

Obstacles to the Implementation of Competency Management in Higher Education Institutions in Algeria An Exploratory Study of a Group of Universities in Eastern Algeria

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Summary: This study aims to identify the obstacles to implementing competency management in higher education institutions in Algeria. The study adopted a descriptive methodology suitable for accurately describing conceptual frameworks, as well as an analytical approach appropriate for interpreting and discussing the findings. The sample size was determined using Herbert Larkin's formula, with 156 questionnaires distributed to the targeted group, namely the senior administrative staff of several universities in Eastern Algeria. Data were analyzed using SPSS software to identify relevant relationships and concepts.

The study found that compensation-related legislation and the administrative practices currently in place constitute barriers to the implementation of competency management in Algerian higher education institutions, at a significance level of 0.05. It also found that legislation related to recruitment and administrative organization aligns with the logic of implementing competency management in these institutions at the same significance level. Furthermore, no statistically significant differences were found in the perceptions of senior administrative staff regarding the requirements for implementing competency management, based on their general demographic data.

Keywords: Competency Management; Legislation; Recruitment; Compensation; Administrative Practices; Administrative Organization; Competency Governance.

Jel Classification Codes : C12 ; I23 ; J24 ; M12.

I- Introduction :

Human resources are widely recognized as the fundamental driver and essential source of organizational success and sustainability, particularly in environments characterized by complexity and continuous change. Human capital represents the intellectual asset that determines an institution's capacity for innovation, adaptability, and competitive advantage (Delery & Roumpi, 2017). Within the higher education sector, this significance is further amplified, as universities play a pivotal role in knowledge production, human capital development, and the enhancement of national capabilities in research and innovation (Altbach, Reisberg, & Rumbley, 2019).

In the Algerian context, the issue of competency management in higher education institutions acquires a strategic dimension shaped by historical, political, and cultural factors (Benabdelkader & Bouyakoub, 2022). Since the post-independence period, Algeria has implemented policies aimed at expanding access to higher education and promoting equity.

However, this quantitative expansion has been accompanied by qualitative challenges related to human resource management efficiency such as limited funding, bureaucratic complexity, difficulties in retaining academic talent, and weak alignment between educational outcomes and labor market needs (UNESCO, 2018). Moreover, a culturally and administratively centralized governance structure has constrained universities' flexibility in adopting modern competency management practices grounded in autonomy and innovation.

Focusing on competency management in Algerian universities therefore represents an essential response to these challenges and constitutes a cornerstone for improving both academic

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and administrative performance. The adoption of comprehensive strategic approaches to competency management including recruitment, development, motivation, and continuous evaluation can significantly enhance the competitiveness of Algerian universities at regional and international levels (Chouhan & Srivastava, 2014).

At the same time, this field offers valuable opportunities for benchmarking and learning from international best practices, particularly those grounded in principles of institutional excellence, strategic planning, and good governance (OECD, 2020). Consequently, studying competency management in Algerian higher education is not merely an administrative necessity but also a scientific and societal endeavor aimed at aligning the university system with the imperatives of the knowledge-based economy.

These challenges require detailed and integrated research, including analysis of administrative as well as organizational issues. Therefore, this research aims to explore the following research question:

- **What are the obstacles to introducing competency management in higher education institutions in Algeria?**

Through exploratory research from the perspective of senior administrative officials in a group of universities in eastern Algeria, this research is aimed at the legislative context, administrative practices, and skill and competency issues. Following this, the following main hypothesis has been established:

- **Several administrative and legislative practices prevent the implementation of competency management within higher education institutions in Algeria.**

The aim of this study is to provide a scientific perspective that develops the understanding of such barriers and opens new research and development paths for competency management. This would further enhance the ability of Algerian universities to address existing challenges and achieve academic and administrative excellence.

Descriptive and analytical methods are used to answer the research question and validate the hypothesis. These are based on hypothesis formulation and field testing and literature review of the research components. SPSS program was also applied for data analysis.

II– The theoretical framework of the study:

II-1- Definition of study variables

▪ Competency

The term "competency" has been adopted by organizations to try to answer the simple question: "How is competence defined?" (Gilbert, Aubret, & Pigeyr, 2002, p. 10). Philippe Zarifian's work, which applied the "competence model" to his publications, indicates that competence is the outcome of the effort and sense of responsibility the individual makes when handling specific professional and work-related situations (Zarifian, 1999, p. 1). Two factors are incorporated into this definition:

1. **Responsibility and Initiative:** When it comes to complex professional situations, one must demonstrate initiative and problem-solving ability, thereby demonstrating competency. It involves understanding, analyzing, and interpreting situations, be it unexpected or diverse. It involves the individual taking the responsibility for the outcome, whether favorable or unfavorable, because it occurs due to the options they choose (Van Dijk & Jochemsen, 2022).
2. **Integration of Knowledge and Skills:** Competence is also the ability to combine technical (practical) knowledge and behavioral skills to perform activities or tasks. It entails the acquisition of diverse knowledge throughout life and collaboration with others to tackle specific problems.

