

The Factors Involved in the Compensation System Based on Competencies in the Public Hospital Institution

- Factor Analysis-Based Structural Equation Modeling (CB-SEM).

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Abstract:

The objective of this study is to employ structural equation modeling (CB-SEM) for data factor analysis. This approach permits the identification of factors included in the compensation system on the basis of competencies within the Algerian public hospital institution. To this end, a questionnaire was administered to a random sample of unit officials in the hospital institution. The estimated sample size was 13. The study employed statistical processing in the SPSS and Smart PLS programs, as well as the method of factor analysis (exploratory and confirmatory), to identify the key factors influencing the compensation system based on competencies in the institution under study. The findings revealed that two main factors emerged as crucial in this context: motivation and retention, and competency development.

Keywords: Compensation, Compensation System, Competencies, Factor Analysis, Public Hospital Institution.

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1- INTRODUCTION:

The compensation system represents a fundamental aspect of contemporary human resource management practices. The system is based on the attraction, retention, and motivation of competencies within the institution. It is therefore important to recognise that this has evolved from an administrative practice to a strategic exercise of its role. It is essential that the compensation system be transparent and fair, aligning with the aspirations of individuals. The concept of compensation is relatively vague and complex due to the numerous elements that comprise it and the various factors that influence it, which may be individual, regulatory, or environmental. According to the four dimensions of the compensation satisfaction questionnaire (1985, Schwab & Heneman), compensation encompasses all forms of returns, including direct cash payments (basic wage) and indirect cash payments (social privileges), as well as indirect non-cash payments (wage management and structure) (Timothy A & Theresa M, 1993).

The necessity for the institution to possess high competencies necessitates the provision of compensation for these competencies, thereby ensuring the realization of the desired objectives. Consequently, the compensation system has been the subject of considerable scrutiny by researchers in the fields of economics and management across a range of sectors. This is because compensation has a direct impact on both the individual, as a primary source of livelihood, and the institution, given that it represents a significant proportion of total expenditure. Furthermore, it plays a pivotal role in maintaining and investing in competencies to achieve the institution's objectives.

Given the necessity of efficiency in the contemporary economic landscape, the institution's perspective on remuneration has undergone a transformation. Rather than perceiving an increase in costs, the institution now views it as a means of enhancing productivity. Furthermore, the institution encourages investment in competencies, and thus views compensation as a motivating factor in competency development.

The objective of this research paper is to examine the place of compensation in the context of public hospital institutions from the perspective of competency management;

From the aforementioned details, the shortcomings of our research can be distilled as follows:

- What are the factors involved in determining a competency-based compensation system in a public hospital institution?

In order to gain a comprehensive understanding of the subject matter, we have divided the primary inquiry into the following subordinate questions:

- Are there statistically significant differences due to age and experience variables in determining the competency-based compensation system in the public hospital institution at the level of 0.05?

- How familiar were the individuals with the compensation system applied in the hospital institution under study at the level of 0.05?

- Does the compensation system applied in the public hospital institution contribute to the retention, motivation and development of competencies at the level of 0.05?.

In light of these inquiries, it is feasible to postulate the hypotheses of the study for each question individually.

The main hypothesis:

- A number of factors are involved in determining the competency-based compensation system in the public hospital institution, with a level of statistical significance of 0.05.

Sub-hypotheses:

- No statistically significant differences were found with regard to age and experience as determinants of the competency-based remuneration system in public hospitals at the 0.05 level of significance.

- The members of the study sample are highly familiar with the compensation system applied in the hospital institution under study at the level of 0.05.

- The compensation system applied in the public hospital institution contributes to stimulating (material and moral) competencies, retaining competencies and developing competencies at the level of 0.05.

2- Theoretical framework:

2.1. Concept of Compensation

L. Cadin and others typically employ the terms "worker's wages" and "executive remuneration," alternately utilizing these terms to convey the same concept. They assert that these terms are essentially synonymous. The term "remuneration" is thought to offer a broader definition than that of salary; however, this distinction does not appear to be regarded as sufficiently convincing to warrant its implementation as a rule (Cadin, Guérin, & Pigeyre, 2007, p. 236).

Indeed, the notion of remuneration may, for some authors or in common parlance, be understood to encompass more than the strict counterpart of work (salary). Rather, it is often taken to refer to the totality of what the employee receives from their employer, regardless of the form in which it is provided.

