



RESEARCH ARTICLE

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WORKFORCE SIZING: SITUATIONAL DIAGNOSIS IN THE INSTITUTION OF HIGHER EDUCATION IN CENTRAL SERTÃO CEARÁ

Klerton Martins de Sousa Almeida, *Sergio Horta Mattos, Francisco José Mendes Vasconcelos, Marcos James Chaves Bessa and Valter de Souza Pinho

Rua Juvencio Alves 620 Centro - Quixada - Estado do ceará

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ABSTRACT

The sizing of the workforce is a strategic factor and necessary for companies that constantly seek solutions to increase their competitiveness and stay ahead to the current market scenario. With higher education institutions (HEI) is no different, especially after the growth of the private sector participation in the last ten years 2006/2016 in higher education. This case study aimed to present a situational analysis of the sizing of the workforce in a sector at a higher education institution in the central backwoods of Ceará, precisely its administrative coordination. They were considered qualitative and quantitative aspects, with descriptive. Diagnostic results showed through variables related to management planning of people the amount of employees of administrative coordination currently serves your needs, however, will not support an expansion in services; They have a good ability, age, health and motivation to do their jobs and a good workload.

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INTRODUCTION

Scaling means compute and predefine the dimensions and / or proportions for something, consisting in a complex activity when it comes to work force (Rodrigues *et al.*, 2015). The sizing of the workforce is an ongoing planning process for assessing staffing needs in relation to the quantitative, individual skills and profile, directed to meeting institutional goals (Cunha *et al.*, 2010). This design involves knowledge of the mission, the goals, the organization's goals, and the strategies adopted to achieve them, and also: the evaluation of potential future changes in relation to the external and internal environment to determine the most likely activity setting for the period; the estimation of human resource needs consistent with the organization's objectives and the expected scenario for the future; knowledge of the current situation of the staff, with regard to the quantitative and profile; the identification of the differences between the current situation and the desired situation with regard to human resources and the development of strategies to eliminate these differences (Dutra, 2002; Dessler, 2003).

According to Busse and Manzoki (2014) strategic planning of human resources is a competitive differentiation factor of the company amid the cost containment scenario, change scenarios, competitiveness, globalization, shortage of skilled professionals and customers increasingly demanding. Human resource management is undoubtedly a difficult task, given that this management includes aspects of recruitment / selection, retention, development, adjustment and change management. Organizations need to adopt human resource planning models that facilitate the achievement of the expected results, taking into account the various factors that influence this planning as geography and desktop architecture, the number of hours to be worked, the absenteeism rate among others (Ferreira *et al.*, 2010). Higher education contributes to sustainable development and improvement of society as a whole by enabling qualified and able to meet the needs of all sectors of human activity professionals, and disseminate knowledge through its propagation (LUCCHESI, 2005). As the Brazilian Association of Maintainers of Higher Education (ANBES), the last ten years 2006/2016 private IES had a stake of 75.30% in total undergraduate enrollment (CENSUS OF HIGHER EDUCATION, 2016). To Catani and Hey (2007) although there are investments in the public sector, the increase in enrollment in higher education is supported by

*Corresponding author: *Sergio Horta Mattos*,
Rua Juvencio Alves 620 Centro - Quixada - Estado do ceará

private education, indicating that this increase in the number of vacancies tends to consolidate. National expansion policies of the Education Plan, caused impacts HEI personnel management area, demanding continuous efforts in investment, development and implementation of competitive strategies to meet the demands with quality. Fragoso (2009), points out that from a strategic point of view, the challenge for organizations in the future is not only think about innovation and technology but to unite them human competence, ie make them more human and substantially competitive for this reason. In this context, a higher education institution in the municipality of Quixadá, the UNICATÓLICA, has been investing in the expansion and modernization of its infrastructure, the acquisition of educational technologies, as well as quantitative, qualification and professional development of its employees. And bringing this work was to evaluate whether the amount of those employees mentioned IES, are meeting the demand for the proposed service?

Given the above, This study aimed to carry out a diagnosis of sized workforce to a sector of the institution, precisely its administrative coordination, including cleaning services, security, transportation, maintenance, gardening, events, audiovisual and reprographic.

Theoretical

Personnel Management: The information age, globalization and competitiveness, subjected to organizations facing the challenge of managing people to cost reduction and profit maximization. From that moment the human being began to be perceived as a differentiator for organizations, the intellectual capital contribution (GIRARDI, 2008). According Lacombe and Tonelli (2001) focus on the strategic management of people are delineated from the 1980s, with the growing recognition of the importance of human capital in achieving organizational strategies, going to be assessed a competitive advantage. Bosquetti and Albuquerque (2005) confirm that the strategic approach to human resources emerged in the early 80s, with the inclusion of the role of human resources in the strategic planning of organizations. Over the years the area under discussion exposed some nomenclatures / concepts in relation to human resources function, such as: personnel department, human resource management, human resource management or strategic management of people. To Fidelis (2016) the personnel department (PD) is the process of managing people that takes care of the legal aspects of the employment relationship. As a large bank of management information in the control of personal data, professional and disciplinary of all employees of a company. However, the management of human resources, it is understood as a series of decisions that form integrated working relationships, its quality directly influences the capacity of the organization and its employees to achieve the desired goals (Milkovich, 2011).