It can be understood here that competence involves the acquisition of knowledge, experiences, and skills that individuals use to address specific problems (Chahine, 2010, p. 2; (Sánchez-Cardona, 2024) .

For Claude Lévy, competencies are the interaction between the accomplishment of tasks and the activities to achieve them, and the personal qualities to perform satisfactorily (Lévy-Leboyer, 2009, p. 30). Competence, for Christine Rieu, is a corpus of knowledge applied to everyday activities in an organization under specific contexts of use (Rieu, 2008, p. 13, Teece, 2018).

Competency is also seen to be an advanced trait with direct linkage to human linguistic capacities (Carras, 2015) . It is seen to be identified by individual flexibility to work settings and the ability to apply technical knowledge by taking advantage of environmental factors to address professional issues, for instance, to achieve specified outcomes in the workplace (Nel, 2012).

▪ **Competency Management**

Competency management is critical for organizational management and human resources management. It comprises practices that are directed towards maximizing the usage of and developing individual and collective competences for organizational success and improvement of employee performance. It is achieved through mobilization and reinforcement of employees' capacities in their work. Competency management is directed towards developing the organization's competitive advantage and improving employees' career options (González-González et al, 2023).

Thus, competency management is not an objective but an instrument for reaching the strategic goals of the organization. Competency management is effective when it has vertical integration so that competences are aligned with organizational strategy and horizontal integration so that human resources activities are coordinated (Sefiani , Boumane, Campagne, & Bouami, 2011, pp. 2-3).

Competency management is the overall leadership of the organization towards achieving its strategic goals through its human resources and competencies (Mostafa, 2000, p. 46). Competency management focuses on managing human resources with the aim of achieving strategic goals.

Competency management can be defined as “a set of procedures, methods, and tools that enable an organization to acquire, motivate, and organize the competencies it requires both presently and in the future on an individual or collective level, in accordance with its mission, vision, objectives, strategy, structure, technical resources, and organizational culture” (LE BOULAIRE & RETOUR, p. 3).

Competency management is defined as managing human resources' knowledge, skill, and behavior to maximize returns and adapt to environmental change by Sylvie Stong (Stong, 2001, p. 256) . Competence management therefore includes managing and coordinating competencies, suitable working conditions, and motivation to achieve goals aligned with organizational strategy and developing resources.

Competency management relies on various tools and methodologies depending on organizational practices. There are three steps as outlined by Defélix (2003) in the overall framework of competence management (Sefiani , Boumane, Campagne, & Bouami, 2011, pp. 2-3):

1. **Competency Attraction:** Identifying required competencies (reference) and determining existing and future needed competencies.
2. **Competency Evaluation:** Evaluation of the degree of existing competencies and their comparison with required competencies (Lethiellux, 2006, p. 45).
3. **Compensation Based on Competency:** It takes flexibility and alignment with the firm's strategy to shift the compensation system to competency-based (Stong, Haines, & Klarsfeld, Competency-Based Compensation – Determinants and Implications, 2004, p. 653).
4. **Regulating Competences:** Developing strategies for enhancing individual and collective competences, moving from work planning towards competence prediction.

▪ **Higher Education**

Higher education is the most effective method of developing highly skilled individuals and promoting them to develop a strong civilization as per contemporary needs and challenges. It equips them with technical, practical, and language skills that allow them to become part of international advancements (Rodríguez-Gómez, García-Holgado, & García-Pe, 2021; Dhanpat, Pillay, & Mtembu, 2024).

There are different definitions of higher education:

It is all types of education post-secondary school or equivalent from professional institutions. It is a stage of practical specialization in various fields and levels for capable individuals and meeting the demands of society in the future and present (Ata, 2011, p. 21).

Mohamed Hameedan Al-Abadi views it as the main source of imparting knowledge to students, scientific thinking, research skills, and good attitudes. It improves their ability to make choices and decisions in the wake of the explosion of knowledge and scientific innovations towards the building of a knowledge society (Al-Abadi, 2005).

Higher education in Algeria is, according to the Official Gazette through Law No. 99-05, any training and research carried out at the post-secondary level by state-accredited institutions. They are comprised of universities, university centers, schools, and institutes outside universities, as well as institutes and schools established by other ministries in cooperation with the Minister of Higher Education (People's Democratic Republic of Algeria, April 1999, p. 4).

Therefore, higher education is one way of training which offers knowledge and research possibilities, building and spreading capacities for the purpose of contributing to society through state-accredited institutions (Kebaili & Bensaber, 2023).

▪ **University**

The university is portrayed as a microcosm where students and faculty members discuss, cultivate, and research ideas and produce knowledge. It is seen as human inheritance that the university has to safeguard, transmit to future generations, and continuously upgrade. It is not only responsible for safeguarding and transmitting knowledge but also for creating it through scientific research. It is a public service to society and a source of social, cultural, and economic progress. It is responsible for training professionals needed by society in terms of its needs and challenges (Lessard, 2012, pp. 3-4).

This role has been increasingly emphasized within the Triple Helix model, where the university interacts with industry and government to foster innovation and socioeconomic development (Etzkowitz & Leydesdorff, 2000).