In the view of B. Thévenet, C. Dejoux et al., the term "pay" is understood to encompass the ordinary basic or minimum wage or salary, in addition to any other form of remuneration, whether in cash or in kind, that the worker receives from their employer in connection with their employment (Thévenet, Dejoux, Marbot, & Bender, 2009, p. 258);

As stated by J.M. Peretti and J.P. Magot (Peretti & Magot, 2012, p. 30), "Compensation is defined as the remuneration earned by an employee in return for the work performed for their employing organization."

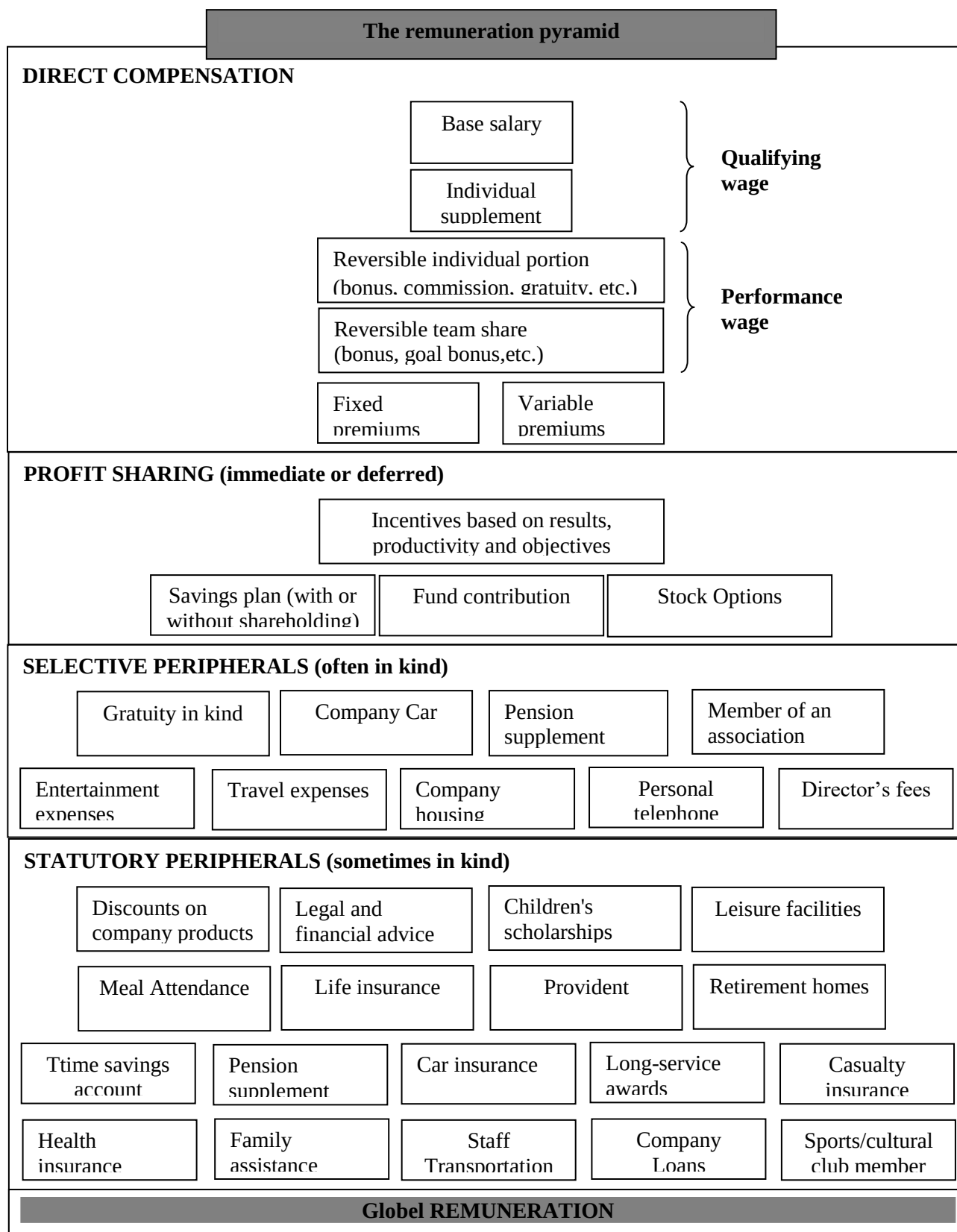
In this manner, the relationship between employee and employer can be defined as a contractual one, whereby the employee provides a specified level of effort in return for a salary paid by the employer. This can be conceptualized as a contribution-retribution relationship.

