SISTEMAS DE BIBLIOTECAS:
UMA ANÁLISE A PARTIR DE SEUS REGIMENTOS

LIBRARY SYSTEMS:
AN ANALYSIS FROM REGIMENTS

SISTEMAS DE BIBLIOTECA:
UN ANÁLISIS DE LOS REGIMIENTOS

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RESUMO: Bibliotecas de Instituições de Ensino Superior (IES), em sua grande maioria, estão organizadas estruturalmente como "Sistema de Bibliotecas" (SIBIs). Neste artigo apresenta-se reflexões sobre a visão sistêmica de SIBIs sustentando-se nos referenciais teóricos de Bertalanffy e de Maturana e Varela. Com o objetivo de analisar as semelhanças e diferenças entre estruturas organizacionais de SIBIs, dentro de uma abordagem qualitativa, realizou-se uma pesquisa documental composta de 15 regimentos de SIBIs (disponíveis na *web*) pertencentes a instituições de ensino que oferecem cursos de nível superior, abrangendo universidades federais, estaduais e institutos federais. Para tanto, utilizou-se os seguintes critérios de seleção: a) 33% de regimentos com data de aprovação anterior a 2000; b) 33% com aprovação entre 2001 e 2010; c) 33% com aprovação entre 2011 e 2016. Os resultados apontam que os sistemas mantêm uma organização estrutural verticalizada, porém, existem indicativos de uma tendência a estruturações em SIBIs com menor centralização de serviços e de poder decisório. Por fim, recomenda-se novos estudos que aprofundem a discussão, pois é mister que se busque o repensar de novas estruturas organizacionais que facilitem o desenvolvimento de uma gestão mais inovadora e criativa.

PALAVRAS CHAVE: Biblioteca universitária. Sistema. Administração de biblioteca.

ABSTRACT: Most of the Libraries of Higher Education Institutions are structurally organized as "Library Systems". This article presents reflections on systemic vision of "Library Systems", based on the theoretical support frames of Bertalanffy, Maturana and Varela. In order to analyze the similarities and differences between organizational structures "Library Systems" within a qualitative approach, there was a documentary research composed of 15 regiments SIBIs (available online) belonging to educational institutions offering higher education courses, including universities federal, state and federal institutes. Therefore, the following criteria were used: a) 33% regiments approved before 2000; b) 33% approved between 2001 and 2010; c) 33% approved between 2011 and 2016. The results show that the systems maintain a vertical organizational structure; however, there is evidence of a tendency to restructurings in SIBIs with less centralization of services and decision-making power. Finally, it is recommended further studies to deepen the debate, it is necessary to seek new organizational structures or rethink it in order to facilitate the development of a more innovative and creative management.

KEYWORDS: Academic library. System. Library administration.

RESUMEN: La mayoría de las Bibliotecas de Instituciones de Educación Superior (IES) se organizan estructuralmente como "Sistema de Bibliotecas" (SIBIs). Este artículo presenta reflexiones sobre la visión sistémica del SIBIs, apoyándose sostener en los marcos teóricos de Bertalanffy, Maturana y Varela. Con el fin de analizar las similitudes y diferencias entre las estructuras organizativas del SIBIs dentro de un enfoque cualitativo, hubo una investigación documental compuesto por 15 regimientos SIBIs (disponible en la web) que pertenecen a instituciones educativas que ofrecen cursos de educación superior, incluyendo universidades federales, estatales e institutos federales. Por lo tanto, se utilizaron los siguientes criterios de selección: a) 33% regimientos con fecha de aprobación antes del 2000; b) 33% con aprobación entre 2001 y 2010; c) 33% con aprobación entre 2011 y 2016. Los resultados muestran que los sistemas mantienen una estructura organizativa vertical, sin embargo, hay indicios de una tendencia a estructuraciones en SIBIs con menor centralización de los servicios y el poder de toma de decisiones. Por último, se recomienda realizar nuevos estudios para profundizar el debate, pues es necesario que se busquen o se replanteen nuevas estructuras organizativas para facilitar el desarrollo de una gestión más innovadora y creativa.

PALABRAS CLAVE: Biblioteca universitaria. Sistema. Administración de biblioteca

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1 INTRODUCTION

The way an organization is structured reveals traits under which principles it underlies. Institutions that offer higher education courses, such as universities, colleges and institutions of the Federal Network of Professional Scientific and Technological Education (RFEPCT) have one or more libraries in their structure. Its primary functions include the promotion of access and use of registered information as well as the production of new knowledge, meeting the institutional needs of teaching, research, extension, management and innovation. In order for the libraries of each institution to achieve their purposes with the desired quality, it is relevant that they seek to organize themselves through structures that enable the development of their work in an integrated way.