Decree No. 08-130 of the executive branch related to the basic law of university professors makes the university a public administrative, scientific, cultural, and professional institution and public scientific and technological institutions and all public institutions whose staff are bound by this basic law (People's Democratic Republic of Algeria, 4 May 2008, p. 19). Furthermore, recent studies confirm that Algerian universities are expected to serve not only as centers of instruction but also as active contributors to national development through applied research and alignment with the socio-economic context (Saidi, 2020).

The Algerian legislator does not differentiate higher education from scientific research and considers research to be part of higher education. State-accredited institutions of higher learning are the recognized ones; any other institution beyond this framework is not considered part of higher learning. The legislator also mandates the framework of such institutions so that institutes and schools are created outside the Ministry of Higher Education and Scientific Research but under their oversight so that institutions compatible with the economic context can be established and produce candidates for strategic positions (Bouacida, 2020).

▪ **Legislation**

Legislation is the aggregate of written legal rules adopted through the state's power of legislation binding upon all individuals and institutions within the ambit of the state. It includes the

constitution, foundational laws, rules, and administrative rulings. Legislation either constitutes the enactment of laws or the aggregate of laws enacted through a capable power of legislation such as parliament to regulate society, resolve disputes, and protect rights and obligations. Legislation is one of the primary sources of law in modern legal systems and stands apart from other sources such as custom, jurisprudence, or judiciary (Ben Namla , 2018).

In our study, legislation has been interpreted as management of human resources in the higher education and scientific research field as part of the public sector and thus with certain management characteristics (Bouchehir, 1988, p. 346; Zolak Poljašević, 2024). In the table below are the pros and cons of current legislation applied in higher educational institutions.

Table (01): Strengths and Weaknesses of Legislation Applied in Higher Education Institutions

Aspect	Strengths	Weaknesses
Legislation for employment	Competitive exams are the criterion for recruitment (General Directorate of Public Administration, 2011); candidates are selected on the basis of qualification for the Assistant Professor post, Class "B" – the first of the steps of the academic career – for Master's and PhD degree holders with priority for PhD degree holders (Arioua & Benyamina, 2022). Evaluation and selection are on the basis of ministerial circulars	The employment system has definite and explicit conditions on the basis of qualification rather than competences. Criteria of selection and assessment are subjective and personal and are determined by selection committees. It does not rely on mobilization from within of its own products of competences.
Compensation Legislation	Faculty members are granted various grants and compensations like improvement of performance grants, pedagogical experience compensation, compensation for documentation, compensation for supervision and pedagogical follow-up, scientific qualification compensation, regional compensation*, and housing compensation (People's Democratic Republic of Algeria, 2010, p. 11, Bouguetaf & Benmekki, 2024).	Compensations are fixed based on the position held rather than competences and capacities. Various compensations are added to the basic salary for each functional grade.
Administrative Organization Legislation	It defines the functions and rules of organization and functioning of the university with references to the administrative organization of various university bodies such as the board of directors, scientific council, faculties, and institutes. It defines the role of professors in such	They are not flexible and have hierarchical gradation of duties and responsibilities. They are not independent in task execution and leadership.

* The People's Democratic Republic of Algeria, Executive Decree No. 82-183, as amended by Executive Decree No. 30-193 dated 14 July 1993. This decree outlines the modalities and criteria for determining the regions in which employees are entitled to financial compensation. It does not apply universally but is restricted to remote, difficult, and isolated areas, with compensation rates ranging between 7% and 35%.

	bodies through assigned functions in running the university (People’s Democratic Republic of Algeria, 2003, p. 4; Bouguetaf & Benmekki, 2024).	
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The source: Prepared by the researcher.

The table provides a comprehensive overview of legislation for effective competency management in higher educational institutions to be utilized in building the hypotheses of the study.

▪ **Administrative Practices**

Administrative practices are the responsibilities assigned to the administrative staff including arranging meetings, scheduling, keeping business accounts, managing internal and external correspondence and liaising with other departments of administration. These practices have impacts on the productivity and efficiency of the institution (Tabouche , 2024, p. 603). The strategic execution of these administrative duties can substantially impact the performance outcomes of universities, especially when aligned with quality management principles and modern organizational tools (Agasisti, 2017).

Furthermore, administrative practices include a comprehensive set of procedures, activities, and workflows aimed at managing human, material, and financial resources efficiently to ensure the realization of institutional objectives. These practices are rooted in fundamental management functions such as planning, organizing, directing, controlling, and evaluating, all of which must comply with the legal and regulatory frameworks governing public administration (Flynn, 2017; Lu, Laux , & Antony , 2017)

The adoption of Lean and Six Sigma methodologies in higher education has proven effective in streamlining administrative processes and reducing operational inefficiencies (Lu, Laux , & Antony , 2017).

Importantly, the quality of administrative services directly affects stakeholder satisfaction—students, faculty, and staff alike. A responsive and well-coordinated administrative framework enhances institutional trust and contributes to a supportive academic environment (Kuo , Chen , & Cheng , 2018). This highlights the need for continuous evaluation and adaptation of administrative practices to meet the dynamic demands of the educational sector.

