

The impact of applying modern administrative methods on ensuring the quality of higher education at Algerian universities -Khemis Miliana University Case Study-**CHIKH TOUAMI Brahim ^{1♦}, DJILALI TOUMI Hamza ²**¹ Khemis Miliana University (Algeria), b.chikh-tohami@univ-dbkm.dz² Khemis Miliana University (Algeria), hamza.toumi@univ-dbkm.dz**Received:** 12/09/2025**Accepted:** 21/10/2025**Published:** 25/11/2025**Abstract:**

This study aimed to study the extent of application of modern administrative methods and their impact on ensuring the quality of higher education at Algerian universities, with a case study of Khemis Miliana University. To achieve the objectives of the study, the questionnaire was used as the main tool for collecting data and distributing it to a sample of professors from Khemis Miliana University. The descriptive approach and the analytical approach were also used, in addition to our reliance on SPSS 20 for the purpose of data analysis. The study also reached a set of results.

perhaps the most important of which is that the majority of the study subjects rate the website of Khemis Miliana University positively due to the many distinguished services it contains, such as viewing exam programs, viewing results and rates. The respondents also agreed that the university is keen to update and develop its library system.

Keywords: modern administrative methods, quality of higher education, Algerian university.

JEL Classification: I23, I24, I28

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1. Introduction:

Successive developments, rapid changes, and rapid progress in various fields, especially in light of globalization, information technology, and intense competition, have begun to threaten the existence of government institutions and private organizations, whether economic or service, in all their activities and forms. This has forced the latter to take a series of measures and procedures to confront these challenges by adopting a conscious scientific approach to search for the best ways that will lead these organizations to invest effective human energies in consolidating performance with more efficient and effective flexibility, as it makes them capable of adapting, surviving, growing and achieving excellence. One of the most important administrative aspects aimed at achieving this transformation is quality management.

Quality is considered one of the most important means and methods for improving the quality of education and enhancing its performance at the present time. Quality has become an urgent necessity dictated by the dynamics of contemporary life and is evidence of the continuity of the educational institution.

Contemporary global challenges have forced the Algerian university to adopt a conscious scientific approach to confront these challenges and invest its effective energies in order to consolidate its performance. Perhaps one of the most prominent administrative aspects that seeks to achieve this is quality management, which has now become, thanks to the huge amount of information and communication technologies, a distinctive feature of the data of modern human thought. This can be observed in educational institutions in particular in the field of higher education in Algeria, those in charge of it seek, through the application of total quality management, to bring about a qualitative development of the work cycle at the university in a way that is compatible with global educational and administrative developments, and keeps pace with developments seeking to achieve excellence in all operations carried out by higher education institutions in Algeria.

1.1 Study Problem:

Based on this general proposal, the problem of our research was as follows:

Is there a statistically significant impact of applying modern methods of management on the quality of higher education at Khemis Miliana University?

1.2 Study Hypotheses:

To address the problem of our research, we formulated the following hypotheses:

The first main hypothesis.

There is no statistically significant impact of the applications of modern management methods on the quality of higher education at Algerian universities.

The second main hypothesis.

There are no statistically significant differences in the respondents' answers regarding the applications of modern management methods to the quality of higher education at Algerian universities, depending on personal variables. This hypothesis is divided into the following sub-hypotheses:

- There are no statistically significant differences in the respondents' answers about the applications of modern management methods to the quality of higher education at the Algerian University for the academic degree variable.

- There are no statistically significant differences in the respondents' answers about the applications of modern management methods to the quality of higher education at the Algerian University for the rank variable.

- There are no statistically significant differences in the respondents' answers about the applications of modern management methods to the quality of higher education at the Algerian University for the experience variable

1.3 The importance of the study:

This study highlights the importance of applying modern administrative methods in Algerian universities and their impact on ensuring the quality of higher education, given the significant development and intellectual prosperity the world is witnessing. This prompts Algerian universities, like other universities in countries around the world, to keep pace with these developments and strive to achieve the best results and improve their rankings, in addition to providing the best educational service.