The complexity of the universe of administrative management of Libraries, whether classified as public, university, specialized or community libraries, etc., can be understood from a systemic perspective. In the national literature, the first writings found that encourage reflection on the importance of the realization of integrative and cooperative actions were written by Hamar in 1967.

At that time, the macro-environmental context impacted the libraries. Influences of educational policies for the restructuring of Brazilian universities (BRASIL, 1968) benefit that libraries should be strengthened institutionally and could begin to see new organizational structures that would allow the integration of libraries in each institution.

Different organizational structures have been idealized and implemented over the last five decades, having as theoretical support the systemic vision. Studies such as those by Ferreira (1980) and Mercadante (1990) are important references of this movement of conception of "Library Systems" in universities, as well as the work of Becker and Faqueti (2016), which maps the types of organizational structure in libraries of RFEPCT.

Considering the walk experienced by the libraries of federal, state and RFEPCT universities, it is asked: a) the organizational structures of SIBIs have undergone changes throughout the decades? b) which are the similarities and differences between existing systems?

Based on these questions, this qualitative descriptive study on a documentary basis was aimed at analyzing the structures of SIBIs belonging to educational institutions offering higher education courses in Brazil. From its regiments, it was possible to identify similarities and differences between the implanted SIBI models and map changes that have occurred over the decades.

2 SYSTEMIC VISION

The systemic vision emerged in the twentieth century, within a context in which science pointed out discoveries in several areas of knowledge that destabilized current theories. Among them, we can mention the advances in the area of Physics, such as Einstein's Theory of Relativity. It marked the beginning of a new paradigm, in which the age of certainties and linear thinking opens space for an understanding of the universe from the uncertain, with multiple probabilities and possibilities.

In this sense, the biologist Ludwig von Bertalanffy (c1969) was the first scholar to formalize a theory, in the 1950s, called "General Theory of Systems" (GTS). In conceiving this theory, constructed from his studies related to Biology, the author reacted against the reductionism present in the mechanistic approach of scientific studies and tried to rescue the unity of science. According to Alves (2012, p. 162):

> The General Theory of Systems is the science of wholeness, of totality. It studies the system, its environment, its respective structures, the border that separates it from the environment, and, finally, the structural-environmental coupling, regardless of the area of knowledge involved. This is what is known as the Systemic Vision

In order to understand the principles of systemic vision, it is necessary to enter into the conceptualization of System. Alves (2012, p.96), a student of Bertalanffy's precepts, uses the following definition: "A system is a mental construction of an organization containing a collection of interrelated objects in a given structure, making a whole (a unit) With some functionality, that identifies it as such." According to the author, this definition fits into a weak perspective, that is, it may contemplate a greater number of objects.

This type of more open definition is recommended in interdisciplinary contexts. Its reading allows identifying the three elements that make up a system: an organization, a set of objects (components) and a structure. Maturana, (2001), from his studies on the "Biology of Knowing", also within the field of Biology, understands that Organization refers to the relationships that happen between the components, and Structure is the set formed by the components and their relationships. For him, a system is determined by its structure, and it undergoes changes through its interactions with the environment; however, what determines the creation or death of a system is its organization:

> The organization is necessarily an invariant. If the organization defines the class identity of a composite unit or system, when the moment changes the organization, the class identity changes - the system becomes something else. [...] If someone cuts this table in half, it says: "I no longer have a table." What's gotten lost? The organization. so the organization is lost if there are structural changes in which it is not conserved. (MATURANA, 2001, p.77. Our translation)

A System is always an abstraction of an observer, a mental construct, which, faced with a given contextual reality, manages to focus on an object and to perceive it as a system.

In order to obtain clearly on the concept of systems, the book is used as a representative metaphor of a system. Thus, it begins with a definition available in the Houaiss Portuguese Dictionary, in which the book is a "collection of sheets of paper, whether printed or not, cut, folded and assembled in notebooks whose backs are joined by means of glue, sewing, etc., forming a volume that recovers with resistant cover "(HOUAISS; VILLAR; FRANCO, 2009, p.1190). One can thus observe that books have some structural elements such as paper, glue or stitching, a cover, etc., but these elements alone do not characterize the book. They need to be organized in a specific way, so they can become a book.

Going back to the concept of system, it turns out that every system has functionality. What would be the functionality of a book? Its main function is to act as a support for recording data and information. This is its basic purpose. The information contents registered in it are intended for the most different purposes, but all contain data and information.

In the history of the book, one can check that its structure is changing as the means changes, and here one can understand one of the principles of the system - its capacity for conservation and adaptation to the environment. The concept of **Structural Coupling,** created by Maturana (2001), clearly exposes the interdependence of a system with its environment: "I call this historical dynamics of coherent structural changes of the organism and the environment, as well as its condition of dynamic congruence, S*tructural Coupling* (MATURANA. 2001, p.185) It is a question of adapting a system to its environment. The environment produces disturbances that can drive internal changes to a system. Although it has been created from studies of biology, the concept applies to different areas of knowledge, as in the social sciences.

