

ORIGINAL ARTICLE

# Competency-based management, performance evaluation in Portoaguas, and strategies for organizational strengthening with a focus on sustainable development

Gestión por competencias, evaluación del desempeño en Portoaguas y estrategias para el fortalecimiento organizacional con enfoque al desarrollo sostenible

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**Abstract** The research analyzed competency management and its impact on the work performance of Portoaguas Public Company employees, using a quantitative and applied approach that allowed the objective collection and analysis of data. Descriptive and field methods were used to identify behavioral patterns and test hypotheses related to the problem investigated. Through questionnaires and semi-structured interviews, data were obtained that described the organization's current situation and allowed the interpretation of how the implementation of work competencies influences employee performance. At the same time, a bibliographic review was carried out that theoretically supported competency management and its relationship with the evaluation of work performance, strengthening the practical analysis with a robust conceptual framework. The results showed that competency management positively impacts work performance, identifying areas of employee strengthening and development opportunities. It was concluded that applying a competency-based model is an effective strategy to optimize organizational performance, and it is recommended that its implementation be part of the company's human resources policies.

**Keywords** competency management, job performance, human resources, performance evaluation, business organization.

**Resumen** La investigación analizó la gestión por competencias y su impacto en el desempeño laboral de los trabajadores de Portoaguas Empresa Pública, utilizando un enfoque cuantitativo y aplicado que permitió recolectar y analizar datos con objetividad. Se emplearon métodos descriptivos y de campo para identificar patrones de comportamiento y probar hipótesis relacionadas con la problemática investigada. A través de cuestionarios y entrevistas semiestructuradas, se obtuvieron datos que describieron la situación actual de la organización y permitieron interpretar cómo la implementación de competencias laborales influye en el desempeño de los empleados. Paralelamente, se realizó una revisión bibliográfica que fundamentó teóricamente la gestión por competencias y su relación con la evaluación del desempeño laboral, fortaleciendo el análisis práctico con un marco conceptual robusto. Los resultados evidenciaron que la gestión por competencias incide positivamente en la mejora del desempeño laboral, identificando áreas específicas de fortalecimiento y oportunidades de desarrollo para los trabajadores. Se concluyó que la aplicación de un modelo basado en competencias es una estrategia efectiva para optimizar el desempeño organizacional, recomendándose su implementación como parte de las políticas de recursos humanos de la empresa.

**Palabras clave** gestión por competencias, desempeño laboral, recursos humanos, evaluación del desempeño, organización empresarial.

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## Introduction

According to Arteaga (2018), “the business system worldwide has seen the need to predict the management environment” (p. 32). This is essential when managing multiple stakeholders simultaneously, especially in a complex economic system. Companies that better understand their environment and anticipate future challenges are better prepared to adapt to constant changes.

In Latin America, companies must have tools to estimate the future and understand global transformations. The COVID-19 pandemic, in addition to generating profound distortions, has caused structural changes in how public companies and governments operate, directly impacting organizational management and labor trends in the coming years.

This study focuses on competency management and its impact on job performance evaluation in the public company Portoaguas EP, which manages activities related to the distribution of drinking water and pumping systems in Portoviejo, Ecuador (Portoaguas EP, 2018). This analysis is based on the diagnosis of the skills, attitudes, knowledge, and behaviors necessary for public servants to perform their functions efficiently and contribute to the fulfillment of business objectives (Ruíz, 2020). However, deficiencies have been identified in the Human Resources department related to hiring processes that do not fully consider the required competencies, which affects organizational performance.

To González (2020), “Currently, in the competency management system in companies, processes focused on achieving specific results are carried out” (p. 17). This includes the development of methods that improve the effectiveness of administrative tasks, regardless of the nature of the service. Or product of the organization. In public companies, defined as entities where the government has total or majority participation, the fulfillment of goals depends on effective management that measures organizational efficiency and effectiveness (Naula, 2014).

Job performance is key to business success. It is understood as the actions and behaviors observed in employees that contribute to the organization’s objectives. Pedraza (2016) links this performance with the ability to coordinate activities that, when integrated, shape workers’ behavior and productivity. However, in Portoaguas EP, problems have been detected, such as duplicating tasks that do not correspond to the assigned positions, affecting the quality of work and organizational results.