1.4 Study objectives:

The general objective of the study is to measure the impact of applying modern administrative methods on ensuring the quality of higher education at Algerian universities. There are also a number of other objectives, which we summarize as follows:

- Measuring the impact of applying modern management methods on ensuring the quality of higher education in terms of academic degree.

- Measuring the impact of applying modern management methods on ensuring the quality of higher education in terms of rank.

- Measuring the impact of applying modern management methods on ensuring the quality of higher education in terms of experience.

Data collection, analysis, and processing were conducted using the SPSS V26 software, with questionnaires serving as the primary statistical tool. The reliability and validity of the research instrument were assessed using Cronbach's alpha coefficient, while mean and standard deviations described the characteristics of the study sample. The hypotheses were tested through simple linear regression models and determination coefficients.

2. The theoretical framework of the study:

In light of the rapid economic and technological transformations taking place in the contemporary world, institutions of all types are required to keep pace with these changes to ensure their continuity and achieve their goals efficiently and effectively. Traditional management methods are no longer sufficient to address the increasing challenges, leading to the emergence of the need to adopt modern management methods characterized by flexibility, innovation, and a results-oriented approach.

The digital revolution, in addition to globalization and increased consumer awareness, has led to a change in concepts in the world of management, as institutional excellence can only be achieved by adopting a modern management approach that relies on technology and is based on quality standards and continuous improvement. Based on this reality, a group of modern management methods have emerged that have reshaped traditional management concepts such as management by objectives, total quality management, strategic management, change management, knowledge management, and engineering Transformational leadership, agile management, empowering management, time and performance management.

These methods aim to enhance adaptation to change, achieve institutional excellence, and increase operational efficiency. Their usefulness is not limited to improving internal performance alone, but extends to enhancing their competitive position in the market and ensuring their ability to respond quickly to changes. From here, we will discuss the most important of these methods in some detail.

2.1 Management by objectives:

Director of Administration, Peter Darker, in his 1954 book, *The Practice of Management*, as a type of management that takes objectives as its approach in administrative work, and at the same time is based on achieving objectives and commitment to work. He defined it as the process in which people within an organization integrate with each other and direct themselves towards achieving the organization's goals and objectives. (Abdullah Al-Khafifi & Youssef Al-Mansouri, 2020, p. 13).

Al-Rashidi also defined it as an administrative method in which the head participates and agrees with the subordinate to set the goals to be achieved within a specific period, followed by the subordinate's evaluation of the results reached. During this period, the subordinate coordinates with his head to inform him first-hand of what has been accomplished. After the end of the specified period, the head meets with the subordinate to evaluate what has been accomplished (Al-Rashidi, 2017, p. 09).

2.2 Strategic Management:

Knowledge and familiarity with hypothetical problems and solutions enable students to formulate an appropriate strategy that enables institutions to confront the challenges that stand in their way and thus achieve their set goals.

This field has come to be called strategic management, and interest in strategic management has shifted to focus on the level of the institution as a whole, which has prompted universities and colleges of management to teach business administration students the concept of the environment, its types, and its effects on business institutions in terms of making their decisions and formulating their mission and goals.

The interest of pioneers and researchers in the impact of environmental factors on the organization as a whole has led to the replacement of the term business policy with the term strategic management due to its comprehensiveness and ability to enable organizations to achieve their goals with high effectiveness and efficiency. The need has emerged to crystallize the concept of strategic management, especially with the change of the stable business environment to a rapidly changing environment and what it includes in terms of high discussion, uncertain environmental conditions, and the necessity of responding to the changes in environmental situations that the organization faces. (Mutlaq Al-Douri, 2005, pp. 22-23).

2.3 Total Quality Management:

The Federal Institute of Management in the United States of America defines it as follows: An administrative approach that seeks to bring about a radical change in the organizational culture within the organization and transform it from a traditional

administrative method to a modern method that serves to achieve a high level of quality for the product or service provided. (Al-Khatib & Al-Khatib, 2006, p. 35).