2.2. The compensation pyramid

The compensation of an employee can be represented in the form of a pyramid, which brings together elements that are found in all companies, albeit in varying proportions. It is essential that each form be tailored to the specific operational activities of the company in

question. Analyses of compensation such as that of Donnadieu facilitate the listing and presentation of the various forms of compensation utilized, with consideration of all peripheral benefits. Figure No. 01 illustrates the composition of the extended compensation, which encompasses the base salary and bonuses, as well as additional elements such as compensation for individual and/or collective performance, legal peripherals, benefits in kind, and social benefits offered by the company. (Peretti, 2009, p. 270).

Figure 01: The Compensation Pyramid



Source : Jean-Marie Peretti, " Human Resources ", 11Ed, Vuibert, Paris, 2009, p.276.

2.3 The concept of a compensation system :

In order for compensation to be considered a system, it must meet the following criteria: (AYAD , 2015, p. 321) :

- It constitutes a component of a global function pertaining to the allocation and regulation of resources (including the development of performance and the avoidance of conflicts, among other activities);
- The compensation policy is contingent upon the interaction of multiple elements;
- It engages with a number of processes, including job evaluation and classification.

Any compensation system is based on a triple balance, comprising budgetary rationality, equity, and competitiveness. In order to be effective, such a system must meet two internal requirements and an external constraint. Furthermore, the constraints associated with this dynamic and evolving system must be considered.

An effective compensation system enables the fulfillment of several objectives:

- The objective is to attract and recruit candidates who possess the requisite qualifications and abilities to fulfill the organization's staffing requirements;
- It is incumbent upon employers to demonstrate gratitude to their employees by paying them fair compensation;
- It is imperative to adhere to the principle of internal equity;
- It is essential to maintain competitiveness in the market with regard to external equity;
- Controlling payroll costs.

The development of flexible compensation systems is contingent upon the implementation of a comprehensive competency management process, which in turn affects the manner in which compensation is determined. Competencies management is oriented towards the individualization of salaries and the valuation of personal development, which is understood in terms of initiative-taking and information-sharing. Therefore, the incorporation of competencies into the compensation structure enables the motivation of employees in alignment with the human resources management policy. (DEJOUX , 2001, p. 127)

2.4 Competency-Based Compensation Concept

In consideration of the pivotal role the compensation system plays in competency management, the term "competency-based compensation" has been defined as a compensation system that is based on an employee's competencies, including their nature, diversity, or specialization; knowledge and skills. This approach to compensation is designed to align employee compensation with their ability to apply their knowledge, skills, and behaviors, offering a more equitable and just wage structure. (KHIAT & HADJ KADDOUR, 2017).

This form of compensation is applicable to all employees. The objective is to acknowledge and esteem individual competencies within the context of a compensation policy that is equitable and encourages employee dedication and the advancement of their competencies. This indicates that the compensation system is oriented towards the employee, rather than the position itself. This is evidenced by the processes of recognition, learning, and advancement. This form of compensation has been demonstrated to foster the development of multiple

competencies, creativity, motivation, and satisfaction among employees. Furthermore, it affects their habits and behaviors, which in turn contribute to an improvement in the quality of products and services, as well as achieving the highest degrees of flexibility and productivity. (Debbat , Boukheloua , & Tabti , 2017, p. 147).

2.5 The Difference Between Competency-Based Compensation and Traditional Compensation

The distinction between competency-based remuneration and the conventional approach of compensation based on job evaluation is elucidated in the following table, which presents several key points of comparison:

Table 01 : The difference between compensation based on efficiency and traditional compensation

Criterion Type	Compensation based on job evaluation	Competency Based Compensation
Foundation is formed	Connexe	Linked to Employee
Reference	Described and defined function	Competency Reference
Capacité	Holding a position at a specified time	Efficiency control
increase	Increases depend on seniority	Increases are based on Proof of Competence
	Increases change automatically as the position changes	Increases are not related to change of position
Promotion	Vertical mobility or salary class change incentives	Horizontal Mobility and Multi-Competence incentives
Growth	Maximum and fast forward	Employability and career advancement opportunities are significant
Plan	General and comprehensive outline	Adapting the plan to the organization

Source : CLDEM presents Emballages Interplast with a workshop-discussion on competency-bas.

