

The implementation of the Competency Management model in Brazilian Federal Universities: paths taken, and challenges faced

ABSTRACT

Brazilian federal universities are part of a larger system of organizations that have to follow certain legal norms, mainly because of their essence in Public Administration. They are constantly looking for improvements in the provision of their services, including people management, which are determining factors for the excellence of any organization, whether public or private. In this sense, the implementation of competency management has gained prominence in these institutions in recent years. This research has as general objective to analyze the stage of implementation of the competency management model in Brazilian federal universities regarding the personnel management subsystems. For this, we tried to identify the existence of objectives, goals, actions, or initiatives for the management of competences in the PDI of these institutions, verifying the stage of implementation of the model in each subsystem, and highlighting the challenges faced in implementing the model. It is basic research, as to its purposes, with exploratory and descriptive levels and, as to the means or methods used, it was used bibliographical, documental, and field survey (*survey*) with twelve universities with foundation dates before 2006. Mixed or convergent methods were used to approach the problem (qualitative and quantitative) under an inductive approach, through content analysis and basic descriptive statistics. The limitations pointed out concern the restricted deepening of the constituent elements of management by competences, without in-depth analysis of the decrees; and the exclusion of universities whose creation took place after 2006, which characterizes gaps for future studies.

KEYWORDS

Competency-based Management. Competence. Federal University.

A implementação do modelo de Gestão por Competências nas Universidades Federais Brasileiras: caminhos percorridos e desafios enfrentados

RESUMO

As universidades federais brasileiras fazem parte de um sistema maior de organizações que têm que seguir determinadas normas legais, principalmente por sua essência na Administração Pública. Buscam constantemente melhorias para a prestação dos seus serviços, dentre elas na gestão de pessoas, as quais são fatores determinantes para excelência de qualquer organização, seja ela pública ou privada. Nesse sentido, a implementação da gestão por competências ganhou destaque nessas instituições nos últimos anos. Esta pesquisa tem como objetivo geral analisar o estágio da implementação do modelo de gestão por competências em universidades federais brasileiras no que tange os subsistemas de gestão de pessoas. Para isso, procurou-se identificar a existência de objetivos, metas, ações ou iniciativas para gestão por competências no PDI dessas instituições, verificar o estágio de implementação do modelo em cada subsistema, e evidenciar os desafios enfrentados na implementação do modelo. Trata-se de uma pesquisa básica, quanto aos seus fins, com níveis exploratória e descritiva e, quanto aos meios ou métodos empregados, se utilizou de bibliográfica, documental e levantamento de campo (*survey*) com doze universidades com datas de fundação antes de 2006. Se utilizou de métodos mistos ou convergentes na abordagem do problema (qualitativo e quantitativo) sob enfoque indutivo, por meio da análise de conteúdo e estatística básica descritiva. As limitações apontadas dizem respeito ao aprofundamento restrito aos elementos constitutivos da gestão por competências, sem análise aprofundada dos decretos; e a exclusão das universidades cujas criação se deu após de 2006, o que caracteriza lacunas para estudos futuros.

PALAVRAS-CHAVE

Gestão por Competências. Competência. Universidade Federal.

La implementación del modelo de Gestión por Competencias en las Universidades Federales de Brasil: caminos tomados y desafíos enfrentados

RESUMEN

Las universidades federales brasileñas son parte de un sistema más amplio de organizaciones que deben seguir ciertas normas legales, principalmente por su esencia en la Administración Pública. Buscan constantemente mejoras en la prestación de sus servicios, incluida la gestión de personas, que son factores determinantes para la excelencia de cualquier organización, sea pública o privada. En este sentido, la implementación de la gestión por competencias ha ganado protagonismo en estas instituciones en los últimos años. Esta investigación tiene como objetivo general analizar la etapa de implementación del modelo de gestión por competencias en las universidades federales brasileñas en relación con los subsistemas de gestión de personal. Para ello, se intentó identificar la existencia de objetivos, metas, acciones o iniciativas para la gestión de competencias en el PDI de estas instituciones, verificando la etapa de implementación del modelo en cada subsistema, y destacando los desafíos enfrentados en la implementación del modelo. Se trata de una investigación básica en cuanto a sus propósitos, con niveles exploratorio y descriptivo y, en cuanto a los medios o métodos utilizados, se utilizó una encuesta bibliográfica, documental y de campo (encuesta) con 12 universidades con fecha de fundación anterior a 2006. Se utilizaron métodos para abordar el problema (cualitativo y cuantitativo) bajo un enfoque inductivo, a través del análisis de contenido y la estadística descriptiva básica. Las limitaciones señaladas se refieren a la profundización restringida de los elementos constitutivos de la gestión por competencias, sin un análisis en profundidad de los decretos; y la exclusión de universidades cuya creación tuvo lugar después de 2006, lo que caracteriza brechas para estudios futuros.

PALABRAS CLAVE

Gestión por competencias. Competencia. Universidad Federal.

1 Introduction

The Brazilian Public Administration has gone through several moments and administrative reforms in the last century, from which great learning has emerged, for it is in these moments that great challenges arise, imposed by globalization, competitiveness, the information and knowledge society, digital transformation, and connectivity, among others.

It is within this scenario that public service has been transforming itself, since the deep changes based on the private sector inserted by the idea of new public management, with an attachment to quality and excellence indicators, such as efficiency, effectiveness, efficacy, with a purpose focused on the valuation of the citizen and emphasis on public organizations for their strategic management practices.

In this area, people management in the organization has the purpose of seeking to develop people and recognize them, either individually or collectively, in order to build high performance teams (DUTRA, 2016), because more than ever, organizations require and will require high-impact professional skills, among which are commitment to the organization's goals and generating effective results. It is in this sense that managing people gains a strategic focus by promoting the alignment of individual performance to the organization's objectives through the definition of profiles and strategies for professional and personal development based on the competencies required by the organization, also using the competency-based management approach (SCHIKMANN, 2010).

Therefore, it is necessary to first understand two things: why there is a need to work with the competency approach in organizations; and what are the organization's core competencies. The first, because it is necessary to "stimulate the innovation, adaptation and

learning capabilities, appropriate to the requirements of contemporary economic development, characterized by rapid technological advancement and the constant requirement to increase productivity," and the second is "set of knowledge, skills, technologies and systems [...] difficult to be imitated by competition, which generate value [...], therefore, confer a competitive advantage to the organization" (GUIMARÃES, 2000, p. 130 and 131).

In this competitive context, inherent to the private sector and that does not provide for complex structures, as is the case of universities, there may be limitations in the application of tools and methodologies, which does not diminish their contributions, such as motivation and direction for the future and for meeting strategic objectives. It is also worth mentioning the public nature of universities, as they are governed by a legal framework and subject to efficiency control instruments, which directly affects the possibilities of applying new methodologies. in terms of the legality of public administration acts (PASCUCI et al., 2016).

The practices of management by competencies have been developed since the last century in private organizations and presented themselves as a way to align the organizational strategies to today's challenges. In Brazil, these practices were already seen at the beginning of this century, including in some public institutions, with emphasis on indirect public administration (PIRES et al. 2005; CARBONE, 2016), however, it gained strength as of 2006, with the publication of decree 5.707, which proposed policy and guidelines for the development of direct federal public administration personnel, autarchic and foundational, with emphasis on the training of public servants in general. In 2019, there was an update to the "national personnel development policy - PNDP," through decree 9,991, but it still faces challenges for its implementation.

Given this, if the competency approach is a way to strategically manage people and, at the same time, it contributes to alignment and individual and organizational development, in addition to there being notable differences between the private and public sector that can impact the implementation of the competency-based management model, it would be important to understand: the stage of this implementation in Brazilian federal public universities. This research sought to understand and answer this by analyzing the implementation stage of the management by competencies model in Brazilian federal universities and the challenges encountered in this process, passing through the people management subsystems. For this, it was necessary to identify the existence of objectives, goals, actions, or initiatives in the field of management by competencies in the Institutional Development Plans - IDP of these universities; to verify this model's stage of implementation regarding the people management subsystems; and finally, to highlight the challenges faced in the implementation of the model.