It has also been defined as a comprehensive approach that aims at continuous improvement at the levels and functions of institutions and depends on planning, organizing and analyzing all institutional activities and depends on the participation and support of all successive levels of the institution. In other words, we find that the concept of total quality management is based on three main pillars, which are as follows : Management, which means the administrative process and what it contains in terms of planning, organizing, directing and monitoring all activities related to the application of quality. This also includes supporting quality activities and providing the necessary resources. Quality means meeting the customer's requirements and expectations so that the product or service in its design is suitable for use. The term comprehensive means the participation and integration of all employees in the organization and thus effective coordination between employees to solve quality problems and make continuous improvements. (Al-Khatib & Al-Khatib, 2006, pp. 29-30).

2.4 Change Management:

Change management is considered one of the modern management trends followed by most institutions as a result of rapid changes in the organization's environment. Al-Otaibi defined it as the administrative approach that is concerned with monitoring indicators of change in the business environment and sorting those indicators related to the organization's activity among its management priorities with the aim of adapting and adapting management in its exercise of administrative process functions to expected variables to improve its performance and behavior.

Fahmy also defined it as good management of the aspects and determinants of change so that it is effective and achieves goals. Change management can be considered as the management's move to confront new situations and rearrange things so that it benefits from the factors of positive change, and avoids or reduces the factors of negative change. That is, it expresses how to use the best and most effective methods to bring about change to serve the desired goals. That is, change management is planning and organizing the desired change to confront external or internal environmental changes (Baraq & Omar, 2004, pp. 7-8).

2.5 Knowledge Management:

Knowledge management is a modern management concept that is receiving increasing attention from those interested in business administration. Many institutions seek to transform their businesses into knowledge-based businesses and activities. They work to direct their investments towards generating knowledge and paying attention to activities, individuals, and other means that work to create knowledge to transform them into institutions that possess intellectual capital and move away from traditional work carried out by individuals. Enterprise management mostly aims to increase the organization's ability to build an intangible system to improve the power of information technology by having dynamic management. Intangible resources can be databases, expertise, knowledge, etc. Knowledge management can also be considered the primary resource that allows us to work intelligently over time. Over time, widespread knowledge turns into other manifestations such as books, technology, practices and traditions within institutions of all kinds and in society it forms a general (Bourkoua,

2023, pp. 29-31).

2.6 Management:

It is a radical rethinking of the basic and fundamental principles and redesign of administrative processes with the aim of achieving fundamental, not marginal, improvements in critical performance standards, which include cost, quality, service, and speed. Or it is a radical redesign of basic business processes. It is also considered a philosophy whose goal is to change and reject the old ways in which business is constantly performed, so that operations start from scratch and using firm administrative leadership and modern technology (Haroush, 2018, p. 15)

2.7 Transformational leadership:

It is the leadership that leads to the success of the organization by fully influencing the behavior of followers. The term transformational has become the basis for the study of leadership and has been mostly used to distinguish between management and leadership. It is a leadership style that has a clear vision of the future and specific and clear goals that encourage subordinates to participate in formulating a long-term vision and setting clear and realistic goals for the organization It seeks to bring about change, development and administrative development continuously and adopts flexible leadership systems and methods that enable adaptation and adjustment to contemporary global developments and changes, and pays attention to organized teamwork, building work teams and creating a healthy administrative environment based on understanding, constructive dialogue and participation between all administrative levels (Al-Awfi & Bouhabl , 2019, p. 57).

2.8 Agile Management:

Agile management expresses a long-term approach to work that systematically seeks to achieve small, gradual changes in processes in order to improve efficiency and quality. It is the set of actions that must be done correctly in the right sequence at the right time to create value for a particular business It is a modern management philosophy based on rejecting the ideas on which traditional management is based, in that its success process depends only on those with experience Rather, it considers that all employees in the organization are partners in the process of continuous development and improvement and attention to workers with multiple knowledge and skills, with the necessity of improving the psychological work climate, developing appropriate training programs, and paying attention to forming small work teams and other teamwork mechanisms that would raise the level of job performance (Rahal , 2025, p. 43).

2.9 Empowerment Management:

Administrative empowerment is a multifaceted concept that cannot be confined to a narrow circle but rather takes on different dimensions. It is simple at first and profound if researched further. It should be noted that despite the different angles and directions through which empowerment was defined, most of them focused on the process of granting authority to employees Empowerment management is the sum of organizational policies, practices and structures that give employees greater freedom to make decisions and exercise influence regarding their tasks (Rajimin, 2020, p. 7).