Therefore, the book, sometimes understood as a system, interferes in the environment and suffers its interference. Its history is intertwined with technological advances. As new technologies emerge and enable differentiated forms of information registration, the book also undergoes modifications in its structure. Initially, the writings were engraved on boards of clay, wood, among others. Then emerge the papyrus (which originated the term Paper). With the rise of the paper created by the Chinese, and later with the advent of the press in the XVI century, the book gained strength and its use expanded exponentially in society. In the XX century, another great innovation happened, and that made possible the appearance of the book in the digital version.

Despite all these adaptations suffered by the book as a result of disturbances in the environment (technological advances), it has survived over the years. Its structure has changed, however, the organization-end for which it was created remained.

This explanation of the functioning of a system using the book as a metaphor brought together concepts of Bertalanffy (c1969) and Maturana and Varela (2001), but it is necessary to clarify that there is a marked difference, and that cannot be identified in the history of the book, which is the notion of a system as an open and closed organization.

For Bertalanffy (c1969), the system is a structured open unit and permeable to external influences. This means that it interacts with the surrounding environment, with which it exchanges information and thereby avoids entropy.

For Maturana and Varela (2001), the systems are closed because, according to their studies with living beings, the authors prove that the processes of self-renewal occur within the system. This is not to say that it does not suffer external disturbances, but that the responsibility for the change takes place within it:

> Living systems are molecular autopoiesis systems. As molecular systems, living systems are open to the flow of matter and energy. As autopoiesis systems, living systems are closed, they are systems in their state dynamics, in the sense that they are alive only as long as all their structural changes are structural changes that retain their autopoiesis. That is, a living system dies when its autopoiesis ceases to be conserved through its structural changes. (MATURANA, 2001, p.175. Our translation).

The above quote demonstrates that Maturana and Varela do not deny the existence of energy and matter flows between the living being and the environment, but what the authors point out is the fact that the process of change occurs within the system and not from outside to inside. Environmental disturbances are contingent on the process of internal changes.

The autopoiesis system view was absorbed by Luhmann (1998) in his studies of social organizations.

Morin (2006, p.87) also corroborates this autopoiesis notion applied to complex organizations, when it states that "As a living organism, the company organizes itself and does its own production. At the same time, it does self-eco-organization and self-eco-production.

3 LIBRARIES AS A SYSTEM

Book and library have their stories intrinsically related, after all, libraries were originally created to gather, organize and enable access to information contained in books. Over the years, other sources of recorded information have now incorporated library collections, such as periodicals, audio-visual materials, multimedia (CD-ROMs, videos, maps, etc.) and digital sources.

Following the reflection on systems, one can also identify the library as a system. This system has a collection of components, an organization and a structure with a specific purpose, which differentiates it, for example, from a bookstore, which has a similar structure and organization, but for different purposes. Using Ranganathan's words (2009, p. 263 (1931), written in 1931: "[the library is] an instrument of universal education, which collects and disseminates freely all the teaching resources and disseminates the knowledge [...] ".

The literature on the organizational management of university libraries, primarily considers them as an open system, having as basic justification the interactions they make with the external environment (OLIVEIRA, 2002). The macro-environment has an influence on the organization, but it cannot be disregarded that the inverse also happens, that is, libraries also have the power to influence their environment. To this disturbing and adaptive process between system and medium was denominated by Maturana (2001), of structural coupling, according to concept explained in the previous section.

The metaphorical relationship of the library as an organism was suggested by Ranganathan. Professor of Mathematics and a Librarian. He created the five laws for libraries, and the fifth and last law says that: the library is a *growing organism*. (RANGANATHAN, 2009), "This last precept, like the others, retains a high level of updating and adaptation to the information society, knowledge society or learning society" (TARGINO, 2010, p 123) and instigates the visualization of a lively and pulsating library (RIZZI, 2016).

Anchored in this fifth law of Ranganathan (2009) the perspective of analyzing the library as an organic system is glimpsed. Recalling that organic systems, for Maturana and Varela (2001), are autopoietic, that is, have the capacity to self-renew.

In this sense, a library or a library system can be understood as an autopoiesis system, because those who effectively implement their changes are the people who make up the system. The effectiveness of transformations occurs through their internal interactions (individual, group, organization), which process the changes aiming at their adaptation and conservation, without losing their organization-end.

It is understood, therefore, that the libraries are in continuous process of learning and renovation. Crossan, Lane and White (1999), exponents in the area of Organizational Learning, affirm that the learning process occurs in three levels: individual, group and organizational. The starting point for a process of renewal, change or innovation is always the individual, but the authors emphasize that individual development does not guarantee the development of the organization, unless there are conditions for a collective learning.