2 Management by Competencies in Federal Universities

Management by competencies in federal universities has generated several isolated discussions by some researchers and undergraduate and graduate students. This research, in

turn, seeks to broaden this investigation by sampling these institutions which, in a way, may represent a general context. For this it is necessary to understand the context in which universities are inserted as members of public administration through some theoretical outlines in order to assist in the understanding of this process and explain some difficulties inherent to the university context (2.1), then people management and its subsystems in general and, in particular, in Public Administration (2.2) and, finally, the approaches on competencies and management by competencies (2.3).

2.1 The university context

The law of guidelines and bases for national education (LDB) disciplines school education, recognizing that the formative processes occur beyond school, in the individual's social interactions, considering it a duty of the family and the State. Besides defining the general principles, it also presents the specific purposes of higher education in its 3rd article, which include professional training, incentive to research, dissemination of knowledge, knowledge of current problems, and interaction with the population by means of extension, according to article 43. The guidelines apply to public and private educational institutions (BRASIL, 1996).

Federal universities are part of the indirect public administration, as autarchic entities, as they perform activities considered typical of the Public Administration, in this case, education. These entities are characterized by autonomous service, and they are created through specific legislation, endowed with their own legal personality, to provide services that require decentralized administrative and financial management to ensure their best operation (BRASIL, 1967). In a broader perspective, public organizations, among which universities are inserted, can be understood "as a complex environment where people and groups interact in a constant dispute for space [...] where very heterogeneous sectors of interest interact" (BERGUE, 2020 p.127).

The autonomy of universities, in terms of didactic-scientific, administrative, financial and asset management, is guaranteed by the Federal Constitution of 1988 in its article 207, and also provides for obedience to the principle of not being able to dissociate teaching, research and extension. The constitution provides that it is strictly up to the Union to legislate on the general rules of bidding and contracting in autarchies, according to Article 22, and also provides on the principles to be followed by direct and indirect administration described in Article 37 (BRASIL, 1988), which in practical terms means that the autonomy of universities and the actions of their managers should occur within the limits provided by law and the principles governing public administration.

The administrative acts of managers must be motivated, with an indication of their legal foundations and facts, and are subject to the inspection of control agencies, as well as subject to the legal protection or ministerial supervision exercised by the Ministry of Education (MEC) (BRASIL, 1999). In addition to its administrative processes, the final

activities of the university are regulated, supervised, and evaluated in the form of law (BRASIL, 2017). Although the federal public universities are not subordinated to the MEC (Ministry of Education), it is legally bound to exercise supervision as the competent ministry on the agenda (BRASIL, 1967). Given the legal context where universities are inserted, it would not be different in relation to the deals concerning people management, where there are regulations for selection, hiring, development, career possibilities, evaluation, among others.

2.2 People management in public administration

The literature shows several approaches regarding the role of "people management" administration which, many times, is seen as a set of policies and practices, of roles, of processes, of subsystems (GUIMARÃES et al, 2001; BARBIERI, 2014, GIRARDI; DALMAU, 2015; DUTRA, 2016). The latter, in turn, comes from the systemic approach, which sees the organization as a larger system in which other systems are inserted, among which, the people management system that, therefore, has its subsystems that interact with each other (MOTTA, 2011).

Barbieri (2014) teaches that it is a talent attraction, retention, and development system. Girardi and Dalmau (2015) explain that the processes or roles of people management are: add, staff inclusion process; apply, process to detail activities to be performed by people; reward, people encouragement process; develop, people training process; maintain, process to provide conditions that keep people satisfied in performing their activities; and monitor, process to verify results through the monitoring and control of activities.

Dutra (2016), in turn, adopts a complementary view to the functional and systemic views of people management by adopting human development as a way to add value to the organization and the individual. He maintains that there is a new psychological contract based on organizational development with effective contributions from people, and that people should receive contributions from the organization for their personal and professional development. These approaches, or points of view, are relevant to the understanding of their subdivisions or aspects, but they could reach a consensus or standardization of concepts. For this reason, we adopted a systemic approach in this research, meaning the nomenclature "people management subsystems" with a mixture of its consequences.

People management is marked by discontinuities and difficulties in the structuring of its main systems. The institution of a specific body to regulate human "resources" policies in public administration took place in the 1930s, and the regulation of the relations between the state and public servants took place at the end of the same decade and underwent several reforms and adjustments that gave rise to Law no. 8,112 of 1990. This transitioning of the public administration, from a bureaucratic model to managerialist model, was structured by means of decrees, legislation, and other instruments with the intention of accompanying the evolution seen in the private sector (OLIVEIRA; MEDEIROS, 2011; PIRES, et al., 2005).

This transition, from a paternalistic and bureaucratic public administration to managerialist public administration was observed with the entry into force of Constitutional Amendment 19 of 1998, which began in the 1980s and was consolidated as 1990 when the public administration began to implement private sector practices, starting with a systemic approach and culminating with the strategic management model, with people development policies and the beginning of management by competencies (OLIVEIRA; MEDEIROS, 2011). However, for the various subsystems of people management in general and, in particular in universities, there are legal regulations that, in some cases, harden instead of making the developed actions more flexible, as presented in Chart 1.

It is observed that in the last two decades there has been an effort by the Public Administration, in general, to follow and implement the practices that sustain the private initiative through the strategic management of people, whose focus is on achieving both the organization's goals and the individual performance, including the definition of profiles, professional and personal development strategies and performance evaluation, based on the competencies needed by the organization through some instruments, such as: people management planning; competency management; continuous training based on competencies; and performance and competency evaluation (SCHIKMANN, 2010).

Chart 1. Subsystems of people management and applicable legislation¹

Subsystem	Applicable Legislation
Aggregate, Capture, Provide, Supply.	Federal Constitution 1988 (art. 37, II); Law 8. 112/1990 (Title II); Decree 9.739/2019; Law 11.091/2005; Law 12.772/2012; Law 11.784/2008.
Apply	Federal Constitution 1988; Law 8.112/1990; Law 11.091/2005; Law 12.772/2012; Law 11.784/2008; Decree 5.824/2006; Decree 9.991/2019; IN SGP-ENAP/SEDGG/ME nº 21/2021; Internal regulations.
Reward, Recognize, Retribute.	Federal Constitution 1988, Law 8.112/1990 (Titles III and VI); Law 11.091/2005; Law 12.772/2012; Law 11.784/2008; Decree 5.824/2006; Internal rules.
Maintaining, Maintenance	Law 8.112/1990 (Title III and VI); Law 8.460/1992; Decree 3.887/2001; Internal regulations.
Monitor, Control, Follow Up, Evaluate.	Law 10.681/2004; MEC Ordinance 92/2014; INEP/DAES/CONAES Technical Note 062/2014; Decree 7.133/2010; Law 11.784/2008 (Cap. II); Internal regulations.

Source: Prepared by the authors based on the literature and documents (2021)

In the scope of federal universities, the competence-based management approach has been seen as a path to the strategic management of people, because there is a movement to apply the practices of this approach from decree 5.707, of February 23, 2006, with a bias towards the training of servers in general. In the same year, decree 5.825, of June 29, 2006, established guidelines for the preparation of the development plan for administrative technicians in education. In 2019, through decree 9,991, there was an update to this policy, presenting not only the bias of training, but also the conditions to develop human capabilities or competence dimensions, already adjusted by decree 10,506 of October 2, 2020, to dispose about licenses and removals for development actions. This policy aims to "promote the development of public servants in the skills necessary to achieve excellence in the performance of organs and entities of the direct federal public administration, autonomous and foundational" (BRASIL, 2006a, 2006c, 2019b, 2020).

¹ Main regulations, not aiming to exhaust the available legal framework in force and or repealed.