2.10 Time and Performance Management:

Time management is defined as the optimal use of time and available resources in a way that leads to achieving important goals, or in other words, it is the distribution of time and its use in the various activities carried out by the organization, which enables it to accomplish the tasks assigned to it with high efficiency and productivity (Ahmed Farah, 2000, p. 25).

3. Quality Management in Higher Education:

Quality in the higher education system receives great attention in most countries of the world as one of the basic pillars of the successful management model, and accordingly, identifying the foundations of quality occupies great importance within the framework of its practical application in various institutions, including specifically those related to higher education

3.1 Definition of quality:

Quality as a term is a word derived from the Latin word Qualities, which means the nature of a thing and its degree of goodness, and it does not always mean the best or the best, but rather it is a relative concept whose view varies depending on the aspect of benefiting from it (Taher, 1998, p. 77).

3.2 The concept of total quality management:

Nowadays, the term total quality management has become popular as an alternative to old terms that express the same meaning, such as comprehensive quality control, which is a cooperative form of worker performance that depends on the joint capabilities of both management and workers with the aim of continuous improvement in quality and productivity through work teams.

3.3 Total quality management in higher education:

The concepts of total quality management were transferred from industry to higher education at the suggestion of educators, businessmen, and those responsible for educational reforms, considering the introduction of TQM into education as the hoped-for solution to educational problems.

Quality Management in Higher Education is an integrated method applied in all branches and levels of the university to provide individuals and work teams with the opportunity to satisfy students and beneficiaries of education and scientific research or effectively achieve the best educational and research services with the most efficient methods, lowest costs and highest possible quality (Al-Najjar, 2000, p. 73).

3.4 Justifications for applying total quality management in higher education:

Among the justifications for applying TQM in university education are:

- Quality is linked to productivity.
- Confusion of the quality system with comprehensiveness in all areas.
- The universality of the quality system is a feature of the modern era.
- The necessity of obtaining a competitive advantage in light of global challenges.
- The comprehensive quality system is linked to the university's comprehensive education evaluation.
- The weak effectiveness of major structural reforms in affecting the educational process within university institutions.

3.5 Requirements for implementing total quality management in higher education:

Organizational culture: The concept of organizational culture in total quality is the way in which business is performed.

- The need to avoid fear of implementing total quality management.
- Senior management's belief in the importance of the total quality management system and its awareness of its responsibility towards new global changes.
- Effective educational leadership.
- The necessity of coordination and cooperation between departments and colleges within the university to implement the TQM approach.
- The need to focus on a vulnerable base of information that guides the decision-making process.

3.6 Objectives of total quality management in higher education:

Total quality management for any institution is an important basis for performing any work with perfection, especially in the field of education. There is no doubt that the most important difference between a good educational institution and a weak one is the way that institution is managed. The benefits of applying total quality in higher education can be summarized as follows:

- Meeting and satisfying the needs of students, parents, and the community.
- Raising students' awareness of the learning process and its objectives, while providing appropriate opportunities for more effective self-education.
- The participation of all employees in the university administration, as each individual is clearly aware and knowledgeable of his role and responsibilities.
- Implementing total quality management will significantly reduce management bureaucracy.
- Ensuring the quality of educational services provided despite the different types of workers as a result of their different environment.
- Help create a documented system to ensure performance in the event that an individual is absent or leaves service (Laraqat, 2019, pp. 41-47).

4. The Higher Education Institution in Algeria:

The Algerian university represents one of the sectors that best reflects the ambitions and developments to advance development in the country, which is why the university education institution comes at the top of education and represents the last stage of the formal educational system.

4.1 The reality and challenges of the higher education system in Algeria:

Since 2004, after adopting a new higher education system similar to neighboring countries, the Ministry of Higher Education and Scientific Research in Algeria began gradually abandoning the classical education system at Algerian universities. It initially evaluated the educational process in various universities and their affiliated schools, and for this purpose established a special body concerned with quality and the accreditation of new educational programs Evaluating existing ones is an attempt to determine the extent of the

need to develop them, modify their path, or transform them into another path according to multiple academic considerations, and the Ministry has also begun, through this unit, to work on establishing quality and quality units in each university, with the aim of helping to achieve quality goals and accredit them in the Algerian higher education system.

