a very strong positive correlation between IT infrastructure and quality assurance. This highlights the pivotal role of technological systems in facilitating access to knowledge, promoting digital collaboration, and enhancing administrative transparency in academic institutions.

E. Summary of Hypotheses Testing

Table (09): Summary of Hypotheses Testing

Hypothesis	Correlation (r)	Significance (p)	Result
Main Hypothesis	0.782	0.000	Accepted
Sub-Hypothesis 1 (Organizational Structure)	0.692	0.000	Accepted
Sub-Hypothesis 2 (Organizational Culture)	0.664	0.000	Accepted
Sub-Hypothesis 3 (Leadership and Management)	0.711	0.000	Accepted
Sub-Hypothesis 4 (Information Technology)	0.743	0.000	Accepted

Source: Computed by the researchers based on SPSS results.

III. Discussion of Findings

The empirical analysis clearly demonstrates that all dimensions of knowledge management requirements significantly affect the assurance of higher education quality. Among these dimensions, information technology and leadership exhibit the strongest influence, while organizational culture shows the lowest—though still statistically significant effect.

These results are consistent with contemporary literature emphasizing that knowledge-based systems, digital infrastructures, and participatory leadership models are essential for improving teaching quality, administrative efficiency, and institutional innovation in universities.

Overall, the findings confirm that knowledge management acts as a strategic lever for achieving excellence and sustainability in higher education, particularly when supported by a conducive organizational culture, empowered leadership, and robust technological infrastructure.

III-1. Analysis of the Second Dimension: Quality Assurance of Inputs

Table (10): Analysis of Items Related to Quality Assurance of Inputs

Statements	Mean	Standard Deviation	Level of Importance
21. The university uses specific evaluation forms for assessing faculty performance.	3.75	1.21	High
22. The university provides sufficient financial support for research activities.	3.76	1.20	High
23. The number of computers available is sufficient for the needs of faculty members.	3.85	1.25	High
24. The university's internet network effectively serves faculty members.	3.68	1.23	High
25. Faculty members possess adequate computer literacy.	3.95	1.22	High
Overall Mean for the Second Dimension	3.80	1.23	High

Source: Prepared by the researchers based on SPSS outputs.

Interpretation: The mean score for this dimension was (3.80) with a standard deviation of (1.23), indicating a high level of agreement among respondents. Item means ranged between (3.68–3.95), and standard deviations ranged from (1.21–1.25), which reflects strong consistency. The highest mean (3.95) corresponds to item (25), implying that faculty members are well-versed in computer use. Conversely, item (24) recorded the lowest mean (3.68), suggesting that the university's internet network is insufficient to serve faculty effectively.

III-2. Analysis of the Third Dimension: Quality Assurance of Processes

Table (11): Analysis of Items Related to Quality Assurance of Processes

Statements	Mean	Standard Deviation	Level of Importance
26. Faculty performance is evaluated periodically at the university.	3.75	1.26	High
27. Faculty members participate in specialized academic conferences.	3.90	1.29	High
28. Faculty members collaborate in conducting joint research.	4.00	1.27	High
29. Each faculty member submits model answers after every midterm exam.	3.80	1.30	High
30. Each faculty member submits model answers after every final exam.	3.85	1.23	High
Overall Mean for the Third Dimension	3.86	1.25	High

Source: Prepared by the researchers based on SPSS outputs.

Interpretation: The overall mean (3.86) with a standard deviation of (1.25) indicates a high level of agreement on quality assurance of processes. Means ranged from (3.80–4.00), and standard deviations between (1.23–1.30). Item (28) ranked first with a mean of (4.00), confirming that faculty members actively engage in collaborative research.

Item (26) ranked last with a mean of (3.75), reflecting that periodic evaluation of faculty performance is not consistently implemented.

III-3. Analysis of the Fourth Dimension: Quality Assurance of Outputs

Table (12): Analysis of Items Related to Quality Assurance of Outputs

Statements	Mean	Standard Deviation	Level of Importance
31. Academic programs are periodically revised in light of graduates' quality.	3.76	0.87	High
32. The university administration promotes understanding among faculty, students, and staff.	3.90	0.85	High
33. The university maintains continuous relations with alumni and faculty members.	3.68	0.77	High
34. The university, in cooperation with faculty, designs training programs that prepare students for the labor market.	4.00	0.89	High
35. The university administration forms committees composed of faculty to identify and address students' problems.	3.93	0.75	High
Overall Mean for the Fourth Dimension	3.85	0.79	High

Source: Prepared by the researchers based on SPSS outputs.

Interpretation: The mean score (3.85) and standard deviation (0.79) reflect a high level of approval for this dimension.