2.3 Competencies and Management by Competencies

The studies related to human competencies gained space in the 1970s, with the North American researcher David McClelland, who pointed out some shortcomings in traditional tests of intelligence and knowledge, also known as IQ testing. The psychologist pointed out two issues about IQ tests: they could not predict the individual's success, both in life and at work; and they acted as a reinforcer of prejudices against people of lower socioeconomic status, women, among other minorities. Given these flaws, he developed and applied a method to identify variables of competencies of American diplomats, which resulted in clear evidence of differences in skills, aptitudes and attitudes that differentiate excellent professionals from mediocre ones (MCCLELLAND, 1973).

The sociologist and economist, Philippe Zarifian (2001), discussed the differences between qualification and competencies in the mid-1980s, and gave a multidimensional definition of competence. The author pointed out three aspects: the individual's accountability and attitude; practical intelligence, which consists in the transformation of knowledge; and the ability to mobilize actors around different situations. In Le Boterf's (1995) conception, the construction of the competence concept also goes through three axes: the person; education; and professional experience. In this context, he conceptualizes competence as a knowledge to act responsibly and be recognized by other individuals, involving knowing how to mobilize, integrate and transfer knowledge, skills and resources in a given professional context. The author also states that competence cannot be dissociated from the act, that is, competence does not materialize in theory, only in the situation or practice.

Still in the 90's, a study conducted by Prahalad & Hamel (1990) brought the concept of core competencies, stating that a few competencies generate differentiation and competitive advantages for organizations, and that these must be identified and maintained to ensure a differential in the market. They also highlighted the organizational competencies, which are necessary for each role in the organization to work, and are intricately linked to individual competencies, the latter being the bridge for the company's strategy to present results. Therefore, there is an intense debate on the subject by the American (McClelland, 1973; Prahalad; Hamel, 1990) and European (Le Boterf, 1995; Zarifian, 2001) currents, but even so, several authors of the Latin or integrative chain of thought include their views in this area, such as Guimarães (2001); Fleury and Fleury (2001); Brandão and Bahry (2005); Fisher *et al.* (2009); Carbone *et al.* (2016) and Alles (2016), which point to a strong connection to the individual, which is known as the integrative chain.

Fleury & Fleury (2001), Brandão and Guimarães (2001), Brandão and Bahry (2005) converge that competence is related to an individual's ability to know how to act in a responsible and recognized manner, mobilizing, integrating, and transferring knowledge, resources, and skills, which add economic value to the organization and social value to the individual. In this same sense, Fischer *et al* (2009) complements by agreeing with Durand

(2000) that to be competent is not simply to be endowed with knowledge, skills, and attitudes, but also able to mobilize resources. Alles (2016), on the other hand, explains that they are individual personality traits transformed into behaviors that result in superior or successful performance. Chart 2 presents a summary of the schools of thought and perspectives of the various authors studied, on the definition of competence.

Chart 2. Summary of perspectives on competence

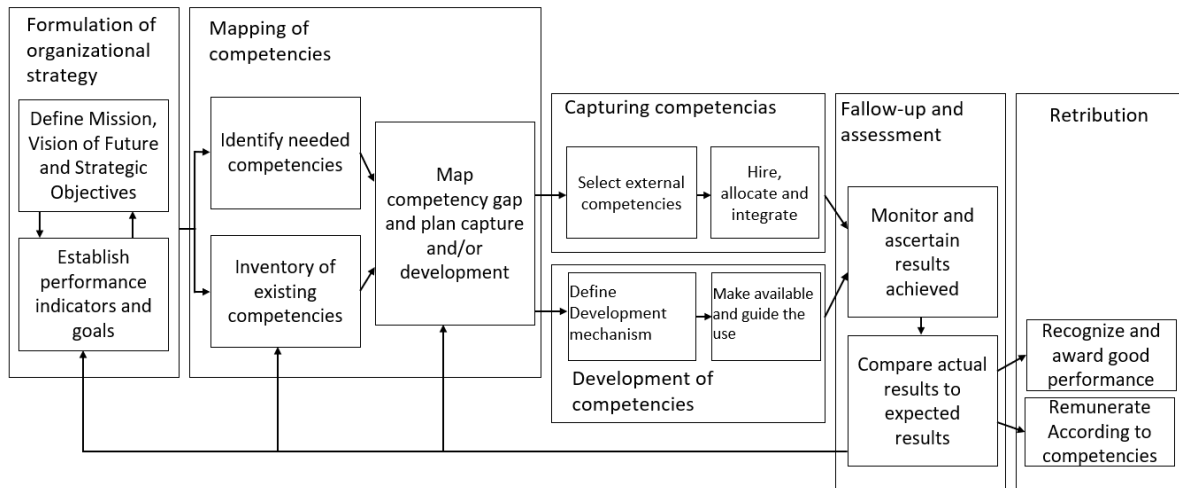
School	Definition	Author
North-American	An element inherent to the individual that allows them to perform activities with superior performance. It is linked not only to the individual, but to the organizational strategy; associated with the collective effort of the members of the organization, starting from the individual to the organizational, that is, the competence of the "organization."	McClelland (1973) Prahalad and Hamel (1990)
European	Emerges when faced with complex and innovative situations. Contributes to collective effort through the cooperation of the individual effort of each member of the team or work group.	Zarifian (1999) Le Boterf (1995)
Latin American or "integrator" (As of 2000)	Presents as three "dimensions" - knowledge, skill, and attitudes that, in a specific organizational context, aims to obtain high performance at work It is the observable behavior at work, given that job performance is a consequence of the combination or application of knowledge, skills, and attitudes, and that it is associated with the behaviors manifested in the work environment. Set of knowledge capable of adding economic value to the organization and social value to the individual. Ability to mobilize resources. It is expressed when the set of resources or dimensions - knowledge, skills, and attitudes - generate a result or performance at work. It is an individual personality trait, transformed into behavior that results in a successful performance.	Guimarães (2001) Brandão and Bahry (2005) Fleury and Fleury (2001) Fisher <i>et al.</i> (2009) Carbone <i>et al.</i> (2016) Alles (2016)

Source: Prepared by the authors based on the literature (2021)

In general, it is observed that the authors converge on an important set of resources in the construction of competence: knowledge, skills, and attitudes, which are the dimensions of competence. They also agree that there are human competencies (belonging to the individual or team) and organizational competencies, which are the organizational levels of competence, and these need to be worked together to generate value.

Based on the understanding that the organizational competencies are based on processes and resources allied to human competencies, the need arises to manage this system in order to ensure that the organization's strategic objectives are met. In view of this, the competency-based management model proposes an alignment of efforts to plan, capture, develop and evaluate the competencies required to meet the strategic objectives of an organization at its different levels (GUIMARÃES, *et al.*, 2001; BRANDÃO; GUIMARÃES, 2001; BRANDÃO; BAHRY, 2005). The main phases of this model were initially presented by Guimarães (2001) and later adapted by Brandão and Guimarães (2001), and then by Brandão and Bahry (2005), as shown in the diagram of Figure 1, in order to summarize the logic of the processes and address details of the operating strategy of each step.

Figure 1. Model of management by competencies



Source: Guimarães *et al.*, (2001) adapted by Brandão & Bahry (2005, p. 181).

The formulation of the organizational strategy is the starting point in the competency-based management model; therefore, it is a fundamental requirement for the implementation of this model that the strategic objectives of the organization are well defined. Based on the strategic information it is possible to identify the necessary competencies and compare them with the set of knowledge, skills, and attitudes of the staff, find the gaps, determine the path to be followed and perform development actions in this direction (BRANDÃO; BAHRY, 2005).

Moreover, the involvement and commitment of people are fundamental to the managing people strategically because their communication and mobilization is an important factor for organizational planning, as well as the alignment of actions with the organizational strategy (BERGUE, 2020). And in public organizations these actions can subsidize people management activities, support the formatting of competitions, and make the evaluation, assignment, and movement processes more transparent. Some organizations implement a computerized database system, also called a talent bank, to store and analyze information about the profile of public servants, their training, information about their personal achievements and their professional trajectories. Actions in this sense also help in the structuring of plans for professional and personal development of the servants, generating integration among the people management subsystems (PIRES, *et al.*, 2005).