As Gil (2001) the sector of human resources (HR) has considered across organizational interests, individual interests of the worker, ie, people management as a management function that seeks the cooperation of the people who work in organizations. Fischer (2002) the management of people related to the way in which a company is organized to manage and guide human behavior at work. In the same line of thought Hanashiro and Teixeira (2008) point out that the human resource management means managing employees as a resource, people management means making employee

management as person with knowledge and feeling. Complementing the vision of the authors mentioned, Albuquerque and Milk (2009) point out that the strategic management of people is linked to clarity by the organization about what you expect from your employees. This clarity will provide greater effectiveness in some respects: i) Planning and design of the organization; ii) Definition of the needs and people handling policies; iii) positioning in relation to the labor market; iv) policies and pay practices; v) Design and career management; vi) Evaluation procedures and guidance of the people; vii) Definition of actions and organization development management system and people. In short, according to Staudt and Gonçalves (2011), investments in human capital allocation are essential and have direct impact on the strategic area, given that directly influence the marketing performance of a company.

PLANNING workforce

The economic and financial factors are crucial in planning decisions, however, are not the only part of this systematic and continuous evaluation of the organization's needs. For Dutra (2002) hiring people should be carried out with the knowledge of short future needs, medium and long term and / or excesses in the present, to ensure their alignment with the strategies of the company and allow better use of available resources. As Adenso-Diaz *et al.* (2002) planning of the workforce involves the appropriate allocation of human capital to the productive sectors, ensuring compliance with quality requirements according to the required standards, reducing customer waiting time and avoiding excess capacity. The planning of the workforce should be regarded as the organizational process by involving forecasting, development, implementation and control, aims to guarantee the company the type and number of suitable employees to their real needs (SEA; Vasconcellos, 2007).

SIZING workforce: The design of human resources, based on the assumptions that the company must hold or acquire, assumes flexible nature that allows the monitoring of market developments and sustaining competitive advantages (Hanashiro, TEIXEIRA, 2008). As Rocha and Morais (2009) in the search for the workforce sizing can be used some references such as generation capacity in each work process, production flow or generation services, analogy with similar processes in other parts of the organization or of the same nature organizations. In evaluating Dutra *et al.* (2017) the sizing of the workforce is essential for the organization to prepare and guide people, even the probability of a possible future shutdown. The authors cited above (2017), describe the thought and proper sizing minimizes over excess time of undesirable employees, which is often the case, or the possibility of effecting cuts in the table than is necessary, weakening the organization, a consequent loss in quality and speed of its performance against competitors.

Competitiveness: Nogueira (2015, p. 4) says the business strategy involves the idea of creating competitive advantage over a competitor. However, points out that for this to occur, you must offer some advantage in relation to other organizations. Machado Filho (2006) maintains that internal practices for managing people represent one of the factors that attribute good reputation and bring sustainable competitive advantages for companies in the long run. In the words of Dessler (2003), the search for competitive advantage puts the

sector of human resources at a central level and directly involved with the development and implementation of strategies, enabling the strengthening of organizational competitiveness and job training teams. As Cruz and Santana (2015) the HR sector has become one of the most important factors for the company's competitive advantage, since it is incorporated into the strategic actions being present in significantly organizations to the results, the main agent transformation, not only in determining who work in companies, but additionally in advising the coordination of sectors.

MATERIALS AND METHODS

Study Design: This research was designed as a case study in which they were used information obtained through qualitative and quantitative methods And may be defined as a descriptive (PRESTES, 2013, p.28-31).Yin (1984, p. 14) states that an investigation is characterized as a case study when "arises from the desire to understand complex social phenomena" and "retains significant and holistic characteristics of real-life events." The author adds that case studies are also used as exploratory steps in the poorly documented phenomena research. For Stake (2000, p.436), the case study is characterized by exactly this interest in individual cases and not by the methods of investigation, which may be the most varied, both qualitative and quantitative. This way Vergara (2011) says that the survey included a case study because it is an empirical research carried out where there is a phenomenon, or have any information to explain it. Also in view of Prestes (2013), the author points out that descriptive research is one where observe, record, analyze, classify and interpret the facts though without an effective intervention between researcher and researched, seeking to resolve and / or clarify the observed problem. Already the explanatory research is one that goes beyond the record, analysis, classification and interpretation of the phenomena under study, trying to identify what are the determining factors.