3. Factor analysis

Factor analysis is a method of statistical analysis that enables the identification of underlying factors or dimensions that may be influencing a given set of observed variables. The objective of this analysis is to provide an accurate description of the differences between all observed variables. Such variables are subsequently designated as "factors."

It is a statistical method that is employed to determine the underlying factors that are quantified by the number of observed variables (the greatest number of variables). The principal objective of factor analysis is to identify independent latent variables. In this context, all observed variables are represented as a linear set of potential factors.

Furthermore, the objective is to interpret the coefficients of positive correlations, that is, those that have statistical significance between the various variables. Indeed, factorial analysis

represents a mathematical process aimed at simplifying the correlations between the various variables involved in the analysis process. Its objective is to identify common factors that describe the relationship between these variables and their interpretation. In this sense, factorial analysis constitutes a statistical approach to analyzing multiple data sets that are related to each other to varying degrees in the form of independent classifications. These classifications are based on the quality of the classification in question. The researcher examines these foundations in accordance with the theoretical framework and scientific logic. (Ayesh & Attia, 2006, p. 96). It comprises two distinct types :

3.1 Exploratory factor analysis

The researcher does not assume a specific factorial structure; rather, this is identified following the completion of the factorial analysis. In light of the aforementioned, it can be posited that the objective is to ascertain the factorial structure, including the number of factors, their nature, or the type of paragraphs that saturate each factor, subsequent to the completion of the factorial analysis. This approach is designed to identify all factors that contribute to the description of variables. (Teghzeh, 2011, p. 18).

3.2 Confirmatory factor analysis

The experimental approach is confirmatory in nature, commencing with a theoretical-factorial model and utilizing confirmatory factor analysis to substantiate the model's validity. This process serves as a foundation for corroborating the extent to which the model aligns with the data (Al-Qahwaji & Abu Awad, 2018, p. 21).

If this approach is employed to test hypotheses concerning the relationship between variables, as well as in the absence of a relationship between these variables, confirmatory factor analysis is utilized to assess the capacity of the factor model to accurately represent the data.

As outlined by Hair et al. (2010), CB-SEM is employed to assess the goodness of fit, which entails the minimization of discrepancies between the observed covariance matrix and the estimated one. It is recommended for use in testing and confirmation contexts where prior theory is well-founded or there is a compelling rationale for doing so.

The evaluation of measurement models is conducted using three types of fit indexes, which are employed to ensure the fitness of measurement models prior to the implementation of structural models. There are three categories of fit: absolute, incremental, and parsimonious. In addition to ensuring reliability and validity, these categories permit the assessment of the fitness of measurement models. (Asyraf, 2013 , p. 199) .

4. Study Methodology :

Methodological framework of the study

Please provide a comprehensive description of the methodology employed in the study, including a list of the data collection and analysis tools utilized, as well as a detailed account of the community and sample selected for the study.

Methodological Procedures :

The study employs both the descriptive and analytical approaches to describe and analyze the data. The method of factor analysis is used to identify the factors involved in determining the compensation system in public hospital institutions.

Study and analysis tools :

The questionnaire was relied upon and was divided into three axes :

- The first axis : includes general data about the study sample members, including age and years of experience.
- The second axis: It includes ten items that contribute to the extent to which the study sample members are aware of the compensation system applied in the public hospital institution.
- The third axis: It includes eight items that contribute to identifying the factors that make up the compensation system applied in the public hospital institution .

As for data analysis, the Spss and Smart PLS programs were used.

The population and sample of the study:

The study population comprises officials from the units of the public hospital institution Tizi-Ouzou in Algeria, which was estimated to comprise 34 individuals. To ensure that the study sample was representative of the community from which it was drawn, the individuals were randomly selected. The sample size deemed appropriate for statistical processing was determined to be 13 individuals..