Taking the proposed model as a reference, according to Figure 1, it is possible to identify steps related to these subsystems: the processes to admit, allocate and integrate can be identified in the capture of competencies, making it possible to observe the subsystems to aggregate (recruitment and selection) and apply (allocation) at this stage; at the stage of competency development it is possible to observe the develop subsystem (training and development); at the monitoring and evaluation stage it is possible to observe the monitoring subsystem (monitor, evaluate, control); and finally, at the retribution stage it is possible to observe the maintain and reward subsystem (value, retribute) people (BRANDÃO; BAHRY, 2005).

Therefore, based on the literature described as well as on the model presented in Figure 1, and assuming that people management is a set of subsystems, roles, policies, and practices of human development, we can extract that management by competencies can be seen as a systematic, flexible, innovative, and interconnected way to manage these people management subsystems, mobilizing the set of knowledge, skills, and attitudes in order to achieve the organizational objectives, adding economic value to the institution and social value to the individual.

3. Methodology

Taking the respective objectives of the research as reference, it can be characterized as basic (in methodological terms, regarding its purpose) for gathering a set of studies on a given topic, without concern for its possible benefits; as to the level or more general purposes, exploratory, for providing greater familiarity with the problem, which made it necessary to survey the bibliographies of classical and contemporary authors in order to verify convergences and divergences on the subject, besides being used as models to stimulate understanding and, descriptive, for its characteristic of describing a given population or phenomena (GIL, 2019).

In this context, this research proposed to analyze the stage of implementation of the management by competencies model in Brazilian federal universities regarding the people management subsystems. For this, three specific objectives were listed, namely: to identify the existence of objectives, goals, actions or initiatives in the field of management by competencies in the IDPs of Brazilian federal universities; to verify the stage of implementation of management by competencies with regard to people management subsystems; and finally, to highlight the challenges faced in the implementation of management by competencies in these universities.

In relation to the means or methods employed to attain the research objectives, techniques such as the following were used: bibliographic research, with the presentation and review of concepts pertinent to the theme; documental research, through the analysis of documents of the researched institutions and legal regulations; and field survey, which consists of the direct questioning of people whose behavior it is desired to know, selected from a research universe.

As for the theoretical referential, bibliographies of classical and contemporary authors on the theme were used, in addition to a search in some databases regarding the theme management by competencies in public service, in universities, and in people management subsystems. The main references used, by theme, are shown in Chart 3.

Chart 3 Main references used

Main references used	Author(s)
People Management	Begue (2020); Barbieri (2014); Girardi; Dalmau (2015); Dutra (2016); Pires, <i>et al.</i> (2005)

Competencies and management by competencies	McClelland (1973); Prahalad e Hamel (1990); Zarifian (1999); Le Boterf (1995); Guimarães (2000); Guimarães <i>et al.</i> (2001); Brandão e Bahry (2005); Fleury e Fleury (2001); Fisher <i>et al.</i> (2009); Carbone <i>et al.</i> (2016); Alles (2016), Dutra (2016)
Discussions on management by competencies in universities	Ramos, <i>et al.</i> (2016); Silva (2016); Landim (2017); Souza e Souza (2018); Sousa e Barbosa (2018); Ferreira (2018); Silva, (2019); Bassan, <i>et al.</i> (2020)

Source: Prepared by the authors (2021)

Furthermore, documentary research was carried out through the IDPs of the universities and the related legislation.

Still on the subject of methods, regarding the methods used to approach the problem or nature of the data, mixed and convergent methods were applied, since there was an attempt to deepen understanding on the theme and validate the results found, not to mention it being more appropriate for the investigation of contemporary phenomena, seeking to combine the advantages of both quantitative (representative sampling, quantification, generalization) and qualitative (small samples, depth) data collection and analysis. Thus, data were collected from the natural environment (survey), through structured questionnaires applied to the research subjects and analyzed under the inductive approach; the perceptions of the consulted subjects obtained through questionnaires were analyzed qualitatively, with a view to validating theoretical models (GIL, 2019; MARCONI; LAKATOS, 2019).

3.1 Description of the methods employed

3.1.1 Universe and sampling

Therefore, analyzing the research environment, according to the Ministry of Education², in Brazil there are 69 federal universities, 11 in the North (15.94%); 20 in the Northeast (28.99%); 19 in the Southeast (27.54%); 11 in the South (15.94%); and 8 in the Midwest (11.59%). With this data, some criteria (C) were established to determine the research sample, such as: creation date before 2006 (C1); Institutional Development Plan - IDP in effect (C2); objectives, goals, actions, or initiatives in the field of competency-based management inserted in the IDP (C3); and coverage of all regions of the country (C4). In this sense, a first cut was made of the universities that already existed before the publication of Decree 5.707, February 23, 2006, resulting in 54, representing 78.3% of the total of Brazilian universities.

From this cut, a search was performed on their institutional websites to determine the existence of an Institutional Development Plan - IDP in force in March 2021, finding 43, which represents 62.3% of the total of universities that met this criterion and, along with this search, an analysis on the possible objectives, goals, actions or initiatives in the field of management by competencies, finding IDPs of 22, representing 31.9% of the total, and thus,

² Available on the Portal of the National Register of Higher Education Courses and Institutions e-MEC, <https://emec.mec.gov.br/>.

meeting all the criteria established. Then, the 22 universities that met all the criteria were selected, contemplating, proportionally, all the regions of the country, as shown in Table 1.

Table 1. Universe and sample after applying the survey criteria

Geographical distribution	C1		C2		C3		C4		Respondents			
North	11	16%	8	15%	5	12%	3	14%	3	14%	3	25%
Northeast	20	29%	14	26%	11	26%	6	27%	6	27%	3	25%
Southeast	19	28%	19	35%	15	35%	6	27%	6	27%	2	17%
South	11	16%	8	15%	7	16%	4	18%	4	18%	3	25%
Midwest	8	12%	5	9%	5	12%	3	14%	3	14%	1	8%
Total	69	100%	54	100%	43	100%	22	100%	22	100%	12	100%

Source: Prepared by the authors (2021)

Thus, it is observed that 15 universities were created after 2006, therefore, not selected for the research. Of those selected, 11 did not have IDPs in effect or had IDPs that were still under construction, and 43 met this criterion, with emphasis on the Southeast and South, with 15 of the 19, and 7 of the 11, representing approximately 80% and 64%, respectively. As for criteria C3 and C4, with the same quantity, it is explained by the fact that C4 was met by contemplating universities from all regions of the country, while it would not be met if there were no universities contemplated in criterion C3 in any of the regions. Finally, the North region stands out, as all those selected for the research adhered to it, as opposed to the Southeast and Midwest regions.

3.1.2 Subjects, data collection, data analysis, and study limitations

For data collection, a structured questionnaire was designed with open and closed questions and subdivided by analysis categories, such as: respondent's profile; management by competencies at the university; management by competencies NOT implemented; involving decree no. 5,707 of February 23, 2006; involving decree no. 9,991 of August 28, 2019 and amendments³; and additionally, questions with optional answers in order to enrich the research. In total, there were 45 questions that addressed from the availability of email contact to the desire to receive the survey results.

³ Regarding the decrees, they deal specifically with the National Policy for Personnel Development (PNDP, *Política Nacional de Desenvolvimento de Pessoal*) of the federal public administration, which was initially instituted through decree 5.707/2006. It was then revoked by the current decree 9.991/2019, which improved the PNDP. It is worth mentioning that in 1998, decree No. 2.794, instituted the National Training Policy for Federal Public Administration Servants. However, the debates about the implementation of the competency-based management model gained momentum in 2006, through the revoked decree 5,707. In this aspect, because it details issues related to the "people development" subsystem in the federal public administration, this study did not include an in-depth analysis of the decrees, since the objective here is not to analyze the PNDP, as described.