4.1.1 Imbalance of the higher education system in Algeria:

The higher education system in Algeria has witnessed many imbalances, some of which are organizational and related to university institutions themselves, and some of which are related to pedagogical and scientific aspects related to the training offers offered. These imbalances can be limited to four fundamental reasons represented in the following: (Al-Wafi, 2014, p. 02).

- The aspect of student guidance and academic progress.
- Education management and structuring aspect.
- Framing aspect.
- The aspect of compatibility between training and the labor market.

4.1.2 The inevitability of reforming the higher education system in Algeria:

The imbalances that marred the higher education system in Algeria led to getting the university out of the crisis it was going through, by providing pedagogical, scientific, human, material and structural capabilities that would allow it to respond to the aspirations of society, while at the same time gradually adapting it to the global system of higher education. Accordingly, it was necessary to correct the imbalances through preparing a comprehensive and profound reform of higher education at all levels (Abdel Baqi Juwaili, 2011, p. 47).

In the hope of achieving quality higher education, the Algerian University has begun reforming its educational system by adopting the following ideas:

- Providing qualitative training to ensure the professional integration of its outputs.
- Achieving a kind of independence for higher education institutions.
- Adopting international standards to achieve quality in the higher education sector.

The reforms that befell the Algerian higher education system resulted in the adoption of a new educational system that mainly revolves around three stages of training:

- First stage crowned with a Bachelor's degree (L) through six hexagons.
- A second stage crowned with a Master's degree (M) through four hexagons.
- A third stage that culminates in a doctoral degree (D) through at least six hexagons.

Algeria began implementing the LMD system in September 2004, and 11 experimental university institutions were selected to implement the new educational system To achieve the following:

•Enabling the Algerian University to become a pole of cultural and scientific radiation at the national and international levels.

•Involving the Algerian University in the country's sustainable development.

•Harmonizing the requirements of higher education with the necessary requirements to ensure qualitative training.

•Linking the Algerian University to global space and being more open to global developments, especially those related to science and technology.

- Encouraging international exchange and cooperation.

5. Results analysis:

5.1 Study population and sample:

The study population was determined from professors of the Faculty of Economics, Commercial Sciences and Management Sciences at Djilali Bounaama University, - Khemis Miliana-. (60) questionnaire forms were distributed to professors at the college, of which 44 completed forms were retrieved.

5.2 Study tools:

In order to complete the research operations, a set of necessary and appropriate methods were used for each stage of the research, the most important of which are:

5.2.1 Questionnaire form:

It is one of the tools for collecting information. It was prepared based on several references, such as theses and dissertations. One form was prepared for professors, and it was divided into two parts:

First part: Personal Information: It contains 3 paragraphs aimed at knowing some of the professors' personal information, such as academic degree, rank, and professional experience.

Second Two: Questionnaire paragraphs, which contain 27 paragraphs.

5.3 The consistency and truthfulness of the questionnaire:

In order to ensure the validity of the questionnaire and the extent to which it meets the conditions necessary for a good test and for the purposes of the study, some tests were relied upon, which are described below:

Taking advantage of their accumulated knowledge and experience in their field of specialization and benefiting from their observations in amending the questionnaire and producing it in its current final form.

5.3.1 Stability of the study tool:

To verify the stability of the study tool, the Cronbach's alpha coefficient (alpha cronbach) was used, to ensure the stability of the measurement tool because the questionnaire measures the factors to be measured and to ensure their stability and validity, as the stability value of the questionnaire directed to professors reached 84.7%, and thus the research tool has a good degree and significance of stability, such that these percentages exceed the statistically acceptable percentage of 60%.

5.3.2 Statistical analysis methods used:

After transcribing the questionnaires, encoding the data, and entering them into the program (SPSS 20), the statistical package for the social sciences, some statistical tools were used, including:

- Use frequencies and percentages to describe the personal characteristics of the study sample.
- Use arithmetic means and standard deviation.
- Use the Kolgrove-Smirnov test (1-sample K-S) on normal distribution.

- Use of the parametric T (one-sample test) test in hypothesis testing.