4.1 Testing the study's hypotheses

Testing the first hypothesis:

In order to ascertain whether the responses given by the respondents were influenced by their general characteristics (age and years of experience), a hypothesis was formulated. This hypothesis is known as the difference hypothesis, as it states that:

No statistically significant differences were found with regard to age and experience as determinants of the competency-based remuneration system in public hospitals at the 0.05 level of significance.

The single-variance test will be employed to evaluate the extent to which the study aligns with the compensation system and the general data of the study sample at the 5% significance level. Prior to selecting the appropriate test, we assess the data for normality using the Shapiro-Wilk test. The decision rule for this test is that the data follows a normal distribution if the probability value, sig, is greater than the significance level, 0.05. Based on this assessment, the type of single-variance test is chosen.

Table 02: Shapiro-Wilk test for normal data distribution

	Shapiro-Wilk	
	Statistics Office	Probability Value sig
Compensation system	0.963	0.793

Source: Prepared by the researcher based on the outputs of spss.

As illustrated in the table above, the probability value, designated as Sig, was determined to be 0.974 greater than the established significance level of 0.05. This finding suggests that the form data exhibit a normal distribution.

Given that the data follows a normal distribution, it is appropriate to employ the one-way ANOVA teacher test as outlined in the SPSS program. The decision rule for this test, as per the hypothesis, is as follows: "Accept the hypothesis if the probability value sig is greater than the significance level 0.05".

Table 03 : ANOVA test of public data and compensation system.

Questionnaire	Calculated Chi Value	Probability Value Sig
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ÂGE	0.481	0.828
Years of Experience	0.423	0.860

Source: Prepared by the researcher based on the outputs of spss.

From the above table, it is clear that the probability values sig are greater than the significance level 0.05. This indicates that there are no statistically significant differences attributable to the age and years of experience variables of the study sample regarding the knowledge of the compensation system, i.e. the acceptance of the null hypothesis and the rejection of the alternative hypothesis, which states that "there are no statistically significant differences between the sample members attributable to the age and experience variables in determining the competency-based compensation system in the public hospital institution at the level of 0.05".

Testing the second hypothesis

In order to ascertain whether the respondents were fully cognizant of the compensation system in place at the public hospital institution, the second hypothesis was formulated. This hypothesis states that: The members of the study sample demonstrated a full awareness of the compensation system applied in the hospital institution under study, with a p-value of 0.05.

The one-sample t-test will be employed to either corroborate or refute the hypothesis statistically. It is essential that the data be normally distributed and that the sample be randomly selected.

Given that the requisite conditions are met, we proceed to utilize the One Sample T-Test parameter test, as prescribed by the SPSS program. In accordance with the decision rule for this test and the aforementioned hypothesis, the following decision is reached: "Accept the hypothesis if the calculated value is less than the tabular value and the probability value is less than the significance level 0.05".

Table 04 : One Sample T-Test for Compensation System

DESCRIPTION	Calculated Value	F	Moyenne arithmétique	Standard Deviation	Difference of warnings	Probability Value Sig
compensation system	4,244		3.57	0.49	0.57	0.001

Source: Prepared by the researcher based on the outputs of spss.

As evidenced by the preceding table, the probability value sigma is less than the significance level of 0.05. This indicates that there are statistically significant differences between the study sample members with regard to their awareness of the compensation system applied in the public hospital institution. Furthermore, there is a positive difference between the arithmetic mean of the sample and the arithmetic mean of the community, which was estimated at 0. The mean value of the sample was estimated at 3.57, which falls within the range [3.4, 4.2], indicating that the study sample members are highly aware of the compensation system applied in the public hospital institution at the level of 0.05. This implies that the null hypothesis is accepted and the alternative hypothesis is rejected.

4.2 Exploratory Factor Analysis (Testing the Third Hypothesis)

An exploratory factor analysis was conducted on a set of variables, estimated at eight variables, in order to determine the factor Eigen value and improve the strength of the factors. Two factors were extracted with values (the complete root is greater than the correct one), and the rates of interpretation of the variations were reached from the total variance of each factor separately. The total variance of each factor was 90.06%, which is a high percentage (see Appendix No. 1). Eigen values are a measure of the variance that can be revealed by each component. The higher the Eigen value, the more variance is explained or revealed by the factor.