The table below shows the pros and cons of administrative practices as applied in institutions of higher learning.

Table (02): Strengths and Weaknesses of Administrative Practices Applied in Higher Education Institutions

Aspect	Strengths	Weaknesses
Task Definition	Roles of individuals and tasks of the university are set up through explicit executive directive with well-defined procedures (Agasisti, 2017).	Absence of independence in task and responsibility definition, inhibiting initiative.

Bureaucracy	There is respect for procedure and rules concerning the hierarchical nature of administrative decision-making that limits individual responsibility (Lu, Laux , & Antony , 2017).	Failure to focus on outcomes with no delegation of responsibility and power.
Financial Control	Emphasis on financial resources (Agasisti, 2017).	Financial resources are seen as the primary pillar of project execution and not human resources.
Process of Communication	Unilateral decisions are taken for execution as well as for determining responsibility (Lu, Laux , & Antony , 2017).	Lack of flexibility and complexity inhibit decisions from being implemented with minimal time.
Performance Evaluation	According to achievement of sector goals (teaching and training, scientific research, and community service) (Kuo , Chen , & Cheng , 2018).	Emphasis on present goals without measurement indicators such as financial indicators (alignment of outcomes with financial needs) and moral indicators (ability to produce and utilize knowledge according to needs).
Sector Role	Its role is in training (education), scientific research, and service to society (Agasisti, 2017).	Focus on previously established roles with less emphasis on the production of knowledge and applying it, which is the main purpose of such institutions.

The source: Prepared by the researcher.

- **Competency Governance in Algerian Higher Education:** The International Normative Model and the Local Practice

Competency governance can be defined as a conceptual framework that integrates the theoretical foundations of competency and competency management with the administrative and organizational practices within universities, all operating under a state-defined legislative system.

It represents the dialectical relationship between individual competency comprising abilities, knowledge, and behavior and the institutional structure, which includes legislation and organizational practices that determine the extent to which universities can mobilize and utilize these competencies to achieve their academic and developmental objectives.

Building upon previous conceptualizations, competency, as viewed by Zarifian, Lévy, and Rieu, reflects an individual's capacity to mobilize knowledge and behavior in response to professional challenges. It thus represents the micro-level dimension of competency governance namely, individual capability. In contrast, competency management, as defined by Defélix and Stong, refers to the set of organizational practices designed to mobilize competencies in alignment with strategic objectives, thereby constituting the macro-level dimension that is, institutional policies and procedures.

Higher education and universities serve as the institutional framework for activating academic competencies. They represent the applied domain of governance, where competency becomes tangible through academic and administrative performance. Meanwhile, legislation functions as the formal and constraining determinant of administrative practice, providing the legal structure within which competency governance is framed.

Administrative practices, in turn, constitute the operational translation of legislation and daily managerial behavior, forming the implementation mechanism that determines the degree of success or failure in competency management.

Accordingly, competency governance emerges as a conceptual integrative framework that unites these elements into an interactive system influenced by two major determinants:

- The international normative model, which links competency management to flexibility, university autonomy, and institutional excellence (OECD, 2020).
- The Algerian local reality, characterized by administrative centralization and a reliance on legislative regulation rather than individual initiative (Benabdelkader & Bouyakoub, 2022).

From this perspective, the concept of competency in Algeria tends to adopt an administrative rather than a strategic orientation; competencies are often evaluated through formal qualifications or seniority rather than through the individual's ability to adapt and innovate in professional contexts.

By contrast, in international models (such as those proposed by Zarifian and Defélix), competency is understood as the "ability to act effectively in a changing context," emphasizing its dynamic and developmental nature.

This reveals a clear divergence:

- Algerian legislation formalizes competency through rigid and procedural criteria;
- Administrative practices limit the actual expression of competency in organizational behavior;
- The international model, however, promotes the transformation of competency into a strategic lever for academic transformation and institutional development.

III- The experimental framework for the study :

III-1- Methodology of the Survey Study

▪ Development of Study Hypotheses:

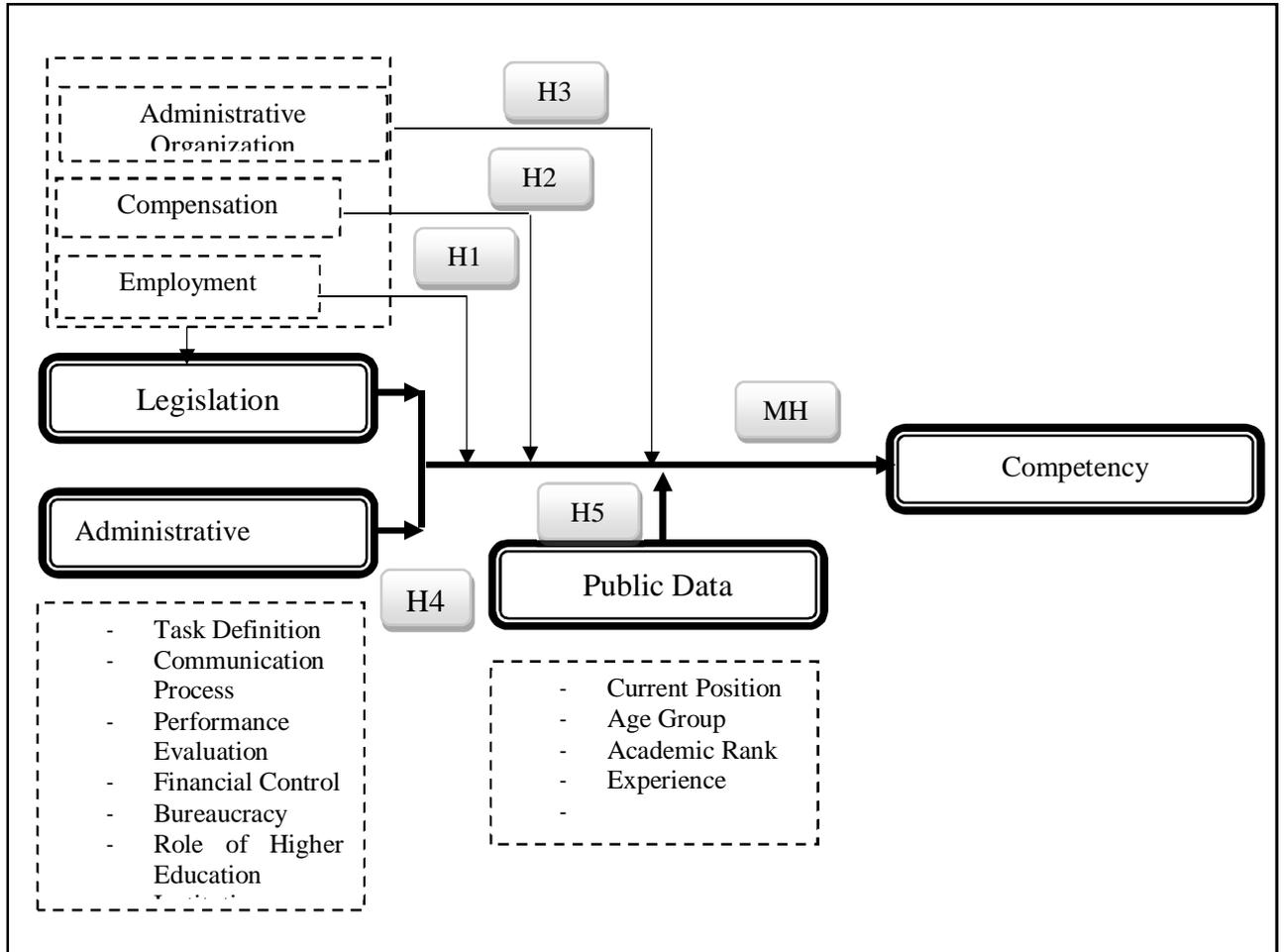
Based on the study's literature review and the main hypothesis, which proposed that "a set of legislations and administrative practices hinder the implementation of competency management in higher education institutions in Algeria," we were thus in a position to formulate the following hypotheses:

1. **First Hypothesis :** Laws governing employment are seen as being in the way of applying competency management in Algerian higher educational institutions with a level of significance of 0.05.
2. **Second Hypothesis:** Compensation-related legislation is found to be inhibiting the implementation of competency management in the higher education sector in Algeria with a 0.05 significance level.
3. **Third Hypothesis:** Administrative regulations concerning organization are seen as obstacles that inhibit the implementation of competency management in Algerian higher educational institutions with a 0.05 degree of significance.
4. **Fourth Hypothesis:** Applied administration practices are seen as an inhibiting factor for the adoption of competency management in the higher education and scientific research sector in Algeria at a 0.05 level of significance.
5. **Fifth Hypothesis:** There are no statistically significant differences because of the overall data regarding the opinions of senior administrative officials of the institutions being researched in terms of their perception of the needs for the introduction of competency management.

▪ **Theoretical Model of the Study:**

On the basis of the research question, hypotheses, and study goals, the theoretical model was developed to examine barriers to the implementation of competency management in higher educational institutions. It defines the primary variables of the study.

Figure (01): The hypothesis model of the study.



The source: Prepared by the researcher.

The figure above illustrates the nature of the relationship between the independent variables (legislations and administrative practices) and the dependent variable, competency management. This model presents a comprehensive conceptualization of the interactive relationships among all variables constituting the framework of the study, encompassing both the main (MH) and sub-hypotheses (H1, H2, H3, H4, H5). It thereby contributes to clarifying the methodological structure of the research and the pathway for testing its hypotheses.