In the international literature, the explicit application of the concept of system and its aptitude for library science was presented by Kluth (1976) as a result of his investigations,

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especially the practical value that the concept can have in working with the mentality of systems in the context of librarianship.

> [...] it seems to me essential to think of systems, as a whole, not in particles or parcels. The question of discipline, particularism, dualism, fragmentation, must be overcome in librarianship: it must be seen as a whole, as a system of systems and subsystems with the corresponding ones to build functional relations [...]. (KLUTH[1], 1976 apud NAUMANN, 2007. Our translation).

3.1 Library systems in IES

Brazilian academic libraries began a period of expansion in the late 60s, driven by university reform, which created several universities from the junction of faculties (NUNES, CARVALHO, 2016).

At the same time, discussions about the importance of library interaction in the context of libraries are also beginning to emerge. In discussing the development of university libraries, Professor Hamar (1967) considered that the organization of these libraries was done in an isolated and heterogeneous way, unrelated to programs that tended towards integration and the creation of collaborative links. Hamar (1967), during this period, he already saw the importance of cooperation between libraries, but noted that the expansion of university libraries continued to ignore trends towards a systematic integration.

In the 70s and 80s, the literature on library management began to foster the adoption of a systemic perspective. Lima (1978) states that the planning of a library should be systemic, considering the environment to which it belongs. Ferreira (1980) bases his research on models of organization of university libraries based on authors like Parsons, stating that "[...] the entire organization must be studied as a system with all the properties essential to any social system, And also as subsystem of a larger social system "(PARSONS[2], 1980 apud FERREIRA, 1980, p.16).

Ferreira (1980) clarifies that, when giving a systemic approach to the context of libraries, it should be considered that it is one of the fundamental subsystems of universities that it cannot be forgotten. There is a feedback process between university and library: "As the university pursues better standards of teaching and research, it feels pressured to give libraries better conditions to function effectively; and these, in turn, functioning properly, give better support to the educational programs of the university itself. (FERREIRA, 1980, p.9).

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[1] KLUTH, R. Theoretische Grundlagen der Bibliothekssysteme. In: Bibliothek und Buch in Geschichte und Gegenwart. Festgabe für Friedrich Adolf Schmidt-Künsemüller zum 65. Geburtstag am 30. Dez. 1975. - München: Verlag Dokumentation, 1976. p. 161.

[2] PARSONS, T. Sugestões para um tratado sociológico da teoria da organização. In: ETZIONI, A. (Org) **Organizações complexas**. São Paulo: Atlas, 1967

Checking this same line of thought, Tarapanoff (1982) explores in detail the view of the library as an open system and concludes that this system is in constant interaction with its environment (both external and internal), but has no autonomy and it is dependent on the university.

In the 80s, another important milestone that favored the expansion of libraries and the valuation of structured libraries in the form of a system, whether through the adoption of centralized or decentralized models, was the development of postgraduate courses.

A Library System at that time was conceived as:

> [...] a set of libraries that was willing to obey a common plan, aiming at a specific purpose or objective, maintaining regular interaction, inter-depending with each other to maintain the system. Each of them can have its own structure, properties and relations, but, as long as they are constituted in a system, they begin to interact within norms established by the common plan, under the coordination of an accepted unit as a head of the system. (MARTINS, 1980).

The above concept denotes a hierarchical relationship between parties, with strong top-down power traits when using the terms "obey" and "an accepted unit as the head of the system."

Cunha and Cavalcanti (2008) already present a more general conceptualization. For the authors, a library system is a "[...] set of libraries, belonging or not to the same institution and which are interconnected by common goals". This concept is more open, allowing its use in the context of forming systems in a network of libraries, from an inter-organizational perspective.

Rescuing the systems concept presented by Alves (2012), one can see its applicability to the context of Library Systems, offering the bases for its re-conceptualization. Thus, we suggest the following concept for a Libraries System: "Libraries System is an organization composed of a set of libraries or departments, interrelated in a given structure, composing a unit with common objectives that identify it as such ".

When thinking about the systemic view of Library Systems in educational institutions, it is important to understand that it belongs to a super system and contemplates, in its internal structure, the subsystems, as shown in figure 1.
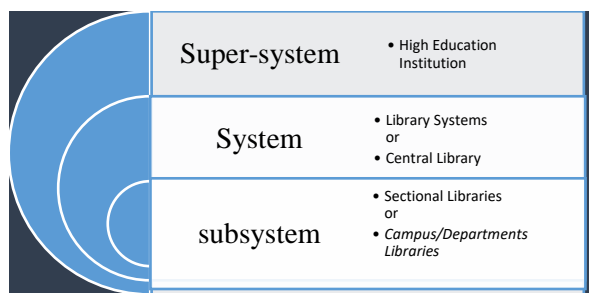
FIGURE 1 - Levels of systems involving libraries
Source: Prepared by the authors based on Tarapanoff (1982).