A comparison of the value of the coefficient of commonality for each variable revealed that it was equal to or greater than 0.50. This finding is supported by the results presented in Appendix No. 2, which indicate that all variables exceed the established criterion (0.50). Consequently, it can be concluded that all commonality coefficients are analyzable.

Accordingly, the table of the matrix of factors after rotation indicates that all variables are saturated on a single component, thereby demonstrating that the variables possess a straightforward structure.

The following table illustrates the variables that have a simple structure, formed for each factor.

Table 05 : Rotation Component Matrix

	Elements	Factor 1	Factor 2.
1	Compensating for competencies helps develop their skills.	0.965	
2	Compensating for competencies helps reduce staff turnover	0,959	
3	Compensating for competencies attracts highly qualified and experienced professionals.	0,928	
4	Competency compensation is provided for the appropriate motivation.	0.925	
5	Compensating for competencies puts a premium on knowledge	0,911	
6	Compensating for competencies is an effective way to boost the productivity of healthcare professionals	0,892	
7	The hospital's current compensation system encourages the development of competencies.		0.988
8	The hospital's current compensation system encourages continuing education.		0.981

Source: Prepared by us using the SPSS software .

As evidenced by the data presented in the preceding table, the study is saturated with two factors, which are as follows:

- The first factor has robust correlations with six of the eight variables, which have been designated as motivating and retention competencies;
- The second factor has robust correlations with two of the eight variables, which were designated as competency development.

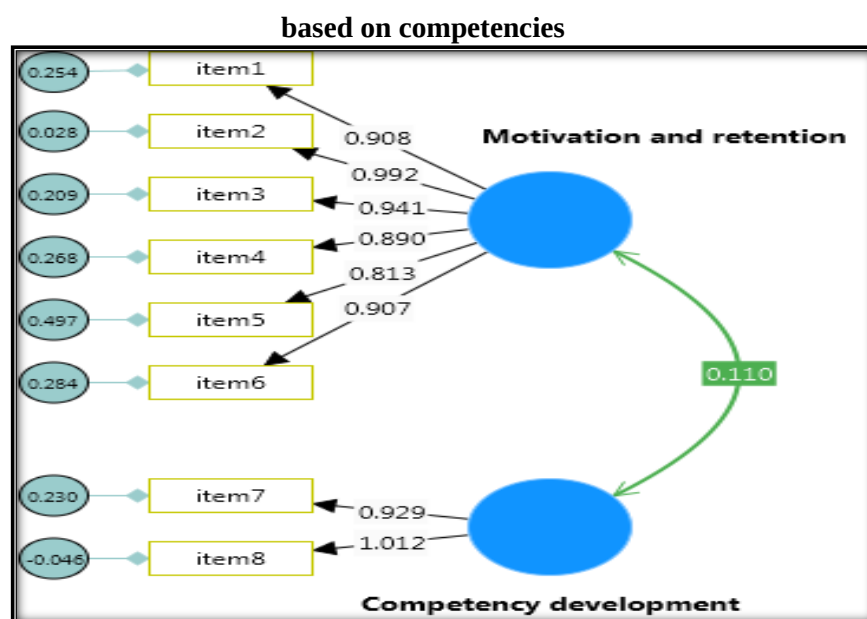
The values of the eigen coefficient were found to be higher than the correct ones, which can be explained by 90.06% of the total variance. The value of (Kaiser-Meyer-Olkin) KMO was estimated at 0.629, which represents the quality of the measurement. This value is deemed acceptable, as the minimum value is 0.60, indicating that the measurement is of good quality. Furthermore, the significance of the measurement was found to be 0.000, which is a highly significant result.

Therefore, the third hypothesis is realized, which is that "the compensation system applied in the public hospital institution contributes to stimulating (material and moral) competencies, retaining competencies and developing competencies at the level of 0.05.

Testing the main hypothesis using confirmatory factor analysis:

To corroborate the findings of the exploratory factor analysis and the confirmatory structure of the study variables with the testing of the primary hypothesis, a confirmatory factor analysis of the compensation system was conducted on the basis of competencies. The results yielded the figure shown below:

Figure 02: Measurement Model (Confirmatory Factor Analysis) for the compensation system



Source: Smart PLS 4 program output

Table 06: Outer Loadings After Unidimensionality Procedure

Items (motivation and retention)	Loadings	Items (competency development)	Loadings
Item1	0.908	Item7	0.929
Item2	0.992	Item8	1.012
Item 3	0.941		
item4	0.890		
Item5	0.813		
Item6	0.907		

Source: Smart PLS 4 program output

The figure and table presented above illustrate the outcome of the factor loadings provided in CB-SEM. In light of the aforementioned results, it can be concluded that all items are saturated on their respective factors, exhibiting strong values between 0.8 and 0.9, as evidenced by the correlation coefficients reflected in the standardized regression weights depicted in the figure. These findings indicate a high level of reliability and statistical significance at the 0.05 level.