Therefore, this research analyzes the competency management system and its impact on evaluating job performance in Portoaguas EP. This will strengthen administrative processes and optimize work performance by gathering detailed information on the causes and effects of the problems identified and proposing solutions that respond to the company’s and its environment’s specific needs.

## Methodology

The research uses a quantitative approach to analyze competency management and its impact on job performance at Portoaguas EP. This approach is characterized by objectivity in data collection and analysis, using techniques such as surveys and interviews to measure behavior patterns and test hypotheses (Albano et al., 2020; Hernández-Sampieri & Mendoza, 2018).

The work combines descriptive and field methods, adjusting to the reality of work for Portoaguas EP workers. Through tools such as questionnaires and semi-structured interviews, data were collected that accurately describe the problem investigated and allow the impact on performance to be interpreted.

In addition, a bibliographic review is integrated to theoretically support competency management and job performance evaluation. This complements the practical analysis with a solid conceptual framework (Hernández-Sampieri & Mendoza, 2018): observational/survey design.

This type of research design requires a minimum degree of control by the researcher. That is, there is no manipulation; it is simply observed. As in the case of correlational design, this type does not allow for establishing causal relationships between variables (Mendoza, 2018).

For the present study, the workers of the Portoaguas EP company have been considered the population, and for the interview, they are the administrative managers of the place.

The sample has the following definition for the authors: “Set of cases or individuals extracted from a population by some probabilistic or non-probabilistic sampling system”. (Hernández-Sampieri & Mendoza, 2018, p.)

Formula

$$n = \frac{Z^2 \times N \times p \times q}{e^2 \times (N - 1) + (Z^2) \times p \times q}$$

$$n = \frac{(1,96)^2 \times 427 \times 0,5 \times 0,5}{(0,05)^2 \times (427 - 1) + (1,96)^2 \times 0,5 \times 0,5}$$

$$n = \frac{109}{10} = 10,9 \approx 11$$

$$n = 11$$

It is estimated that approximately 11 people will be surveyed as a sample resulting from the total population of workers of the Portoaguas company for the respective data analysis in the survey applied to know their performance based on competency management.

This research will use the following techniques:

**Questionnaires:** Open answers for the interview and closed answers for the surveys.

Through this observation, which will be based on this method, direct knowledge of the research object will be obtained, allowing us to effectively know the object of study and then describe and analyze situations related to the reality studied.

**Interview:** This will be carried out with the manager of the Portoaguas EP Company.

The interview is a data collection technique involving a direct and in-depth dialogue between the interviewer and the respondent. In this case, the interview would be directed at the establishment's owner to collect even more compelling information on the problem of study.

**Survey:** This survey will be applied to a sample of the company's workers who are contributing to this research.

Surveys are a method of inquiry and data collection used to obtain information from people on various topics. They have various purposes and can be carried out in many ways, depending on the methodology chosen and the objectives to be achieved. In this case, they will be applied to 11 workers belonging to the Portoaguas EP Company.

Research method it is known that "The scientific method is a way to understand reality. Therefore, it implies working systematically to understand the problem studied in its context, actors, processes, times, and consequences (Aguilera, 2013, p. 6)". Therefore, several methods will be used to help systematize the research according to the object and purposes of the research and promote consistent results. Being an objective investigation, the procedures used will be analyzed and validated for the investigative work carried out. With this process, reality will be observed, and the problem will also be identified through data collection and information obtained.

In the analytical method, the elements of a phenomenon are distinguished, and each element is reviewed separately in an orderly manner. The analytical method will allow an analysis of bibliographic sources to collect data from different reference texts, sources, authors, publishers, and other documents to obtain textual information of the required information and describe the results achieved (Gosebrink, 2023). Citing Santillán (2014, p. 4), he says, "The analytical method, the use of life stories as knowledge-generating elements in the social sciences is widely recognized for how interesting it is to explore people's experiences and testimonies".