- Use the Kruskal-Wallis's test (kruskal wallis) to compare the distribution of several independent communities if the conditions for parametric tests are not met.

5.4 Statement and analysis of the study results and hypothesis testing:

This study aims to understand the role played by modern management methods and their impact on ensuring the quality of higher education in Algeria, from the perspective of professors from the Faculty of Economics, Business Sciences and Management Sciences at Djilali Bounaama University in Khemis Miliana.

5.4.1 Analysis of results related to personal data:

The study included personal characteristics represented by the academic degree, rank and professional experience of the professor, as the members of the statistical sample of professors were distributed according to personal variables according to the following table:

Table 1: Distribution of statistical sample vocabulary according to the Academic degree variable.

Numbers	Category	Number of Sample	Percentage (%)	ranking
1	Master	2	4.5	4
2	Master's	2	4.5	3
3	LMD PhD	21	47.7	1
4	PhD	19	43.2	2
Total		44	100	--

Source: Prepared by the researchers after completing the questionnaires.

From Table N°01, we note that most of the respondents are professors who have obtained a doctorate degree, whether a doctorate in science or a doctorate in science.

The following table shows the distribution of sample members by rank.

Table 2: Distribution of statistical sample vocabulary by rank variable.

Numbers	Category	Number of Sample	Percentage (%)	ranking
1	Ajunct professor	02	4.54	6
2	Probationary Assistant professor	00	00	7
3	Assistant professor B	06	13.6	4
4	Assistant professor A	02	4.54	5

5	Lecturer Grade B	10	22.72	2
6	Lecturer Grade A	18	40.90	1
7	Full professor	06	13.6	3
Total		44	100	--

Source: Prepared by the researchers after completing the questionnaires.

From the table above, we note that the majority of the respondents are lecturers A at a rate of 40.9% and lecturers B at a rate of 22.7% in the Faculty of Economics, Commercial Sciences and Management Sciences at Djilali University, Bounaama, Khamis Miliana.

The following table shows the distribution of sample members according to experience.

Table 3: Distribution of statistical sample vocabulary according to the experience variable.

Numbers	Category	Number of Sample	Percentage (%)	ranking
1	Under 10 years	41	93.2	1
2	From 10 to 20 years	03	6.8	1
3	From 20 to 30 years	00	00	1
4	Over 30 years	00	00	1
Total		44	100	--

Source: Prepared by the researchers after completing the questionnaires.

From the table above, we note that the majority of the respondents are professors with less than 10 years of professional experience.

5.5 Statistical analysis of study vocabulary answers:

We will focus on analyzing data related to professors' evaluation of the applications of modern administrative methods to ensure the quality of higher education at Algerian universities.

The following table shows the arithmetic averages and standard deviations that show the extent to which members of the study sample agree with the applications of modern administrative methods to ensure the quality of higher education at the Algerian university, by studying the case of Khemis Miliana University.

Table 4: The extent to which the study sample members agreed with the applications of modern administrative methods and their impact on ensuring the quality of higher education at the Algerian university.

N°	Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4	Senior management provides various capabilities (material, financial and human) to support its commitment to quality	1	10	9	24	0
5	Senior management is committed to studying and following up on changes in the needs and desires of clients - students, institutions...	3	15	14	12	0
8	The Higher Education Institution is keen to develop its library system to facilitate the benefit of all students and researchers	0	10	4	26	4
9	The Higher Education Institution has several services available on its website –such as viewing exam programs...	0	1	2	31	10
12	Higher education institutions view continuous improvement in work performance as part of quality requirements	0	10	19	12	3
14	The higher education institution works to continuously qualify and train its faculty members	5	7	7	22	3
16	Faculty members are free to perform their duties away from restrictions that limit their creativity - bureaucracy, external oversight	2	10	9	19	4
17	Faculty members contribute to solving problems that a higher education institution may face its employees	4	10	18	11	1
19	The communications system of a higher education institution is characterized by high efficiency in delivering information to its users	2	13	8	18	3
27	Working conditions (building, lighting, air conditioning) are ideal for performing tasks	2	7	5	23	7

Source: Prepared by the researchers after completing the questionnaires.