▪ **Methodology and Tools:**

Study Population and Sample: Since the research problem is founded on an investigative research from the perspective of the senior administrative bodies of Eastern Algeria's universities, the target population is all members of the senior administrative bodies with high-ranking positions within the universities based on the Algerian university network. Purposive sampling was used to identify the study population because it involves selecting part of the population for observation and analysis. A sampling unit, as represented by one belonging to the population, is representative of members of the same category to identify the sample of this population. In this case, the sampling unit was each

administrative body with an administrative position and the sample was randomly selected. A formula of Herbert Larkin was used to calculate the sample size as follows:

$$n = \frac{NZ^2pq}{(E^2(N - 1) + Z^2pq)}$$

Where :

n required sample size ;

N population size;

Z Z-value at a 95% confidence level;

p prevalence of the studied trait in the population (usually 0.5);

q non-prevalence rate (0.5);

E margin of error (0.05).

The sample size of 156 was calculated using the formula given above from the total population of 261. Questionnaires were distributed to the 156 people.

▪ **Study Instrument:**

To achieve the research objectives of the study, three study variables were quantified using a questionnaire. Questionnaire items were derived from the theoretical framework of the study and research objectives. General data was covered in the first axis, the competency-based management status was covered in the second axis, and barriers to using competency management were covered in the third axis.

Statistical Software Used SPSS was utilized to test the study hypotheses using the 0.05 level of significance.

IV- Results and Discussion

▪ **Validity and reliability of the questionnaire**

The validity of the questionnaire reflects the reliability of the measurement tool for measuring what it has been intended to measure. If the data collection tool has been successful in doing what it was intended to do, then it is valid. Reliability of the questionnaire was established through the use of Cronbach's Alpha coefficient for all the 17 items. Results are shown in the table below:

Table (3): Values of Cronbach's Alpha

Statement	Items	Cronbach's Alpha Value
Status of Competency-Based Management.	The university relies on individual competencies.	0.769
	The university's human resources possess the appropriate knowledge to perform their job duties effectively.	
	The university's human resources possess the appropriate skills to perform their job duties effectively.	
	The university relies on collective competencies.	
	The university's collective competencies represent the aggregation of individual competencies.	

	The collective competencies within the university contribute to value creation.	
	The university relies on organizational competencies.	
	The university manages the career paths of its employees in a manner that supports the achievement of its strategic objectives.	
Obstacles to Implementing Competency Management.	Employment-related legislation applied in the sector.	0.797
	Compensation-related legislation applied in the sector.	
	Administrative organization legislation applied in the sector.	
	The authorities granted by top management are insufficient to perform assigned duties.	
	Bureaucracy in administrative decision-making.	
	Emphasis on financial control.	
	The communication process follows a top-down, one-way direction (centralization).	
	Lack of clarity in performance evaluation indicators.	
	Focus on achieving the sector's core objectives (training, scientific research, and community service).	
All Questionnaire Items	17	0.783

The source: Based on SPSS outputs prepared by the researcher.

The Cronbach's Alpha was higher than the minimum of 0.60 indicating high consistency of the items of the questionnaire with an overall value of 0.783.

▪ Normality Test:

The test determines the test type to be used. Prior to selecting the test type, the Kolmogorov-Smirnov test was conducted to check for normality of data for the obstacles axis. Test decision rule is: "The data are normally distributed if the p-value (sig) is greater than the 0.05 significance level." Based on this, the test type was selected accordingly.

Table (4) : Kolmogorov-Smirnov Test for Normality of Data Related to Obstacles

	Statistic	Degrees of Freedom	p-value (sig)
Obstacles to Implementing Competency Management	0.083	156	0.081

The source: Based on SPSS outputs prepared by the researcher.

The table shows that the p-value is 0.081, greater than the 0.05 significance level and indicating that the data for obstacles are normally distributed.

▪ Hypothesis Testing:

Because the data for this axis are normally distributed, the hypotheses were tested with the One Sample T-test. The decision rule for this test is: "Accept the hypothesis if the p-value (sig) is less than the 0.05 significance level."

Table (5) : One Sample T-test for Hypothesis Testing

Hypothetical Mean = 3						Confidence Level = 95%	
Statement	Calculated T-value	Critical T-value	Degrees of Freedom	p-value	Mean Difference	Min Value	Max Value
Hypothesis 1	1.583	1.66	155	0.116	0.167	-0.04	0.38
Hypothesis 2	3.324	1.66	155	0.002	0.324	0.13	0.52
Hypothesis 3	1.536	1.66	155	0.128	0.157	-0.05	0.36
Hypothesis 4	2.693	1.66	155	0.008	0.1715	0.045	0.297

The source: Based on SPSS outputs prepared by the researcher.

By comparing the p-values and calculated T-values for every hypothesis with the critical T-value of 1.66, the following was noted:

- **Hypothesis 1:** Because the calculated T-value (1.583) is less than the critical T-value and the p-value (0.116) is greater than 0.05, it reflects that the institutions being researched do not consider employment legislation as something that hampers the implementation of competency management.
- **Hypothesis 2:** Because the T-value calculated (3.3246) is greater than the critical T-value and the p-value calculated (0.002) is less than 0.05, it indicates that the institutions in question consider existing compensation legislation as a bar to the implementation of competency management.
- **Hypothesis 3:** Since the calculated T-value (1.536) is less than the critical T-value, and the p-value of 0.128 is greater than 0.05, it means that the institutions being researched do not consider current administrative organization legislation as an impediment to the adoption of competency management.
- **Hypothesis 4:** This T-value obtained here (2.693) is greater than the critical T-value, and the p-value of 0.008 is less than 0.05, indicating that the institutions that were investigated perceive existing administrative practices as inhibiting the adoption of competency management.