The development of this questionnaire considered the management by competencies model initially presented by Guimarães (2001) and later adapted by Brandão and Guimarães (2001) and Brandão and Bahry (2005), which presents a flow for its implementation, such as: formulation of the organization's strategy: mission, vision, objectives; definition of indicators and goals (aligned to the objectives); competencies mapping (identifying the gap between the necessary and the existing competencies); capture or development of competencies (capture: selection of external competencies, individual competencies through recruitment and selection; organizational competencies, through partnerships or alliances; development: improvement of internal competencies, development of individual competencies through learning; development of organizational competencies through investment in research); monitoring and evaluation: monitoring the execution of operational and management plans, and their indicators; and retribution: recognize, reward and remunerate (BRANDÃO; BAHRY, 2005).

In possession of the questionnaire for data collection, the direct people management directors/managers, preferably those who work directly with some action related to the management by competencies, were contacted by email according to the selection of the research universe sample to answer the electronic questionnaire made available or to grant an interview (in remote format) by a certain date. Due to the non-response of some contacts, the questionnaire was resent. Of the managers contacted, 13 accepted, but 12 responded, and 9 did not respond to the request/contact. Therefore, 54.5% of the qualified universities answered the survey, which represents 17.4% of the survey universe, as shown in Chart 4.

The data and information were analyzed after obtaining the answers, and presented in section 4, "results", of this research. The content analysis proved to be the best way to address the qualitative portion of the questionnaires, because it requires a systematic and objective analysis of the answers, in some cases with a literal description, and in others, with interpretation. In this case, it was "necessary to resort to theories" (BARDIN, 2011, p. 68) and discussion for better understanding. For this, the respondents were coded as E1 - interviewee 1, E2 - interviewee 2, and so on. The quantitative analysis was based on the application of basic descriptive statistics, especially in the closed questions of the instrument.

Table 4. Detail of the survey sample

Brazilian Federal Universities in 2021 ⁴	69
Federal Universities founded before 2006 ⁵	54
Federal Universities with IDP in effect as of March 2021	43
Federal Universities with objectives, goals, actions, or initiatives in the field of competency-based management in their IDP	22
Federal Universities contacted	22
Federal Universities that answered: <i>University of Rio Grande do Sul- UFRGS</i> <i>Federal University of Ceará- UFC</i> <i>Federal University of Pará- UFC</i> <i>Federal University of the State of Rio de Janeiro - UNIRIO</i> <i>Federal University of Santa Maria- UFSM</i>	12

⁴ Available on the Portal of the National Register of Higher Education Courses and Institutions e-MEC, <https://emec.mec.gov.br/>.

⁵ The cutout considered the year when Decree No. 5.707 of February 23, 2006, was published.

<i>Federal University of Amazonas - UFAM</i> <i>Federal University of Amazonas- UFAM</i> <i>Federal University of Health Sciences of Porto Alegre- UFCSPA</i> <i>Federal University of Rio Grande do Norte - UFRN</i> <i>Federal University of Rio Grande Do Norte - UFRN</i> <i>Federal University Foundation of Rondônia - UNIR</i> <i>Federal University of Mato Grosso do Sul- UFMS</i>	
Data collection mode	Electronic questionnaire

Source: Prepared by the authors (2021)

Finally, some limitations that can be described with respect to not deeply studying the decrees related to the PNDP on account of the objectives of this research which preponderantly aims to analyze the constitutive elements of the management by competencies aligned to people management subsystems and their stage of implementation, as well as the exclusion of universities whose creation took place after 2006, as described in the sample criteria, therefore, they may have implemented or are in the process of implementing management by competencies, which characterizes a gap for future studies.

4. Discussion and results

The research used people management subsystems adapted to the model described as a parameter. For this, capturing competencies was understood as - selecting external competencies, admitting, allocating, and integrating; developing competencies - defining development mechanisms, making available, and taking advantage of; monitoring and evaluation - monitoring and ascertaining results achieved, comparing results achieved with expected results; and retribution: recognizing and rewarding good performance, and remunerating for competencies.

This section presents the discussions and results that, in some cases, use theory to enhance the content analysis. The discussions and results were subdivided into six subsections, with emphasis on the fourth - where the implementation of management by competencies in the people management subsystems is analyzed, which resulted in the following divisions: the profile of the interviewees (4.1); management by competencies as an organizational strategy (4. 2); management by competencies implemented or being implemented (4.3); management by competencies in the people management subsystems (4.4); management by competencies model not implemented (4.5); improvements and learning (4.6); and finally, challenges faced in the implementation of the model (4.7).

4.1 Interviewee profile

The profile of the interviewees, comprised mostly by administrators (33.33%) and psychologists (33.33%), with the others distributed in other positions (33.33%), with schooling levels of specialization (33.33%), master's degree (58.33%) and doctorate degree

(8.33%), occupying a management position or gratified position (83.33%), with more than 6 years in the institution (75%) and more than 6 years in people management (75%).

The interviewees were identified by letters and linked to the institutions. All the interviewees were asked if they had knowledge and experience in the area of management by competencies, and 41.67% of them reported that they did, while 58.33% reported having knowledge of the issue, but no experience. In the same way, 58.33% of the respondents stated that they have been working with management by competencies, and 41.67% have not worked in the area. However, 91.67% of the total respondents have completed theoretical or practical specific courses, continuing education, specialization, master's degree, or doctorate in the area. What can be extracted is that the interviewees have a good level of qualification and experience in general, and in exercising managerial positions, but the experience and performance with management by competencies are still relatively low when compared to the knowledge acquired on the subject.

4.2 Management by Competencies as an organizational strategy

As discussed in the theoretical framework (2.3), for the model proposed by Guimarães *et al.* (2001), it is initially necessary to formulate the organizational strategy that, in the context of higher education institutions, especially the federal public ones, is embodied in the Institutional Development Plan - IDP, because the National System for Higher Education Evaluation (SINAES, *Sistema Nacional de Avaliação da Educação Superior*), established in April 2004 by Law 10. 681, placed the IDP as one of its main references, considered the basic document for the establishment of any criterion or evaluation process (SEGENREICH, 2005), since the referred law proposes "the mission and the institutional development plan" as the first dimension to be the object of institutional evaluation (BRASIL, 2004).

The virtuous cycle in the implementation of academic and managerial policies should be extracted, first of all, from the IDP, according to what is evaluated, not only through external evaluations and general context, but in institutional self-assessment. In this aspect, as of 2017, it became mandatory for higher education institutions to demonstrate the evolution of their institutional development through an institutional report (BRASIL, 2017). This document became a requirement with the implementation of the new instrument of external institutional assessment - reaccreditation and transformation of academic organization (MEC, 2014a, 2014b). Therefore, the IDPs of the researched institutions were analyzed in order to verify compliance with criteria C2 - Institutional Development Plan - IDP in effect; and C3 - objectives, goals, actions, or initiatives in the field of management by competencies inserted in the IDP, with institutions that complied 100% with the requirements of having such information in their IDP being participants in this research.

4.3 Management by Competences implemented or being implemented

Based on the assumption that objectives, goals, actions, or initiatives in the field of management by competencies were included in the IDP of the institutions, we sought to investigate, *a priori*, and in general, if the management by competencies model was implemented or was being implemented in these institutions. Of these, 50% of the interviewees said "yes". Those who said "no, but there was an attempt to implement it," correspond to 25% and, finally, 25% informed that "there is not, nor was there an attempt to implement" the model.

Based on the information presented, the interviewees from the institutions that stated "yes" were invited to continue in the research until the end. For those who said "no, but there was an attempt to implement it," some questions were suppressed. Despite this, an invitation was made to continue the research starting with the section "management by competencies 'not' implemented" in order to investigate the possible causes. Finally, those who said, "no and there was no attempt to implement the policy," were invited to end their participation in the research. The geographical distribution of these institutions with an implemented model or a model under implementation, the names of the interviewees, as well as the year the work started can be seen below, in Chart 5.