Table 5: Statistical analysis.

Arithmetic Mean	Standard Deviation	Number of Sample	Rank
3.27	0.899	Disagree	5
2.8	0.93	Disagree	9
3.55	0.951	Agree	2
4.14	0.594	Agree	1
3.18	0.870	Neutral	7
3.25	1.164	Agree	4
3.30	1.069	Agree	3
2.89	0.970	Neutral	8
2.68	1.116	Agree	10
3.19	1.085	Agree	6

Source: Prepared by the researchers after completing the questionnaires.

We note from Table No. 04 that the majority of the study subjects rate the Khamis Miliana University website positively due to the many distinguished services it contains, such as viewing exam programs, viewing results and rates. We note that Statement No. 9 obtains the highest approval score with an arithmetic mean estimated at 2.17 and a standard deviation of 0.591, followed by Statement No. 8, which also obtained a high approval score the respondents agreed that the university is keen to update and develop its library system in a way that facilitates the benefit of all students and researchers from it. Most professors also agreed that the working conditions of the building, lighting and air conditioning are ideal for performing its tasks, and this phrase ranked 6th.

5.6 Hypothesis testing:

The first step in the hypothesis testing process is to see if the sample members' answers follow a normal distribution, in order to choose the appropriate type of test, using the Kolmogorov-Smirnov test (kolmogorov-smirnov).

The following table shows Kolmogorov Smirnov's test of the study sample of professors.

Table 6: Colgrove-Smirnov (I-Sample K-S) test results on normal distribution.

Statement	Selected Value	Sig Level	Distribution
Questionnaire Items	2.92	0.715	Normal

Source: Prepared by the researchers after completing the questionnaires.

Table N° (06) above shows the results of the Kolgrove-Smirnov test on the normal distribution, as the value of the significance level $\text{sig}=0.715$ for the answers of the sample members to the questionnaire items is less than the critical significance level $\text{sig}=0.05$, so we say that the answers of the sample members to the questionnaire items follow the normal distribution.

5.6.1 Test the first main hypothesis:

H0: There is no statistically significant effect of applying modern management methods on ensuring the quality of higher education at Algerian universities.

H1: There is a statistically significant impact of the applications of modern management methods on ensuring the quality of higher education at Algerian universities.

Table 7: One sample test result for questionnaire items.

Number	Questionnaire Items	Standard Value		
		Value T	Degree of Freedom	Significance Level
01	All Questionnaire	-1.064	43	0.293

Source: Prepared by the researchers after completing the questionnaires.

The results of Table No (07) indicate that all questionnaire items are not statistically significant and are equal to 0.293, which is higher than the critical significance level of 0.05. Therefore, we accept the nihilistic hypothesis (H0), meaning that there is no statistically significant effect of applying modern management methods on ensuring the quality of higher education at Algerian universities.

5.6.2 Testing the second main hypothesis:

H0: There were no statistically significant differences in the respondents' responses regarding the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on personal variables.

H1: There are statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on personal variables.

We will test whether there is a relationship between the questionnaire items on the application of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the personal variables of the individuals in the study sample.

Table 8: Results of the normal distribution test for personal variables.

Statement	Statistics	sig
Academic Degree	0.286	0.001
Academic Rank	0.372	0.000
Experience	0.537	0.000

Source: Prepared by the researchers after completing the questionnaires.

Table No (8) shows the results of the normal distribution test, where the value of the significance level $\text{sig}=0.00$ for the answers of the sample members was less than the critical significance level of 0.05, so we say that the answers of the sample members to the paragraphs of personal variables do not follow the normal distribution.

5.6.3 Testing the first sub-hypothesis:

H0: There were no statistically significant differences in the respondents' answers regarding the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the academic degree variable.

H1: There are statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the academic degree variable.

Table 9: Kruskal Wallace degree test.

Sample Description		Mean Ranks	Results		
Academic Degree	Sample Size		Khi-deux	ddl	Sig
Master	02	31.5	1.073	03	0.784
Master's	02	21.68			
LMD PhD	21	22.48			
PhD	19	21.50			
Total	44				

Source: Prepared by the researchers after completing the questionnaires.