The national literature from 2000 also discusses "Library Systems" (CARVALHO, GOULART, 2004, PRADO, ABREU, 2006) and presents reports on the implantation of Library Systems (CAMURÇA; ARAUJO; MORAES, 2013); however, the view from the point of view of open organization remains emphatic.

In the last decade, studies in the area began to appear in the national literature, based on other authors, such as Carvalho (2012), who uses the theory of Luhmann (1998), built on the basis of autopoiesis vision. The studies on management of IES libraries that deal with knowledge management also recognize the University Library (UL) as a complex system. In this line of thinking we can cite the work of Bem (2015), in which the author, in her PhD, presents the proposal of a *framework* for Knowledge Management from the understanding of UL as a "Complex Adaptive System". Another work is of Sales (2015), which proposes the management of the library system of a federal institute of the RFEPCT in view of the "Viable System Model" conceived by Beer (1979).

3.2 Organizational structure of the Library System

The results of the research conducted by Ferreira (1980), whose purpose was to investigate the degree of centralization and decentralization of university libraries, pointed out that there was a trend toward centralization, which may be partial (only procurement and/or technical processing services) or total and monolithic, in this case characterizing the absence of sectional libraries. The author emphasizes that, regardless of the degree of interaction between libraries, it is fundamental that they be organized in the form of systems, in order to enable better working conditions, greater resources and to enable automation processes.

Figure 2 describes the six levels identified by Ferreira (1980), from organizational structures of Library Systems (SIBIs), from the category of maximum centralization, called "Monolithic Centralization", to the level of coordinated decentralization.

The seventh and last level presented represents the absence of any type of organization that establishes a connection between a group of libraries of an institution, and cannot be conceptualized as a SIBI. In the view of the author, the levels of partial centralization are framed in a more balanced perspective, since the author considers that the excess of centralization hinders the management process.
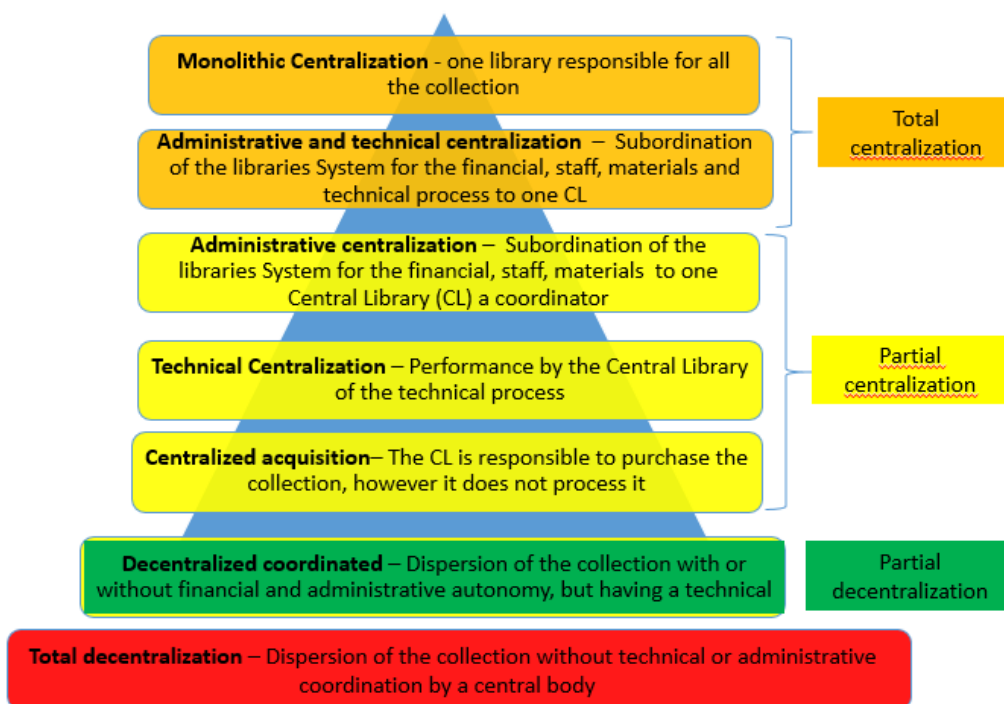
FIGURE 2 - Levels of Centralization/Decentralization in Library Systems
Source: prepared by the authors based on Ferreira (1980).

After ten years, Mercadante (1990) investigates the same theme, identifying, in most of the 78 University Libraries surveyed, the presence of organizational models with systematized coordination and official regulations. This work is clearly and emphatically focused on the need for all ULs to be integrated and structured, with a unified coordination.