The positive mean differences in the table indicate that the calculated arithmetic mean is higher than the hypothetical mean in the 0.95 confidence interval.

▪ Testing the Fifth Hypothesis:

To check whether the responses of the senior administrative officials varied across their descriptive characteristics as a whole (current position, age group, academic rank, and experience), the fifth hypothesis, also known as the differences hypothesis, was formulated. A Kruskal-Wallis test was performed to contrast their perception of the prerequisites for the initiation of competency management and their information as a whole at a 5% level of significance.

Table (6) : Kolmogorov-Smirnov Test for Normality of Data Related to Competency-Based Management

	Statistic	Degrees of Freedom	p-value (sig)
Competency-Based Management	0.190	156	0.000

The source: Based on SPSS outputs prepared by the researcher.

The p-value of 0.000 is less than the 0.05 significance level, indicating that data related to competency-based management are not normally distributed. Therefore, the non-parametric test of Kruskal-Wallis was used.

Table (7) : Kruskal-Wallis Test for General Data and Competency-Based Management

Statement	Calculated Chi-Square Value	Degrees of Freedom	p-value
Current Position	9.330	5	0.097
Age Group	0.490	3	0.921
Academic Rank	5.800	4	0.215
Experience	2.164	3	0.539

The source: Based on SPSS outputs prepared by the researcher.

The p-values are greater than the 0.05 significance level and hence indicate no statistically significant differences owing to the general data of the views of the senior administrative bodies towards the adoption of competency management.

▪ **Testing the primary hypothesis:**

The main hypothesis is that: "There are certain legislative and administrative practices that prevent the implementation of competency management in higher educational institutions in Algeria." A one-sample T-test was conducted to compare the mean responses with the hypothetical mean of 3 at 5% significance.

Table (8) : One Sample T-test for the Main Hypothesis

Hypothetical Mean = 3						Confidence Level = 95%	
Statement	Calculated T-value	Critical T-value	Degrees of Freedom	p-value	Mean Difference	Min Value	Max Value
Hypothesis 1	2.837	1.66	155	0.005	0.1862	0.056	0.3165

The source: Based on SPSS outputs prepared by the researcher.

The p-value of 0.005 is below the 0.05 significance level and hence corroborates the evidence that there are administrative and legislative practices hindering the adoption of competency management in higher educational institutions in Algeria.

The mean of 0.1862 falls within the interval [0.056–0.3165] with 95% confidence that the senior administrative bodies' overall mean of responses is higher than the hypothetical mean of 3.

The overall arithmetic mean of responses of 3.186 falls within the interval [2.60–3.40], indicating the neutral agreement with regard to the barriers to competency management.

Referring to the sub-hypotheses, the results confirmed that compensation legislation and administration practices are some of the impediments in the adoption of competency management.

V- Analysis of Results

The process of implementing competency management within Algerian higher education institutions encounters multifaceted challenges that constrain its effective realization. These challenges are administrative, legislative, and organizational in nature, compounded by limited awareness and insufficient resources necessary for proper application. The bureaucratic climate prevailing in Algerian universities represents an additional impediment, as it discourages innovation and adaptability, two essential conditions for adopting modern human resource management practices such as competency-based systems. This observation corresponds with the broader literature, which emphasizes that the success of competency management implementation is contingent upon a supportive organizational environment, sufficient material and human resources, and enabling legislative frameworks.

Despite growing awareness among senior administrators of the need for competency management, the findings reveal that their powers remain limited, decision-making remains centralized, and bureaucratic control persists. While legislation governing higher education exists, it is not always conducive to competency development, particularly in areas relating to compensation systems. Furthermore, although financial management receives priority, there is an absence of clear and integrated performance measurement mechanisms. This disjunction between awareness and actionable authority reveals a misalignment between strategic objectives and operational practices, thereby curtailing opportunities for responsive and localized human resource development. Moreover, the predominance of financial oversight in the absence of outcome-based evaluation indicators reflects an institutional gap that hinders the alignment of management priorities with strategic human resources goals. Disadvantaging compensation-related regulations prevent the establishment of incentive structures that could foster skill acquisition, innovation, and performance-based advancement.

The research also establishes that top administration within Algerian universities identifies human resources possessing the requisite knowledge and competencies to engage in telework and other innovative practices. However, institutional competencies remain underdeveloped due to the absence of mechanisms and regulatory frameworks necessary for their production and consolidation. This indicates a disparity between individual or team-level capabilities and institutional capacity-building. Although individual and collective competencies are recognized, the lack of systemic mechanisms prevents their transformation into sustainable organizational assets. Within the competency management framework, this limitation reveals insufficient institutional infrastructure capable of converting individual skills into organizational value. Accordingly, the study underscores

the necessity of fostering regulatory and procedural innovation to institutionalize best practices in human capital development, particularly within digital and remote working domains.