Means ranged from (3.76–4.00), with item (34) ranking highest, indicating that training programs designed collaboratively between faculty and administration effectively prepare students for the job market.

The lowest-ranked item (31) suggests that academic programs are not regularly updated based on graduate performance.

III-4. Hypotheses Testing

III-4-1: There is no relationship between knowledge management implementation requirements and quality assurance of inputs.

Table (13): Relationship between Knowledge Management Requirements and Quality Assurance of Inputs

R	R ²	T Calculated	T Tabulated	Sig. Level
0.990	0.9801	45.00	1.652	0.05

Source: Prepared by the researchers based on SPSS outputs.

Interpretation: The correlation coefficient ($R = 0.990$) indicates a very strong relationship. Knowledge management requirements explain 98.01% of the variance in input quality assurance. Since T calculated (45) $>$ T tabulated (1.652), the null hypothesis is rejected, and the alternative is accepted.

Thus, there exists a significant relationship between knowledge management implementation and the assurance of input quality.

III-4-2: There is no relationship between knowledge management implementation requirements and quality assurance of processes.

Table (14): Relationship between Knowledge Management Requirements and Quality Assurance of Processes

R	R ²	T Calculated	T Tabulated	Sig. Level
0.89	0.7921	38.00	1.652	0.05

Source: Prepared by the researchers based on SPSS outputs

Interpretation: With $R = 0.89$, the relationship is strong and statistically significant. Knowledge management requirements account for 79.21% of the variance in process quality assurance. T calculated (38) $>$ T tabulated (1.652), confirming rejection of the null hypothesis and validating a positive correlation between the two variables.

III-4-3: There is no relationship between knowledge management implementation requirements and quality assurance of outputs.

Table (15): Relationship between Knowledge Management Requirements and Quality Assurance of Outputs

R	R ²	T Calculated	T Tabulated	Sig. Level
0.979	0.9585	40.00	1.652	0.05

Source: Prepared by the researchers based on SPSS outputs

Interpretation: The correlation ($R = 0.979$) reveals a very strong relationship, explaining 95.85% of the variation in output quality assurance. T calculated (40) $>$ T tabulated (1.652), leading to rejection of the null hypothesis and confirming that knowledge management significantly enhances the quality of educational outputs.

III-4-4: There is no significant role of knowledge management requirements in ensuring higher education quality.

Table (16): The Role of Knowledge Management Requirements in Ensuring Higher Education Quality

Independent Variables	B Coefficient	T Calculated	R ²	F Calculated	F Tabulated
Organizational Culture (B1)	0.324	5.98			
Organizational Structure (B2)	0.351	5.35			
Information Technology (B3)	0.364	5.14	0.89	5.68	3.84
Administrative Leadership (B4)	0.345	5.30			

Source: Prepared by the researchers based on SPSS outputs (P = 0.05, N = 300, df (1,298)).

Interpretation: The F calculated value (5.68) exceeds the tabulated value (3.84), and $R^2 = 0.89$, indicating that 89% of the variation in higher education quality is explained by knowledge management requirements.

Among the predictors, Information Technology (B3 = 0.364) has the strongest effect, followed by Organizational Structure, Administrative Leadership, and finally Organizational Culture.

Thus, the null hypothesis is rejected, confirming that knowledge management requirements play a statistically significant role in ensuring higher education quality in Algerian universities.

Conclusion

1. Study Findings

- The overall level of knowledge management implementation at the studied university was high, with a mean of (3.82) and SD (1.20).
- Among the dimensions, Information Technology ranked first, followed by Organizational Structure, Administrative Leadership, and Organizational Culture.
- The high ranking of Information Technology reflects the availability of internal networks and electronic forums that facilitate knowledge sharing.
- Faculty members have adequate computer access and literacy, and the university's internet service, while available, could be enhanced.
- Faculty members actively participate in research collaborations and conferences, and they regularly submit model answers for exams.
- The university administration fosters communication and forms committees to address student issues, which strengthens institutional quality culture.
- Statistical tests confirmed a significant relationship between knowledge management implementation and quality assurance across all dimensions (inputs, processes, and outputs).
- The overall results demonstrate that knowledge management requirements play a crucial and significant role in ensuring higher education quality in Algerian universities.

2. Study Recommendations

Based on the findings, the researchers recommend:

1. The Ministry of Higher Education should develop a national strategy for implementing knowledge management in universities.
2. Foster positive attitudes toward the adoption of knowledge management practices in higher education.
3. Enhance the four key knowledge management requirements—organizational culture, structure, information technology, and administrative leadership—within universities.
4. Improve internet access in faculty offices to support research and academic collaboration.
5. Integrate knowledge management and quality assurance frameworks to achieve long-term institutional goals and sustainability.

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