Study of Local: The research took place in the Administrative Coordination of the Catholic University Center of Quixadá (UNICATÓLICA), in the municipality of Quixadá, central region of the hinterland of the state of Ceará. The region has hot tropical semiarid climate with average 26 ° C temperature to 28 ° C and rainfall of 838.1 mm, with rainfall concentrated during the months from February to April (IPECE, 2016). The characteristic vegetation of most of the city is the savanna. Its population according to the IBGE (2015) is of 85,351 inhabitants. The city has the 17th largest state GDP, higher per capita income and better Mesoregion of HDI Sertões Cearenses. The UNICATÓLICA offer currently 20 undergraduate courses in the areas of health, applied social sciences, humanities, technology and engineering and 16 sensu post-graduation courses in the areas of Education and Human Formation, Exact and Technological, Legal Training, Business and Management and Health and wellness. The Administrative Coordination UNICATÓLICA this time had 84 employees, totaling 10.53% of the overall amount of the institution, which was 489, 214 and 275 support teachers / technical and administrative, support being distributed in the cleaning sector, supervision, maintenance, gardening, audiovisual, reproduction and events.

Study Period: Carried out during the first half of 2016, precisely during the months from February to July of that year.

Data Collect: Primary data for this case study was achieved by lifting information from the administrative coordination UNICATÓLICA through a structured questionnaire, adapted methodology employed by Reis *et al.* (2015). The data collected corresponded variables of the work force; capacity; people management; age; motivation; Occupational health and workload whose issues have been associated with a range of four categories of responses: N = Never; Eventually = E; Often = F; and S = Always. The interviews relied on 100% compliance managers, having been applied to the four sector supervisors and administrative coordinator. Secondary data were obtained by information contained in documents found in the institution's administrative and HR coordination, being picked in order to support the analysis of primary data.

Data Analysis: To analyze the tables were prepared containing varying the average percentage of categories of responses. The analysis consisted of a textual discussion of these data aided by qualitative data.

RESULTS AND DISCUSSION

On the Workforce: It is observed by examination of Table 1, which are contained in the data for the variable workforce, the number of employees that are allocated in the administrative coordination, meet frequently (75%) the need of the sector, with little idle (25%), but eventually (75%) an overload of work. Even if there is an expansion in service this quantity will not answer (75%) sufficiently this new demand. For Correa *et al.* (2001), insufficient capacity of employees brings in a deterioration in the level of services provided to customers, particularly as regards the deadlines established to carry the demands. Already in the case of excess manpower, additional and extra costs also appear, being totally unworkable in an extremely competitive environment.

Table 1.Variable workforce administrative coordination of UNICATÓLICA.Quixadá-CE, 2016

Item	Categories%			
	N	AND	F	s
Call the current needs of the industry by the employees.	0	0	75	25
Care sector by employees with a possible expansion of service.	75	25	0	0
work overload exercised by employees.	0	75	25	0
Idleness in service by employees.	75	25	0	0

N = Never; Eventually = E; Often = F; and S = Where
Source: Author, 2016.

On the Ability: It appears from the data shown in Table 2 that all employees of administrative coordination are trained to perform their duties (100%) which reflects positively on the quality of work (100%). The data also show that not all employees express in carrying out their service this capability getting your little impaired performance (often 25% and 75% always). Perhaps this reflects a bit of a lack of commitment or functional accommodation. The training of staff, as Dutra (2002), is an important factor in the design of staff to meet the needs of the present and future of the company and should in its analysis to consider the ability of people to the level of preparation in which they are to take on more complex activities in the core processes of the organization.

On the management of people: The analysis of personnel management variable data (Table 3) shows that the employee

working hours in different sectors of administrative coordination is adequate, considering that 100% of the answers figured in frequently categories (25%) and always (75%). Also, these results make it possible to ensure that there is a good distribution of employees (100%), a good degree of utilization of these (100%) and optimization of their efforts (100%) in the different sectors. There is a good integration of the team as a whole (50% often and 50% always) with little rework (50% ever and 50% eventually) and little reallocation (100% if any) of employees, and it caused probably by the specificity of work in different sectors of administrative coordination.

Table 2. Variable capacity of employees of administrative coordination of UNICATÓLICA. Quixadá-CE, 2016

items	Categories%			
	N	AND	F	s
Working capacity as a percentage of employees to perform their functions.	0	0	0	100
Performance in service by employees.	0	0	25	75
Quality of work of employees who meet the requirements of the sector.	0	0	0	100

N = Never; Eventually = E; Often = F; and S = Where
Source: Author, 2016.

Considering the thought Bohlander and Snell (2009), people management is important in building organizational skills and getting results, since people are producers of knowledge and innovation, key elements of organizational capacity building.