After 15 years, Prado and Abreu (2005) presented the results of a research involving the subject on organizational structures of ULs of the Santa Catarina State. The results pointed out that most of the researched institutions have organizational structures linked to the top management, as a supplementary body of it. In the structures involving sectional libraries, the authors found predominance of administrative and technical subordination. Studies by Almeida (2013) and Silva (2015), carried out at the national level, confirm these results.

Levels of centralization or decentralization in organizational structures of Library Systems refer to another discussion, referring to the levels of verticality or horizontality in its organizational structure. Andrade et al. (1998) present a proposal of a more horizontal structure (figure 3) justifying that:

> The vertical hierarchical structure does not favor the flow of information with the quality and agility necessary to the new trends, since the communication is made from top to bottom. The horizontal structure allows a better sharing of responsibilities, through a network communication, facilitating its flow and reaching more efficiently the clientele.

Here the authors quoted a strategic point in the discussion: more horizontal structures facilitate the sharing of responsibilities. The organizational chart shown in figure 3 the new proposal created for a library composed of several departments. Interactions between the various departments occur through the development of projects and programs.
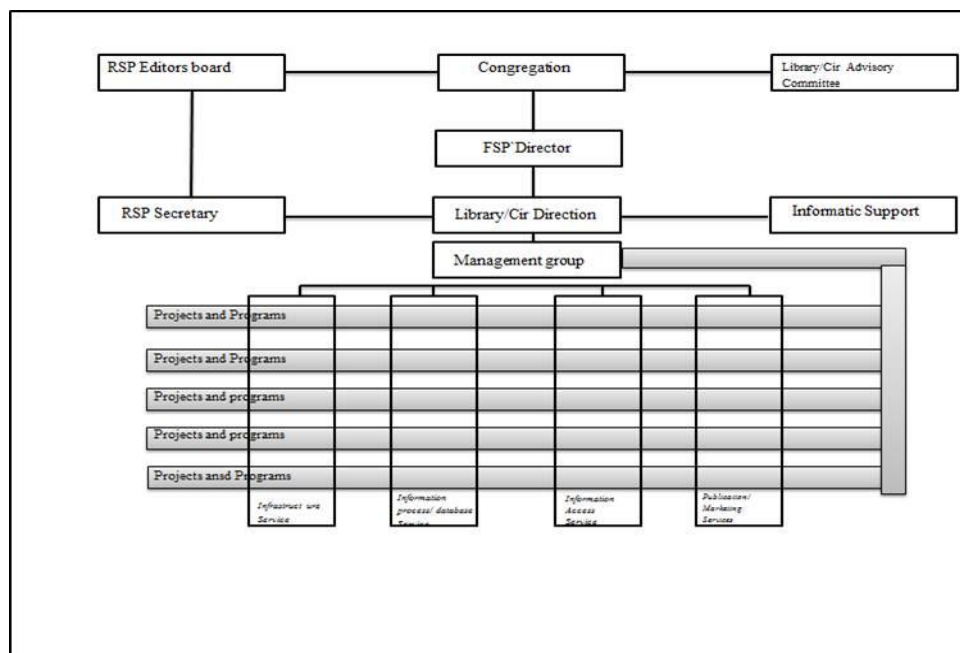

Figure 3 – Organization chart of the library/CIR - 1997
Source: Andrade et al. (1998).

On the systemic view of the model, Andrade et al. (1998) present the basic premises that underlie it.

> • consider the actions of the areas as parts of a whole, perceiving the organization as a system;
> • create conditions of flexibility and comprehensiveness, so as to be able to operate in the system in a global way and respecting subsystems of different dimensions and their different degrees of efficiency, effectiveness and development;
> • use technology compatible with the development stage of the library, observing the social and technical-administrative dimensions.

Thus, it is observed that the structures of Brazilian Libraries Systems of IES adopt models that vary between high centralization of power (administrative and technical) and partial centralization (administrative or technical), being able to be organized in hierarchical structures vertical or more horizontal. It was also observed, through the studies, that there is a concern with the participatory levels in the decision-making processes, pointing out that the more horizontal structures offer greater decentralization of power and greater autonomy to departments or sectors.

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4 METHODOLOGICAL PROCEDURES

This work is characterized as a qualitative descriptive research, using documental research as a technique.