Chart 5. Distribution of the institutions with an implemented model or a model under implementation

Institution	UFRGS	UFC	UFPA	UFSM	UFF	UFRN
Starting year	2014	2017	2011	2016	2010	2016
Location	South	Northeast	North	South	Southeast	Northeast

Source: Prepared by the authors based on research information (2021)

The Northeast and South regions concentrate about 66.67% of the institutions with an implemented model or one under implementation, with about 33.33% in each region. The others are located in the North and Southeast regions. The results and discussions regarding the implementation stage of the competency-based management model in these institutions, distributed among the people management subsystems, are described below, starting with mapping (4.4.1); then, capturing (4.4.2); development (4.4.3); monitoring and evaluation (4.4.4); and finally, competency-based compensation (4.4.5).

4.4 Management by Competencies in the people management subsystems

This subsection was divided into five others in order to investigate the stage of implementation of management by competencies with regard to the people management subsystems. Competency mapping was also investigated and questions with optional answers in order to enrich the research were applied, whose results are analyzed and described in the following topics.

4.4.1 Competency mapping

Brandão and Bahry (2005) explain that competency mapping aims at identifying the gap or gap between the existing competencies and those necessary to achieve the organizational strategy, because it is possible to identify the necessary competencies and to list the existing ones, since those available are identified through performance assessment instruments. Furthermore, it is the basis for the actions of capturing and developing competencies, assessment, and retribution.

The survey sought to verify if the institution implemented competency mapping and which competencies were mapped. As a result, 58% of the interviewees from the researched institutions answered, with the response being considered a "non-mandatory answer," with the following geographical distribution: North (2); South (2); Northeast (2); Southeast (1). The results are presented separately, by institution and interviewees, in Chart 6.

Chart 6. Competence mapping in Brazilian federal universities

University	Mapping description and mapped competencies
UFRGS	"Institutional, managerial, teaching, research, extension and innovation, university management and technical"
UFC	"In our model, we foresee the mapping of the technical competencies and the behavioral competencies of the servers"
UFPA	"UFPA is already in its 4th mapping cycle." Our mapping is defined by two major aspects: the transversal competencies and the specific competencies. The transversal competencies are divided into three categories (administrative, personal, and managerial) while the specific competencies are divided into 16 categories with people management, information technology, education, and teaching, among others."
UFPA	"Organizational, common, managerial competencies were mapped, and specific competencies were mapped."
UFSM	"Individual, managerial, and organizational competencies were mapped."
UFAM	"In one Department. Managerial and in the position."
UNIVASF	"Competencies at Univasf have not yet been mapped, there is only a pilot project in the People Management sector."

Source: Prepared by the authors based on research information (2021)

In addition to the highlights among the responses provided, other information available in the IDPs and institutional websites were analyzed: At UFRGS, two competency mapping censuses of the institution's servers were carried out, the first in 2017, which originated a book "Knowing to Develop - Results of the 1st Servant Development Census" and another, carried out in 2019. The information of the work carried out, as well as the book in digital format, were made available in a portal specific one regarding "management by competencies". UFC is mapping competencies in the institution in a planned way, and in stages. For this a web *app* was developed with the intention of aiding the words, and made available for acknowledgment by the university and general population. UFPA makes some information available regarding the work performed, which can be found on a portal specific web portal, and has technological support through a system specific competency management system. At UFSM, among other information, it was possible to observe that the institution has been performing administrative modernization actions, which are actions seen as pertaining to management by competency. And that the actions pertaining to competence mapping are available on a specific web portal for access and knowledge of the university community and society in general; For UFF, the information corroborates what is stated in the current IDP of the institution, as it informs that the work on the mapping has been in place since 2013,

including technological support through a web system for this purpose. It was possible to observe that the institution has also systematically adopted training in the field of management by competencies focused on the servants through its school of governance and public management. At UFAM, although the mapping of competencies has only occurred in a single department, and managerial and in the position, the institution has been acting to consolidate people management at a strategic level through several strategic projects, there is a need to map competencies such as: people management policy, managerial development program and talent management. And finally, UNIVASF, despite not presenting advances regarding the issue, has a competency and interaction mapping web system (developed in 2020), meant to map knowledge and skills of researchers and of the institutions management departments.

4.4.2 Capture of competencies

Capturing competencies, which concerns admitting, applying and integrating people, gains new outlines with the competencies approach, as it moves to a level of analysis of several aspects, such as professional horizon, meaning the employees career advancement in the company; a profile that cannot simply meet a specific position, but present and future demands; choice process aiming at the adequacy for a specific trajectory; choice tools that can analyze the trajectory and evaluate professional maturity and its development; psychological contract that aims at a career progression and a commitment of the organization so that the professional can develop in this way; and finally, an internalization based on the adequate career evolution or trajectory (DUTRA, 2016). It is therefore observed that the center of the issue is no longer in simply in occupying a position, but the perspective of professional growth along with the organization.

The model described in this research is applicable in all subsystems of people management, such as job description, selection, performance, evaluation, training, and development. Competency-based selection, on the other hand, occurs through procedures to measure and evaluate the knowledge, experience, and skills of job candidates. In the private sphere, there can be up to twenty steps for candidate selection, which reaches everything from the need to fill a vacancy to the integration of the approved candidate (ALLES, 2016). This is not the case in the public sphere, in which the steps are reduced to the vacancy and the need to fill the vacant position, recruitment, selection through public competition, and admission (appointment and tenure) of the server.

In this context, the description of the positions, with attributions and competencies required for the development of the tasks in the public service is found in the legal framework through constitutional, legal, and infra-legal norms that, in general rules, is found in the Federal Constitution of 1988, which, in its article 37, item II, addresses the requirement of public competition tests, or undergoing testing and presenting certifications for entry into public service, and law 8.112 of 1990, in its title II, and decree 9.739 of 2019 that establishes, among others, rules on public competitions. As for Brazilian federal universities, there are

some specific regulations, such as law 11.091 of 2005, which structures the career plan for technical-administrative positions in education, and law 12.772 of 2012, which structures the career plan and positions of federal teachers (BRASIL, 1988, 1990, 2005, 2019a).

It is important to observe that this legal support as to the selection of people directs to a fixed requirement of, at least, undergoing tests or undergoing tests and presenting certifications, but there is no obstacle as to the adding other stages for the selection by competencies, such as, for example, the completion of training course, as has been known to happen in some public institutions, such as the Central Bank of Brazil, Regulatory Agencies, National Council for Scientific and Technological Development (CNPq, *Conselho Nacional de Desenvolvimento Científico e Tecnológico*), among others, which follow the same general legal rules of the federal public universities (PIRES *et al.*, 2005).

As for the research involving this subsystem, the results pointed out that 100% of the surveyed institutions, and that stated that the management by competencies is implemented or under implementation, have initiated the implementation of this subsystem, capturing competencies, however, it is not possible to verify the progress or the completion of this implementation process. It can be said that it is a stage in progress, where it is not yet possible to measure whether it is more advanced in one institution or another.

4.4.3 Development of competencies

The purpose of this subsystem is to define mechanisms for the development, availability, and use of existing competencies in the institution, meaning the dimensions known as knowledge, skills, and attitude. These competence dimensions can be developed both individually and collectively through the assimilation of knowledge, skill integration and adoption of attitudes, simultaneously, for a high performance in the work context, either specifically or generally. It can occur in an "[...] individual and collective way simultaneously involving the three dimensions, meaning through the assimilation of knowledge, skill integration and adoption of attitudes relevant to a specific organizational context or to the achievement of high performance at work[...]" (GUIMARÃES, 2000, p. 132).

The development of these competencies in the Brazilian public administration was introduced by decree 5.707, of February 23, 2006, when it instituted the policy and guidelines for the development of the direct federal public administration, autarchic and foundational personnel, with a view to the training of servants in general, being revoked in 2019 by means of decree 9.991, which restructured this policy by presenting, not only the training, but also the conditions for the development of human capabilities or dimensions of competence, namely: knowledge, skills, and attitudes - KSA, and new changes were introduced by decree 10.506 of October 2, 2020, provide, among other issues, for licenses and leaves for development actions (BRASIL, 2019b).