In verifying the principal hypothesis namely, that “a set of legislations and administrative practices hinder the implementation of competency management in higher education institutions in Algeria”, the study confirms the hypothesis while also testing several sub-hypotheses. The results can be summarized as follows:

- 1- Employment-related legislation is not considered an obstacle to the implementation of competency management in Algerian higher education institutions at a 0.05 level of significance. This finding is attributed to the clarity and structure of employment regulations, where recruitment processes are based on academic qualifications (theoretical knowledge), experience (technical knowledge), and interviews that partially assess behavioral competencies. This aligns with Delery & Roumpi (2017), who noted that clarity in recruitment rules and procedures can support effective human capital management, provided these laws are integrated with competency-based performance evaluation systems.

However, this theoretical alignment also highlights the limitations of the current system, which emphasizes academic qualifications over behavioral skills. This is inconsistent with the dynamic concept of competency, as defined by Zarifian (1999) and Rieu (2008), who argue that competency extends beyond qualifications to include initiative, problem-solving, and creativity in practice.

- 2- Compensation-related legislation is considered an obstacle to the implementation of competency management at a 0.05 level of significance. The existing compensation framework focuses primarily on financial remuneration tied to pedagogical activities, without incorporating non-financial incentives such as recognition or career advancement based on demonstrated competencies. This is consistent with studies, which emphasize that competency-based incentive systems enhance organizational loyalty and innovation.

Conversely, the Algerian context, as described by Benabdelkader & Bouyakoub (2022), is characterized by a traditional administrative culture focused more on seniority and hierarchy than on performance. This gap between legislative frameworks and actual practice undermines the implementation of any strategic competency management model.

- 3- Administrative organization legislation is not regarded as an obstacle to competency management at a 0.05 level of significance. It is characterized by clarity and explicit delineation of administrative mechanisms, organizational structures, and the distribution of authority and responsibilities across different hierarchical levels. The findings did not indicate that laws governing administrative work constitute a direct obstacle; they were generally clear and well-structured.

However, compared to the theoretical frameworks proposed by OECD (2020), effective administrative organization is measured not only by clarity of rules but also by flexibility in their implementation. This is lacking in the Algerian context, where excessive centralization limits universities' autonomy in decision-making and the development of internal competency management mechanisms.

- 4- Applied administrative practices, however, are considered a major obstacle to the implementation of competency management in the Algerian higher education and scientific

research sector at a 0.05 level of significance. This is mainly due to the absence of systematic performance evaluation processes, the persistence of centralized communication channels, bureaucratic decision-making, and an excessive focus on financial control rather than developmental outcomes. The results show that existing administrative practices are among the most significant barriers to competency management implementation.

This aligns with Flynn (2017), who indicate that excessive bureaucracy and low organizational flexibility impede the development of institutional capabilities.

Referring to the conceptual model that combines the micro-level dimension (individual competency) with the macro-level dimension (institutional practices), it can be concluded that current administrative practices do not translate individual competencies into added organizational value, as described by Teece (2018) and Nel (2012).

Thus, the findings reflect a gap between administrative awareness of the importance of competency and the actual ability to institutionalize it effectively.

- 5- There are no statistically significant differences attributable to demographic or institutional variables in the perceptions of senior administrative officials regarding the implementation of competency management. This homogeneity of opinion suggests a shared understanding of systemic difficulties and a collective acknowledgment of the need for institutional transformation.

The validation of the principal hypothesis therefore reinforces the notion that legislative and administrative constraints constitute structural impediments to the adoption of competency management in Algerian higher education. While employment and administrative regulations may not directly obstruct the process, the findings indicate that compensation systems and entrenched administrative traditions continue to serve as primary barriers. The empirical results demonstrate that reform efforts must extend beyond legislative adjustments toward reshaping managerial behaviors, governance models, and organizational routines. The uniformity of perception among senior officials further underscores the existence of collective awareness of these systemic issues, even if practical implementation remains constrained by entrenched bureaucratic norms.

Study Recommendations:

Taking into account the pivotal role of the higher education sector in Algeria and the conclusions of this research, the following are proposed:

1. Reform the compensation and incentive system by adopting a competency- and achievement-based approach rather than relying solely on administrative ranks, while integrating non-financial incentives such as professional recognition and merit-based academic promotion.
2. Enhance university autonomy in managing human resources, enabling institutions to develop their own mechanisms for recruitment, training, and performance evaluation in line with modern governance principles.

3. Link competency management to research and innovation by establishing units or centers within universities dedicated to developing research skills and applying them to national projects.
4. Restructure administrative culture toward a participatory model based on delegated authority, involving academic competencies in decision-making processes.
5. Implement a comprehensive performance evaluation system linking academic and administrative objectives to quantitative and qualitative indicators, including research outcomes and institutional innovation.
6. Develop leadership and managerial capacities through specialized training programs for administrators, based on global competency standards.
7. Improve internal organizational communication by implementing horizontal and digital communication mechanisms to reduce bureaucracy and ensure swift decision-making.

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