The documental research analyzes documents, being similar to the bibliographical research, with the exception for the difference of the information sources used. According to Gil (2008, 51), this type of research uses "[...] materials that have not yet received an analytical treatment, or which can still be re-elaborated according to the research objectives ", such as: Management reports, regiments, regulations and information made available on *websites.*

During April 2016, a research was conducted on "Library Systems" *sites* of federal universities, state universities and institutions of the Federal Network of Professional Education. In the research, it was found that a limited number of institutions provide public access to their regiments. Among the regiments located, 15 were selected for analysis, using the following criteria:

a) 33% of regiments with an approval date prior to 2000 (four, from SIBIs of federal universities and one from a state university);

b) 33% with approval between 2001 and 2010 (four, from SIBIs of federal universities and one from state university); and

c) 33% with approval between 2011 and 2016 (three, from SIBIs of the RFEPCT, one from federal university and one from state university).

The choice of the regiments set related to each criterion was random, depending on the availability of access.

Then the regiments were read and the sections that contained information related to the following topics of analysis was selected:

a) Organizational structure of the system;

b) Form of connection with the super system;

c) Form of organization of subsystems.

The results and analyzes are presented in the next section, organized into subsections by category.

5 RESULTS AND DISCUSSIONS

In this section, the analysis of the regiments of the 15 selected IES Library Systems is presented, in order to meet the objective proposed in the research.

5.1 Regarding the organizational structure of SIBIs

It was verified that the organizational structures of SIBIs of universities, in general, have a hierarchical configuration, having as superior body a council or collegiate, composed of representatives of the structure of the super system, being able to be deliberative, deliberative and consultative or consultative only. In the SIBI regiments of the RFEPCT, a similar structure was found, but the superior council tends to be composed only of internal members of the System.

At the second level (or third level, as the case may be), the coordinating body of SIBI appears, which in some institutions is linked to a central library, and in others, it belongs to an independent structure.

And in the third plane (or fourth level, as the case may be), there are the *campus* libraries or sectional libraries (subsystems). The SIBI regiment describes the existence of committees with council or collegiate functions at each *campus.* Thus, each *campus* library (sectional) has a deliberative body, composed of people outside the subsystem in question.

Another difference found in two regiments is the mention of internal thematic committees, which aim to develop studies and works. These committees may be composed of members outside the library, when necessary.

Figure 4 illustrates the levels found, however, it should be clarified that none of the regiments has this complete configuration.
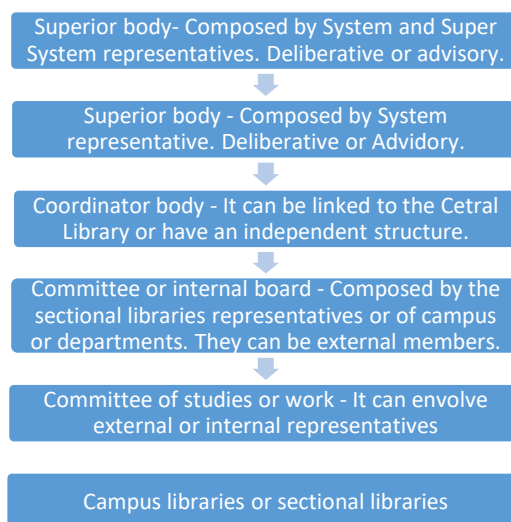

FIGURE 4 - Hierarchical levels found in the organizational structures of SIBIs
Source: Prepared by the authors (2016).

It was also observed that 13 of the 15 regiments analyzed have, in their libraries systems, a collegiate body, which acts in the advisory and / or deliberative sphere, and it is incumbent upon it, among other attributions, to assess and approve the annual planning,

budget proposals and the policies and regulations proposed by the System. Six SIBI regiments of universities report the existence of an administrative and financial subsystem.

Committees and working groups are contemplated only in three regiments. Two SIBIs mention in their regiment the existence of Research and Extension Centers. The regiment of one of them describes that the core role is to offer qualification, training, and improvement courses targeted at library staff and the outside community.

In the regiments analyzed, it was possible to check that some systems seek to guarantee greater participation in the decision-making levels, involving representatives of the super system and the subsystem, however, this positioning is not present in most of them.

5.2 Regarding the relationship between Library Systems and the super system

The systems of university libraries analyzed, both federal and state, are considered by the super system, for the most of them, as supplementary organs and are administratively linked to the respective chancellor or vice-chancellor, regardless of the time at which they were approved. Only one of the systems belonging to the university is linked to a vice-chancellor.

The differential emphasis, in this case, is related to the library systems of the RFEPCT, whose administrative linkage described in the three regiments is given to the Vice-Chancellor of Teaching. Considering that the purpose of libraries is to attend to teaching, research, extension and innovation actions, this position of subordination to the Vice-Chancellor of Teaching, since such a position limits the interrelation with other Vice-Chancellors.

5.2 1 Regarding the levels of decision-making autonomy of SIBIs

One of the first points evaluated in the regiments regarding the issue of autonomy refers to the choice of the leaders of the system, as well as of the subsystems. In this sense, it is verified that the majority of the regiments that approach this question informs that the process of choice is of the Dean. Within the bureaucratic structures in which the great majority of educational institutions fit, this was an expected result. The difference found among the regiments is that some define that the libraries councils homologate a triple list, with the indication of candidates for the coordination or general direction of the SIBIs.