In this context, the results for this subsystem show that all universities are already implementing it, since about 67% of them have started but not yet concluded implementation. The others, UFRGS and UFPA, have concluded the process. For these cases, the interviewees attribute the reasons for this advance to the flexibility for its implementation, according to (E1, 2021), to the fact that information collection for the activities is conducted by those involved in the process and supported by the training board (E3, 2021). And finally, according to E5 (2021), although the process has not been completed, the basis for progress in the implementation of this subsystem is the mapping of competencies.

Thus, it is observed, *a priori*, that among the subsystems with a more advanced implementation stage is the development of competencies that in addition to what was exposed by the interviewees, there are legal regulations that guide for its implementation.

4.4.4 Monitoring and assessing competencies

This subsystem proposes to monitor and ascertain the results achieved, comparing them with those expected based on the competencies. This way, gaps will be identified to design actions for the development of employees (PIRES, *et al.* 2005). In this sense, performance evaluation is used to promote the quality of public service and subsidize the actions of training, career or position development, remuneration and movement of personnel (BRASIL, 2008).

Similar to other subsystems, there are several legal norms that address performance evaluation in the public service. In the general scope of public administration, law 11.784, of September 22, 2008, establishes a direct federal public administration public servant performance evaluation, and decree 7.133, of March 19, 2010, regulates, among others, the criteria, and general procedures to be observed for the performance evaluations of individual and institutional performance (BRASIL, 2008, 2010).

As for the federal universities, in general, there is the law 10.681, of April 14, 2004, which establishes the national system for the evaluation of higher education, ordinance of the Ministry of Education No. 92 of 2014 regarding the indicators of external institutional assessment instrument for the acts of accreditation, reaccreditation and transformation of academic organization, in person assessment, and joint technical note No. 62 of 2014 that addresses the institutional report, with a summary of what was done based on the observations prepared based on internal and external assessments, and in particular, by the plans of positions and careers (BRASIL, 2004, 2014a, 2014b).

In this context, the results, from the information collected through the interviewees of the institutions that took part in this research and analyzed by the authors, show that 50% of them have not started implementing the monitoring and evaluating competencies subsystem (E1; E5; E6, 2021).

The remaining institutions are in the implementation phase (E2; E3; E10, 2021). Some reasons why only half of them have started the implementation process lie in the difficulty of connecting the competency-based management model to performance evaluation (E1, 2021), and the absence of a fully functioning computerized system for competency-based evaluation and, consequently, the impossibility of implementing competency-based development (E6, 2021).

4.4.5 Competency-based compensation

Within the competency-based approach, this subsystem concerns recognizing, rewarding good performance, and remunerating. In public service in general, and particularly in federal universities, the most important variable is the length of service, which is also where the greatest salary variation occurs and does not consider the sharing of knowledge, deliveries, or results (PIRES et al., 2005). However, there are incentives for the qualification of servants, both for administrative technicians (BRASIL, 2006b, 2011), and for teachers (BRASIL, 2008, 2012) of the institutions, structured in their specific career plans. However, there is an inflexibility about other ways to reward good performance because, besides the general regulations for public administration (BRASIL, 1988, 1990), there is also a lack of objectivity and vision of the future for the improvement of public organizations, since the performance evaluation in the competency approach must consider the results delivered, whereas today we use positions of trust and gratified positions (DAS, FCC, FG)⁶ as an increase in remuneration, but this relationship of trust should have less weight compared to the appropriate skills for the position in the adoption of the management by competencies model (PIRES, *et al.* 2005). It is noteworthy, however, that for some institutions there are regulations on performance bonuses (BRASIL, 2010).

In this context, the results from the information collected and analyzed by the interviewees of the institutions participating in this research, show that 50% of them have not started implementing the competency-based compensation subsystem [E2, E5, E6]. The other institutions have been trying to implement it [E1, E3, and E10], however, they have difficulties when faced with the inflexibility proposed by the legal regulations. E1 (2021) said that, for the competency-based approach, there is difficulty in "(...) connecting to retribution, which in public service needs strategies that do not consider financial possibilities but rather valorization and recognition in other ways."

It can therefore be observed that, just like in the monitoring and evaluation subsystem, there are obstacles in the retribution subsystem that need to be overcome. While the former is among the subsystems with the least advanced stage in its implementation, according to the interviewees, although 50% of them have started implementing the model, the institutions encounter barriers as to the financial issues or other forms of valorization and recognition.

⁶ DAS - Superior Board and Advising; FCC - Course Coordination Role; FG - Gratified Position.

The subsystem with the most advanced stage of implementation is the development of people with about 33% of institutions revealing an implemented system, and about 67% with the system under implementation. Next is the capturing of competencies, with 100% of institutions stating it has been implemented. And finally, monitoring and evaluation and reward are being implemented in 50% of the surveyed universities, respectively.

About 67% of the interviewees inform that there are subsystems at a more advanced implementation stage, with 75% of them pointing to the development, at UFRGS, UFPA and UFSC, and 25% to the capturing of competencies, at UFF, in the context of allocation or assignment of public servants and follow-up and evaluation. As for the reasons why, these subsystems are in a more advanced stage, according to E1 (2021), competence development is more flexible for implementation. E3 (2021) attributes it to "collecting information", which is performed by the people involved in the process and by the training board. While E5(2021) attributes the reasons to the mapping of common and managerial competencies performed:

The training/development subsystem is in a more advanced state because it could be executed from the mapping of common and managerial competencies (the ones we have mapped in our institution, so far). As for the others, the allocation of personnel and individual performance evaluation depend on the mapping of specific competencies, whose mapping is in progress, because it requires more time for completion (E5, 2021).

This shows that the information brought by E5, translates the position in the literature and in the model presented in this research in a practical way. It shows that the mapping of competencies is one of the pillars of the management by competencies' implementation processes, as well as the basis for actions in the other subsystems of people management.

Finally, E6 (2021) said that "capturing by competencies, as well as placement or allocation, do not need a computerized system for their implementation, while for the full operation of the performance evaluation a computerized system is required."

4.5 Competency Management Model that was not implemented

As for the model that was not implemented, but was attempted, we sought to investigate the possible causes, such as: whether there were sufficient resources allocated, which resources were missing, in which subsystems the institution tried to perform the implementation, which difficulties were encountered, and the lessons learned from this process.

Regarding resources for implementation, about 33% stated that there was no human, technological, and financial resources allocated, and 67% stated there were resources, but they were not enough. Of the institutions that had allocated resources, 50% of those interviewed highlighted their insufficiency. E9 (2021) comments that a "commission was formed to analyze the best methodology for implementation, but there were not enough human resources to continue the commission's work".

As for the people management subsystems, it was verified that none of the institutions began the implementation of the monitoring and evaluation subsystem or the compensation subsystem. About 67% of the institutions started with the capturing and development subsystems but did not continue them. And finally, about 33% of them did not start any implementation process. This scenario represents the six institutions of the twelve surveyed, more specifically, UNIRIO, UFAM, UFCSPA, UNIVASF, UNIR and UFMS.

The last two questions were open questions and brought elements that indicate that the main lessons learned during the implementation process point to planning issues, where it would be necessary to foresee resources to implement the model, to foresee the reallocation of at least one person to dedicate themselves exclusively to the project, and to study experiences in other federal higher education institutions.

4.6 Improvements and lessons learned

As for the improvements perceived with the implementation of competency-based management in those subsystems at a more advanced stage, it was almost unanimous that greater alignment is perceived between of people's development actions based on competencies with the institutions' strategies. In this aspect, it is perceived the systemic view of processes, the mapping of internal talents, more clarity of the workflows performed by servants, in addition to obtaining positive feedback from servants regarding improvements in the performance of activities when there is a better fit of their profiles to the role performed, consolidating, therefore, the practices aimed at competency-based management (E1; E3; E5; E6, 2021). They also include improvements in the "assertiveness in the development and allocation actions observed in the results of the performance evaluation" (E10, 2021).