The Ratio Critical values also indicate the ability of most latent factors to predict each of their items, where the critical ratio of items that differ from zero reflects the ability of the latent variable to predict its items, emphasizing the ability of the items to saturate their factors as shown by the standardized regression weights.

From another perspective, the results indicate the importance of all the statements specific to the motivating factor and maintaining a high standard saturation compared to the standard saturations that ranged from 0.813 at the minimum level to 0.992 at the maximum. These results confirm those reached in the exploratory factor analysis and confirm the importance of all the statements that make up the dimension of competency development with a high saturation compared to the standard saturations, which exceeded 0.929. In order to assess the suitability of the scale, we present the results of the Good Conformity Quality Indicators, as illustrated in the following table:

Table 07 : Indicators of Good Match for the Confirmatory Factor Analysis Model of the Compensation System

index	Valeur calculée	Criterion of acceptance
Chi standard square (χ^2/DF)	0.892	$\chi^2/DF < 5$
GFI Conformity Quality Index	0.569	GFI > 0.90
RMSEA Formal Index	0.087	RMSEA < 0.08
CFI	0.691	CFI > 0.90

Source: Smart PLS 4 program output.

As evidenced by the preceding table, the majority of values are within an acceptable range, and all model estimates are statistically significant at the 0.05 level, where we note that:

- The chi-squared value (3.892) is less than 5, indicating that the competence-based compensation system is in compliance with the studied data;
- Additionally, the conformity indicators, as represented by the conformity quality index and the comparative conformity index, exhibited values that differed from the minimum value, indicating that the conformity was accepted in a conservative manner;
- The official indicator exhibited a value of 0.087, which is greater than 0.08 and nearly equal to zero. This value was used to explain the existence of a conservatively accepted match for the model reached for the results of the exploratory factor analysis. As a result, a discussion of the results of the indicators of the approximate validity and reliability of the construction is warranted.

Table 08 : Convergent Validity and Construct Reliability

Variables	Ave	Composite Reliability	Alpha Cronbachs
Motivation and Retention	0.828	0.968	0.969
Competency development	0.943	0.973	0.969

Source: Smart PLS 4 program output.

For convergent validity and construct reliability, the average value for motivation and retention, and competency development is greater than 0.50. This construct thus meets the criteria set forth by Fornell and Larcker (1981). This provides evidence that the validity of this measurement model is accepted, even when the composite reliability and Cronbach's alpha meet the requisite standards as supported by the literature. Finally, we proceed to assess the discriminant validity.

Table 09 : Discriminant validity

Variable	Competency development	Motivation and retention
Competency development	0.971	
Motivation and retention	0.110	0.910

Source: Smart PLS 4 program output.

Discriminant validity is accepted when the diagonal value is greater than the value in the corresponding row and column. In each instance, the bold value represents the square root of the average, while the other value denotes the correlation between latent constructs..

The aforementioned results permit the ascertainment of the psychometric characteristics of the compensation system scale based on competencies, the structural validity of the phrases employed therein, and their significance in representing their latent variables (motivation and retention, competency development). In consideration of the aforementioned evidence, it can be concluded that the primary hypothesis is valid, namely that there are multiple factors involved in determining the compensation system based on competencies in public hospital institutions, with a statistical significance of 0.05.

5. Conclusion

An understanding of the compensation system and the factors that inform its composition is crucial for the effective management of human resources. Compensation serves as a tool for attracting, retaining, and motivating competent individuals (or competencies) to achieve optimal performance, reduce absenteeism, develop skills, and control compensation costs. This is particularly important in the context of the challenges faced by organizations in the knowledge-based economy, where competencies are the primary driver of economic growth.