Induction is the basis of all sciences and derives general laws about the nature or behavior of things from limited specific observations. Inductive reasoning is a relationship of judgment "from special to general".

Olufemi (2020), in the direct study of a group of people, says, "It is a method of social research that systematically analyzes the culture of human groups. The first examples of this type of study were carried out by anthropologists and sociologists who wanted to know the reality of various aboriginal peoples. It consists of procedures for managing qualitative and quantitative research data. The following stages of the statistical method are explained: collection, counting, presentation, synthesis, and analysis.

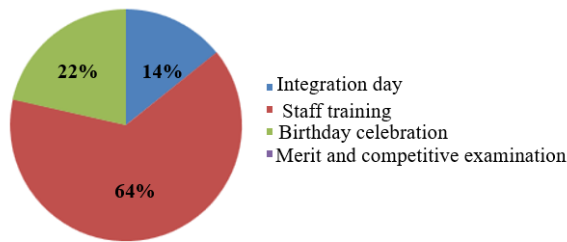
The deductive method involves obtaining particular conclusions from the research results (Gosebrink, 2023). It will be used to develop the study of each proposed variable with its respective categories, starting from observation, problem statement, and data collection with its respective analysis and conclusions. This method will be used for investigations that aim to assess the particularities of a population or situation and determine the status of the variables to be evaluated.

The collected data will be processed through the tools and techniques to be used in writing, detailed with their respective evaluation based on the results report presented at the end of the investigation. Consequently, the company will be visited, during which the data and points related to the activities carried out on-site will be verified by questioning the personnel to learn the actions carried out by the employees and the processes used.

## Results and discussion

The analysis regarding the organizational strategic planning and the prevalence of knowledge in the staff regarding this shows positive results in the knowledge of the Mission and objectives, with a percentage value corresponding to 90 and 80% (respectively) with yes answers. In comparison, the negative evaluations (answer "NO") correspond to 10 and 20% of the respondents for knowledge of the Mission and objectives, results that are related to what was expressed by the company manager by denoting the interest in keeping the staff committed to the organizational performance and the search for goals jointly; in addition, to express that the best tool to achieve efficient administration is one that is born from cooperation and integration, with a unilateral direction, where everyone knows where to focus efforts and exercise corrective actions.

Question three, focused on human talent and its function, identifies employees' knowledge of the terminology expressed; they infer that it is linked to Training (64%), considering it to be one of the key processes for continuous improvement and strategic orientation, while 36% direct it towards organizational culture. In this area, key processes must be managed to create an ideal organizational environment in Portoaguas EP.



ment.

The human talent area plans and executes a wide range of activities, including staff training (64%), birthday celebrations (22%), and integration days (14%). The company seeks to improve its staff’s skills to achieve better organizational performance without neglecting the opening of spaces where employees can integrate and create an organizational culture of cooperation.

The participation of Human Talent in the Portoaguas EP company is considered very important at 80%, followed by important at 20%, with the importance of this terminology prevailing as mentioned by Zulkarnain (2022) and Olufemi (2020), when considering human talent under their approaches as a fundamental element that must be enhanced and involved in strategic development, to achieve high standards of organizational performance, where staff can take ownership of the process and achieve the established vision and objectives.

The evaluation of the perception of Human Talent regarding the recruitment, selection, and induction processes for the company’s staff presents optimal results since 60% generated high ratings, followed by 40% with averages; data that are related to what was expressed in the interview, where it is mentioned that since there is a changing market and high levels of competitiveness, constituting differentiating elements that start from the staff, would be a key factor for good performance, added to that when managing the process posed in this question, there would be greater control over the staff working within Portoaguas EP. Management by competencies can be developed more efficiently

by recruiting staff according to their aptitudes and business requirements.

The criteria of the staff of the company Portoaguas EP., regarding the processes of remuneration, evaluation, development, and control of the staff has high responses at 60%, followed by medium at 40%, observing conformity with the management model applied at present, added to this, the opinion of the managers, identifies a model of action not based on the establishment of policies for recognition or development, but on the deep analysis of the work performed by the staff based on the control and permanent evaluation of the results generated, observing the relevance of perpetuating the commitment of the staff to the organization from its expected performance and not from processes that, in addition to generating competencies, can break good labor relations and at the same time weaken labor and organizational performance.