Table 3. Variable - people management administrative coordination of UNICATÓLICA. Quixadá-CE, 2016

items	Categories%			
	N	AND	F	s
Proper working hours practiced by employees.	0	0	25	75
Degree of utilization of employees in the sector.	0	0	0	100
Rework performed by employees in the sector.	50	50	0	0
Integration between the sectors of administrative coordination.	0	0	50	50
Relocation of employees within the administrative coordination.	0	100	0	0
Optimization efforts of employees in various sectors of administrative coordination.	0	0	0	100
Good distribution of employees in the areas of administrative coordination.	0	0	0	100

N = Never; Eventually = E; Often = F; and S = Where
Source: Author, 2016.

ON OLD: The age range of employees of administrative coordination for the performance of their work activities are appropriate as a result contained in Table 4 (25% often and 75% always). This data is very important because the activities carried out in coordination require mostly physical exertion. Data related to age are relevant, since that guide HR planning with regard to plans for jobs and career development, and succession (LUCENA, 1991).

Table 4. Variable age of employees of administrative coordination of UNICATÓLICA. Quixadá-CE, 2016

Item	Categories%			
	N	AND	F	s
Age range of suitable employees to the development of the activities of administrative coordination.	0	0	25	75

N = Never; Eventually = E; Often = F; and S = Where
Source: Author, 2016.

On the Motivation: Motivation is an important aspect in the work activity and that must be taken into account too, because

it reflects on different aspects of this activity. It is evident that the team is well motivated administrative coordination, as the data in Table 5 with attendance, punctuality, willingness and commitment express this reality. Oliveira and Passos (2013) describe the motivation is directly reflected in the productivity of workers, requiring greater attention by the organizations and / or business management. The Zonatto authors, Silva and Gonçalves (2015), argue that individuals react differently in the context of work, to undergo different factors of influence and impact on the motivation and commitment of the desktop.

Table 5. Variable motivation of employees of administrative coordination of UNICATÓLICA. Quixadá-CE, 2016

items	Categories%			
	N	AND	F	s
Attendance of employees of administrative coordination.	0	0	0	100
Punctuality of employees of administrative coordination.	0	0	25	75
Willingness to work of employees of administrative coordination.	0	0	0	100
Commitment to the service of employees of administrative coordination.	0	0	0	100

N = Never; Eventually = E; Often = F; and S = Where
Source: Author, 2016.

On the occupational health: One of the major global issues that cause corporate absenteeism is that related to workers' health and UNICATÓLICA the survey revealed that employees of administrative coordination had adequate occupational health to occupy positions in the different sectors. According to Alves (2011), so that the employee may have health at work, it is essential, first, that the organization is aware that the worker is a fundamental part of the company. The employee's health is gained from the humanisation of work, which is highly linked to the social responsibility of the organization (FERREIRA AND Mendonca, 2012).

Table 6. Variable occupational health of employees of administrative coordination of UNICATÓLICA. Quixadá-CE, 2016

Item	Categories%			
	N	AND	F	s
Adequacy of occupational health of employees for the development of activities in the areas of administrative coordination.	0	0	25	75

N = Never; Eventually = E; Often = F; and S = Where
Source: Author, 2016.

On the working volume: As a result contained in Table 7 employees of administrative coordination always (100%) have a good workload. This result coupled with the degree of utilization (100%) of employees and their optimization (100%) previously reported show a high level of commitment of the supervisors before the management of their teams and use of employees to carry out their tasks in different sectors of administrative coordination. Reis *et al.* (2015), argue that in seasonal periods is necessary that companies consider alternative actions to meet the temporary needs before increasing the number of employees, such as: rotation, task force, etc. Thus, you can minimize and / or prevent a future idleness.

Final: The results presented by the diagnosis made in the workforce of administrative coordination of UNICATÓLICA

involving service cleaning, security, transportation, maintenance, gardening, events, audiovisual and reproduction, through the analysis of the variables of the labor force; capacity; people management; age; motivation; Occupational health and workload, be concluded that:

- The quantity of employees of administrative coordination currently serves your needs, however, will not support an expansion in services;
- Employees have a good ability, age and health to perform their tasks;
- They have as a differentiating factor, good motivation and workload;
- There is a good management of people demonstrated by the efficiency of the distribution of employees, optimizing efforts, motivation and workload.

Thus, as study Reis *et al.* (2015) this research has shown that as important as the design of an institution workforce, is to know the variables that impact on people management, and those which will effectively guide the planning of this design. For the approach of this study do not be limited only under the administrative coordination sector, it is recommended that the research field is expanded to all sectors of the IES, in order to provide information in the strategic area of people management, helping consequently the financial part where are the resources employed in the search for excellence of service to your audience.

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