The compensation system based on competencies includes a number of references and factors that contribute to stimulating competencies financially (wages, social benefits, etc.) and morally (recognition, gratitude, etc.). Additionally, it attracts competencies (bringing implicit competencies, etc.), retains competencies (reduction of compensation costs, work turnover, etc.), and develops competencies (training, continuous improvement, etc.).

The results of the study : The findings of the field study on the public hospital institution corroborate the hypotheses put forth in the study, which we present as follows :

-The analysis revealed no statistically significant differences in the competency-based compensation system in public hospital institutions due to age and experience variables at the 0.05 level of significance. Therefore, the study sample can be considered homogeneous and representative of the sampled population, which aligns with the study's objective of generalizing the findings.

-The study sample members are fully aware of the compensation system applied in the study hospital at the level of 0.05. This indicates that the executive decrees (laws) establishing the compensation system for medical practitioners of different specialties in the Algerian public health sector are published and clear, so that they can be easily accessed at any time and place on the Ministry's website, and are subject to financial control.

The compensation system applied in the public hospital institution has been demonstrated to contribute to motivation (material and moral), retention, and development at a statistically significant level ($p < 0.05$). The results of the exploratory factor analysis revealed two main factors. The first factor combined motivation and retention as a single contributing factor, thereby confirming that the current legislation in the public hospital institution prioritizes material and moral motivation as a retention tool. The second factor, labeled "competency development," contributes to the enhancement and formation of competencies aligned with the organization's needs.

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7. Appendices

Appendix N° 1

Variance totale expliquée							
Composante	Valeurs propres initiales			Extraction Sommes des carrés des facteurs retenus			Somme des carrés des facteurs retenus pour la rotation ^a
	Total	% de la variance	% cumulés	Total	% de la variance	% cumulés	Total
1	5,196	64,948	64,948	5,196	64,948	64,948	5,195
2	2,009	25,117	90,064	2,009	25,117	90,064	2,022
3	,444	5,552	95,616				
4	,226	2,831	98,447				

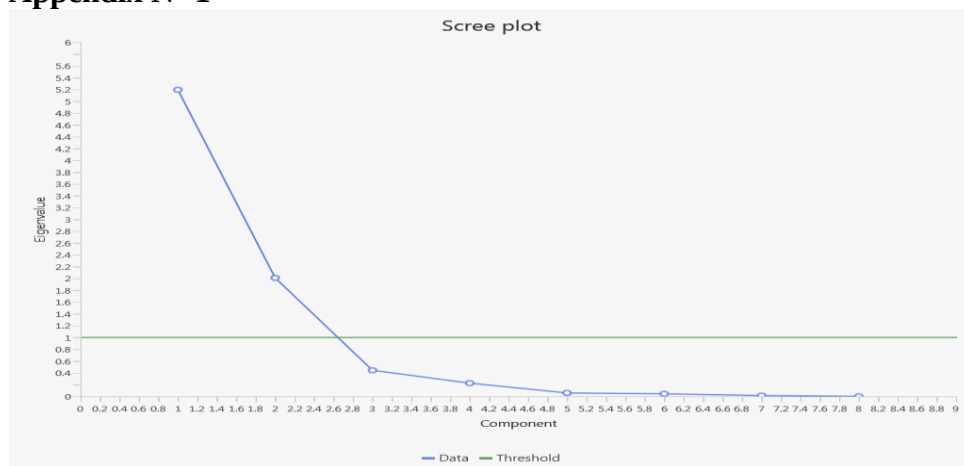
The Factors Involved in the Compensation System Based on Competencies in the Public Hospital Institution
- Factor Analysis-Based Structural Equation Modeling (CB-SEM).

5	,060	,750	99,197				
6	,046	,569	99,766				
7	,016	,197	99,963				
8	,003	,037	100,000				

Méthode d'extraction : Analyse en composantes principales.

a. Lorsque les composantes sont corrélées, les sommes des carrés chargés ne peuvent pas être additionnés pour obtenir une variance totale.

Appendix N° 1



Appendix N°2

Qualité de représentation

	Initial	Extraction
question1b	1,000	,837
question2b	1,000	,954
question3b	1,000	,860
question4b	1,000	,917
question5b	1,000	,794
question6b	1,000	,906
question7b	1,000	,962
question8b	1,000	,975

Méthode d'extraction : Analyse en composantes principales.