The imminent need to define the competencies is evident from what is raised in question eight. Fifty percent identified they were defined, while the other 50% stated the opposite. This is because the labor competencies have not been identified, or they are unaware of their existence.

Finally, regarding the corresponding question of whether the labor competencies allow demonstrating the acceptance and suitability of the strategies, the majority of collaborators, given that two of them mentioned that this labor act is always referred to due to training and organization, which almost always highlights this process, therefore with this data, each phase of the project can be explored with confidence, eliminating guesswork when making important decisions, and also allows practical monitoring and comparative evaluation of the work in the company Portoaguas EP. Knowing how to use them is essential for the success of the company. Contrary to popular belief, goals should be evaluated at more than at the beginning and end of an activity. They should be tested at all stages of the marketing metrics funnel to determine their function and expected outcome for the business.

Table 1 determines the business planning indicators. Prepared by the authors. In addition to this logical arrangement of human resources, the material and financial means of pro-

**Table 1.** Planning the characterization of competency management systems

Level	Indicator
TO	Diagnosis of the present.
B	Goal setting: We must define both the primary goals as the accessories.
C	Establish premises: Logic must foresee (assume) what will probably happen concerning the company's situation and surroundings.
d	Define the lines of action: We will begin by determining the lines of action. To achieve the goals proposed by the time we meet them, we will analyze their strengths and weaknesses and choose the most appropriate.

duction will also be distributed and arranged, with everything necessary assigned to each area of the company.

Table 2 determines the indicators of business organization. Prepared by the authors. Management is responsible for ensuring that the design and organization are implemented throughout the process (planning, organization, and control).

Table 3 determines the business management indicators. Prepared by the authors. For this control, we must establish each worker’s average production level (their performance in production, sales, or similar) and analyze the levels that they reach in the controlled period.

Table 4 determines the necessary procedures for business control and table 5 prepared a general summary of the ad-

**Table 2.** Organization of the characterization of competency management systems

Level	Indicator
TO	All this ordering must be done in a detailed manner.
B	Assigning specific people to tasks, the functions, and the specialization of each one.
C	Fixing the acting times, the teams and division of labor, hierarchies, stages, etc.
d	For this purpose, the preparation of procedure manuals will be essential.

**Table 3.** Addressing the characterization of competency management systems

Level	Indicator
TO	The address also has to create the conditions necessary to achieve objectives.
B	People's motivation.
C	The management of the media materials is to be used effectively.
d	The review of what is being done and how the goals are achieved.

ministrative processes required by Portoaguas Company to ensure organization and improve service quality.

Functions: Describes the responsibilities that the person in charge of each position must fulfill. It is expressed in an

infinitive verb.

Tasks: Indicates the specific activities that will be carried out in each function.

Job relationships: Internal, when one position is related to

**Table 4.** Control of the characterization of competency management systems

Level	Indicator
TO	Control indicators: production, sales, quality.
B	Measuring what has been done: producing, accounting, and statistical reports.
C	Carry out a comparison of what is done with what has been planned to search for those differences.
d	Deviations were important in these production levels if deviations existed, and measures should be taken to correct them. These measures can be of many types: training and formation of the workers, change of organizational methods, etc.

**Table 5.** General summary of the characterization of the competency management systems in the company Portoaguas EP, in order to guarantee the organization and improve the quality of the service

Competence	Customers	Workers	Assistants	Secretaries	Guards	Janitors
Planning	TO	TO	B	B	B	B
Organization	TO	TO				
Address	TO	TO	B	B	B	B
Control	TO	TO	B	B	B	B
Total	4	4	3	3	3	3

another for work reasons. External, when a position is related to entities or people outside the company, such as controlling entities.