We note from the table above that the results of the Kruskal-Wallace test show that the significance level is equal to $\text{sig} = 0.684$, which is greater than the critical significance level. Thus, we accept the null hypothesis, meaning that there are no statistically significant differences in the respondents' answers regarding the level of application of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the academic degree variable.

5.6.4 Testing the second sub-hypothesis:

H0: There were no statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the rank variable.

H1: There are statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the rank variable.

Table 10: Kruskal-Wallis test for rank.

Sample Description		Mean Ranks	Results		
Academic Degree	Sample Size		Khi-deux	ddl	Sig
Ajunct professor	02	24.54	3.447	04	0.486
Probationary Assistant professor	00	0			
Assistant professor B	06	20.17			
Assistant professor A	02	18.80			
Lecturer Grade B	10	33.50			
Lecturer Grade A	18	9.50			
Full professor	06	20.17			
Total	44				

Source: Prepared by the researchers after completing the questionnaires.

We note from Table No 09 that the results of the Kruskal-Wallis test indicated that the value of khi-deux is equal to 3.447 and the significance level is equal to sig=0.486, which is greater than the critical significance level of 0.05. Thus, we accept the null hypothesis, meaning that there are no statistically significant differences in the respondents' answers about the level of application of modern management methods to ensuring the quality of higher education at the Algerian university according to the rank variable.

5.6.5 Testing the third sub-hypothesis:

H0: There were no statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the experience variable.

H1: There are statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the experience variable.

Table 11: Kruskal-Wallis test for experience.

Sample Description		Mean Ranks	Results		
Academic Degree	Sample Size		Khi-deux	ddl	Sig
Under 10 years	41	23.10	0.23	01	1.304
From 10 to 20 years	3	14.33			
From 20 to 30 years	0	0			
Over 30 years	0	0			
Total	44				

Source: Prepared by the researchers after completing the questionnaires.

We note from Table 10 that the results of the Kruskal-Wallis test indicated that the value of khi-deux is equal to 1.304 and the significance level is equal to sig=0.23, which is greater than the critical significance level of 0.05. Thus, we accept the null hypothesis, meaning that there are no statistically significant differences in the respondents' answers about the level of application of modern management methods to ensuring the quality of higher education at Algerian universities according to the variable of professional experience.

6. Conclusion:

There is no doubt that the time has come for university educational institutions in Algeria to adopt the philosophy of quality university education. The abstract term means nothing as much as it contains a message of improving performance and scientific output, even mastery. Therefore, the focus was on the concept and importance of quality as a term and quality of education as a related term. The study also attempted to point out the importance of adopting modern administrative methods to ensure the quality of higher education at Algerian universities.

The results of the hypothesis testing are summarized as follows:

1. Through the applied study, the first main hypothesis was tested: (There is no statistically significant effect of applying modern management methods on ensuring the quality of higher education at the Algerian university), and according to the results of the hypothesis test, the significance level is equal to 0.293, which is higher than the critical significance level of 0.05. Therefore, we accept the nihilistic hypothesis (H_0), meaning that there is no statistically significant effect of applying modern management methods on ensuring the quality of higher education at Algerian universities.

2. Through the applied study, the second main hypothesis was tested: (There are no statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education at Algerian universities according to personal variables). The second main hypothesis was divided into three sub-hypotheses according to personal variables, and the results of the applied study were as follows:

- There are no statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the academic degree variable.

- There are no statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education at Algerian universities, depending on the rank variable.

- There are no statistically significant differences in the respondents' answers about the applications of modern management methods to ensuring the quality of higher education depending on the variable of professional experience.

Through this study, we also reached many results, perhaps the most prominent of which are:

- The majority of study subjects rate the website of Djilali Bounaama University in Khemis Miliana positively due to the many distinguished services it contains, such as viewing exam programs, viewing results and grades.

- The respondents agreed that the university is keen to update and develop its library system in a way that facilitates the benefit of all students and researchers from it.

- Most professors also agreed that the working conditions of the building, lighting and air conditioning, were ideal for performing its tasks.

- The university's senior management provides various material, financial and human capabilities to support its commitment to quality.

- The university works to continuously qualify and train its faculty members.

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