As for the lessons learned, the interviewees explained that implementing competency-based management "is a project that requires a lot of institutional effort but tends to create a very important synergy in the area of people management and a strategic view to its performance, even if not implemented in 100% of the sub-processes provided in the literature" (E1, 2021). The "integration of the people management subsystems, systemic view of the institution, getting to know the public servants better" (E2, 2021).

Furthermore, several improvement actions are necessary and serve as lessons learned for the institutions, such as: "(...) the engagement of senior management and qualified people who understand the process of management by competencies works are necessary" (E3,2021); that "(...) ideally there would be an exclusive department to address the subject with the Dean's Office. (...) everyone needs to know the theme and seek ways to integrate it into their daily processes" (E5, 2021); and the "(...) the existence of a qualified team that remains updated on the concepts is fundamental. It is important to make the whole community aware of the paradigm change" (E6, 2021). Finally, E10 (2021) states that the

lesson that remains is "the technical knowledge acquired to carry out the mapping of competencies."

Therefore, what is extracted is that there are not only several improvements for institutions, which implement the competency-based management model, but especially great learning for people management, especially when performed strategically in a way to ensure the alignment of its performance with the organizational strategy.

4.7 Challenges faced in implementing the model

In the institutions where the model has been implemented or is being implemented, difficulties were pointed out in terms of connecting it to the capture and reward by competencies due to the legal framework related to people management in the civil service, as well as strategies that contemplate other forms of valorization and recognition other than financial. And to monitoring and evaluation, highlighting the proposals for a unified performance evaluation system by the federal government. In this context, it is also important to highlight that "because it is a management model that travels through several subsystems, it is something complex and requires long-term investment" (E2, 2021).

The need for people, and people with knowledge about the model, especially for the initial stage, of mapping competencies; of changes in processes and organizational culture; in addition to a computerized system was also highlighted, by most of those interviewed. In addition, other issues were raised, such as: "(...) the fact that, in the IFE⁷, there are no servants to work exclusively with the subject (...), the diversity in the organizational structure, (...) the organizational culture itself (...) resistance on the part of servants(...)" (E5, 2021)].

There were comments regarding the need for and importance of the engagement of senior management (E3, 2021) and the staff, for "everyone needs to know the theme and seek ways to integrate it in their daily processes" (E5, 2021), reinforcing the importance of "making the entire community aware of the paradigm change" (2021, E6).

In the institutions where the model was not implemented, but an attempt was made, difficulties were pointed out involving lack of support from top management, either in the insufficient allocation of human, financial, and technological resources or by not creating teams with more time to dedicate to dealing with the theme.

5. Conclusion

⁷Federal Educational Institution

The model proposed by Guimarães (2001) allowed the connection between the implementation process of the competency-based management model and the people management subsystems, which enabled a detailed analysis of the impacts of the legal context of federal universities in each of the stages of the process. The cutouts in the studied universe, based on the premise that it is not possible to carry out the implementation of the management by competencies model without having a defined strategic plan, showed that placing the actions that direct towards the implementation of management by competencies in the IDP is not enough to ensure that the goal is achieved, but it is the first step.

The results obtained corroborate this view, where managerial, cultural, and technical problems were addressed, such as lack of sufficient resources to implement the model, lack of engagement of senior management, lack of a qualified and dedicated team, and, culture, it was pointed out that for the implementation it would be ideal if everyone in the institution knew and inserted the competency-based approach into their routines.

Besides the issues already mentioned, which deal with the internal environment, the challenges caused by the external environment which, in the case of federal universities, is also composed of the legislation, can also be noticed. It was observed that only the competency development subsystem was pointed out by the interviewees as implemented, this being the only one that has specific regulation in the legal context directing to the management by competencies, supported by decree 9.991, of 2019, and its predecessor 5.707, of 2006, which does not cause surprise, since legal and administrative security is an important point of attention for public administrators, which justifies the fact that the only subsystem at an advanced stage of implementation is the one that has this regulation. In this aspect, it was possible to observe that in the institutions that were implementing the system, the results show that about 67% of them have started implementing the competence-based development subsystem, while the others have already implemented it. For the other subsystems, 50% of them have not started implementing monitoring and evaluation, and the others are in the implementation phase; 50% of them have not started implementing the compensation subsystem, and the others have been trying to implement it, however, they have difficulties when facing the inflexibility proposed by the legal regulations.

In the context of the institutions that have tried to implement the model, without success, 100% of them have not started in the monitoring and evaluation subsystems, nor in the compensation subsystem, however, and about 67% have started in the attraction and development subsystems.

It is noteworthy that in this research, due to the intentional cutouts performed, where information was sought from 31.9% of Brazilian federal universities that met all the methodological criteria, from this sample responses were received from 54.5%, representing 17.4% of the total of Brazilian federal universities, among them, the period of creation may not portray the reality of some institutions with a more recent foundation date, but it presents a considerable overview since the cuts were performed based on a proposed model for the management by competencies. Moreover, it does not imply that the institutions where there were no mentions of the implementation of the competency-based management model in the

IDP do not have any initiative in this direction. The fact is that to comply with the proposed model, it must, first of all, be included as a strategy of the institution in the IDP, and the mapping of competencies is essential in this process because it depends on strategic planning. Regarding this, it was possible to observe that 58% of the surveyed institutions have done or are mapping competence, meaning that, considering that 25% have not tried to implement it, we have only 17% that are in the process and have not yet performed this step.

In the general context of this research, it was observed that, although there are centennial universities among the 69 listed, only 22 of them have management by competencies listed in their IDPs. Furthermore, of the 12 universities surveyed, none has fully implemented this action. This is a reflection of the context in which university professionals are inserted, which is quite complex (a complexity further increased by the covid-19 pandemic and the contingencies in university budgets) and, what is revealed is that it is not enough to have the competencies for their main activity, training, in the strict sense, it is necessary to go beyond, to resize them to meet the current scenario.

The profile of these professionals is heterogeneous, with some similarities, but also with several singularities. And the deliveries require competencies that must be in constant development because in a performance society there is a requirement to deliver more than what is expected. Therefore, it was also evident that the impacts caused in the private initiative by the competency-based management model do not compare with those of the public sector, especially in universities, because there have been attempts to implement this model since the last century and, as of 2006, there have been no successful attempts registered federal public universities. Perhaps because its essence is training, passing through the social context, which is the expression of the society's structure and how it works, it should be public and secular, have autonomy of knowledge, and that is where democracy and democratization of knowledge are inseparable, but that this institution, differentiated and autonomous, is only possible in a democratic and republican state, as defended by Chaui (2003), and not as an organizational architecture in which workers are forced to transform the student into a client, and the teacher to be a mere provider of services, with their performance being evaluated for such, subtracting its essence, and that the logic of control through academic production and a ranking of those with higher productivity that, therefore, reflection, training and intellectual development of students are visualized in a table of numbers, as already criticized Alcadipani (2011).

Thus, university management in general is carried out by people (workers) who are part of a larger social system that transforms resources into services for society. And in particular, regarding the Brazilian management model, it is impossible to overlook the fact that this transformation process permeates teaching, research, and extension with the main objective of training current and future students so that the research and development of society are perpetuated.

Therefore, the competence-based approach is consistent with organizational and functional flexibility. Thus, it corroborates the idea that it "[...] can be an entrepreneurial model of management for public organizations" (GUIMARÃES, 2000, p. 138). However, this

model in public administration implies a major transformation in the social and cultural context concerning behavior change, because even if the technical and organizational dimensions are prepared, it will be doomed to failure if the managerial and cultural perspectives resist this change. This is what is perceived by the essence of universities, which belong to the Public Administration, and that should observe, among others, the principles of efficiency and legality, and it seems convenient to us to point out some gaps and affirm that they will be in an eternal paradox of discourse against the practice. The competency-based management model demands flexibility, but the law demands control; it demands innovation and creativity but seeking to do more with less seems to go against the focus on results. The more downsizing practices are implemented, the greater the demands for new competencies and higher levels of complexity. In other words, we do not see control or flexibility, but an eternal attempt at simultaneity.

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