Lines of authority: The relationship of dependence between organizational levels, defined by hierarchies and subordinations, is an essential element for the efficient operation

of a public company. In this sense, the functions manual is an essential tool that must be regularly updated to guarantee the segregation of tasks, responsibilities, and hierarchies. This is essential to strengthening the operation of public companies such as Portoaguas EP, which is in charge of essential services for citizens, such as the distribution of drinking water

(Portoaguas EP, 2018).

The current situation of Portoaguas EP shows the need to optimize the management processes by evaluating competencies and job performance. According to Ruíz (2020), these processes must be aligned with a comprehensive diagnosis of the required skills, attitudes, and knowledge, ensuring that each position meets organizational demands. In this context, a detailed organization and functions manual, based on investigative analysis, is crucial to improve the quality of the service and benefit both staff and users.

The study's results show an uneven implementation of competency management systems. Although 90% of employees understand the organizational mission and 80% the objectives, 50% do not identify business competencies. This reflects the need to strengthen the definition and application of specific competencies, as emphasized by Arteaga (2018), who underlines the importance of anticipating challenges and understanding the management environment.

Training, valued by 64% of employees, is positioned as a key tool for continuous improvement, aligning with González (2020), who highlights the importance of management systems focused on specific results. However, low participation in activities aimed at team cohesion, such as integration days (14%), suggests that the organizational culture requires greater attention to strengthen the commitment of human talent.

The study also revealed a positive perception of the relevance of human talent: 80% of employees consider their participation essential, validating what was stated by Zulkarnain (2022) and Olufemi (2020), who point out that human talent is the strategic axis of organizational development. However, although valued positively (60% high and 40% medium), the recruitment, selection, and induction processes need an approach more aligned with the organization's strategic objectives, especially in dynamic environments.

On the other hand, Pedraza (2016) links performance control with the ability to coordinate activities and model organizational behavior. Portoaguas EP's evaluation processes show conformity (60% high and 40% medium) but also indicate the need to strengthen feedback and human resource planning to maximize each employee's contribution to organizational objectives.

A detailed job description can address the gaps, ensure proper task assignment, and strengthen hierarchies. Additionally, ongoing training strategies and activities that reinforce organizational culture can optimize the commitment and effectiveness of human talent. These findings confirm that a comprehensive approach to competency management, as noted by the authors reviewed, contributes significantly to organizational performance while ensuring a sustainable impact over time.

## Conclusions

The study's findings reflect that strategic planning at Portoaguas EP is adequate in terms of the knowledge of the organizational mission and objectives, with 90% and 80% of employees recognizing these fundamental elements, respectively. However, there are still areas for improvement in defining and communicating business competencies, where 50% of employees must identify them. This gap highlights the need to strengthen the mechanisms for integrating competencies at all organizational levels, which is critical to ensure that management is aligned with strategic objectives.

Training emerges as the most valued component of the competency management system, with 64% of employees identifying it as essential for continuous improvement. However, the limited diversification of activities aimed at organizational integration, with only 14% participation in cohesion days, underlines the need to strengthen organizational culture as an integral part of human talent development.

Recruitment, selection, and induction processes are perceived as efficient (60% high and 40% medium) but require greater alignment with the company's strategic objectives, especially in a competitive and dynamic context. Regarding performance evaluation and control processes, although the results are positive (60% high and 40% medium), the lack of effective feedback and human talent planning mechanisms limits their long-term impact. These processes must be strengthened to enhance employees' ability to contribute to fulfilling organizational objectives.

Finally, implementing a detailed functions manual is presented as a practical and necessary solution to address these gaps. This instrument will allow an adequate delimitation of responsibilities, strengthen hierarchies, and promote organizational cohesion. When combined with a comprehensive approach to competency management, the company can ensure the sustainability of its operations and success in a competitive work environment.

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### Conflicts of interest

The authors declare that they have no conflicts of interest.

### Author contributions

María E. Mendoza and Gisella N. Zambrano: Conceptualization, data curation, formal analysis, investigation, metho-

dology, supervision, validation, visualization, drafting the original manuscript and writing, review, and editing.

### Data availability statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

### Statement on the use of AI

The authors acknowledge the use of generative AI and AI-assisted technologies to improve the readability and clarity of the article.

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