5.3 Regarding the levels of centralization/decentralization of SIBIs

The discussion about the levels of centralization of Library Systems, as can be seen in the review, is a recurring theme and there is no consensus on which would be the most appropriate. At the moment of creation/updating of a SIBI, the configuration of the desired organizational structure is usually proposed by a team of librarians who work in it, but since

they are subordinated to a larger unit, they depend on the approval of the super system to which they belong. Often what is considered ideal for a Library System is not what effectively is consolidated.

Library systems at universities tend to have stricter structures regarding the subordination of sectional libraries, with greater centralization of budgeting, procurement, cataloging and staffing (librarians).

RFEPCT's Library Systems are organized within a model with greater decentralization, reflecting the organizational structure of the institutions to which they belong. Most of the processes related to the budget, acquisition and execution of technical procedures are the responsibility of each library. The coordination of the system is responsible for their integrated operation, with standardization of management, internal technical procedures and services.

In general, in the regiments approved from 2011 to 2016, it was noticed that the internal structures of the SIBIs tend to have a lower level of centralization, focusing in particular on the technical standardization and system integration. The operationalization of technical processes and acquisition tend to be decentralized. In this case, we can even notice a change of nomenclature: from sectional libraries to *campus* libraries.

Another point to note in the analysis of the relationships between SIBI's coordinating body and the campus or sectional libraries is its level of subordination and decision-making with SIBI, in which the following situations were identified:

a) Administrative and technical subordination, with decision-making power through participation in the superior deliberative council of the System or similar organ;

b) Technical subordination, with decision-making power through participation in the superior deliberative council of the System or similar organ;

c) Administrative and technical subordination, without power of decision (absence of deliberative council or similar organ);

d) Technical subordination, without decision power (absence of deliberative council or similar body).

It was also observed that there is a tendency, in the regiments dated from 2011 to 2016, to have instances that include those responsible for *campus* or sectional libraries in SIBI decision-making.

6 FINAL CONSIDERATIONS

The relevance of the organization of IES libraries within a systemic perspective is a consensus in the national literature. Throughout history over the last 40 years, it has been found that there are some modifications in their conceptions. In the beginning, the systemic

view of libraries was anchored in the theoretical principles of Bertalanffy (c1969), understanding them as an open system.

Studies in the last decades on systems amplify this vision, starting to visualize them as autopoiesis systems (MATURANA; VARELA 2001; LUHMANN, 1998) and complexes (MORIN, 2006), that is, complex structures with the capacity to self-organize. The review of the national literature seems to indicate a tendency, albeit tenuous, for organizational studies of library systems to incorporate this new vision.

It was also verified that the concept of Library System presented in the Brazilian literature, directed to the context of an institution, lacked updating. Based on the concept of System of Alves (2012), the following definition is suggested: "System de Libraries is an organization composed of a set of libraries or departments interrelated in a given structure, composing a unit with common objectives, which identify it as such"."

The Library Systems framework can be organized into models with variable levels of centralization/decentralization of power, services and products. The analysis of the SIBI regiments of universities and institutions of the RFEPCT denotes that the systems have a vertical organizational structure, within the normal bureaucratic patterns of this type of educational institution. What was possible to notice, in the regiments of the current decade, is a slight tendency for the composition of structures less centralized and with a greater level of participation of the managers of *campus* libraries in the decisions taken by SIBI. Another important point is the decentralization of the execution of the technical procedures of the bibliographic resources, but above all by their standardization.

As for the linkage of the SIBIs with the super system (institution to which they belong), there is a significant difference between the SIBIs of universities and RFEPCT institutions. In the universities, linkages tend to stay connected directly to senior management levels, as supplementary bodies, for most of them. This is not the case with the RFEPCT SIBIs, which are linked to the levels of vice-chancellor. Therefore, it is considered relevant to deepen research in the area in order to identify possible causes and impacts related to the administrative linkage level on the management of Library Systems and consequent institutional performance.

The largest changes that can be identified through the regiments were perceived in the relationship levels of the SIBI (system) and its subsystems, that is, innovations generated internally, within a movement of self-organization and self-renewal. This is a capacity described by Maturana and Varela (2001) for autopoiesis systems and also understood as a characteristic of complex systems, presented by Morin (2006).

The analysis of the five regiments published between 2011 and 2016 also allows us to infer that there may be a change in the design of SIBI structures, going from more centralized

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structural models to structures with less centralization of internal services, but maintaining centralized management, with standardization processes and services, and broadening the participation of *campus* representatives in decision-making spheres.

It should be emphasized that this research had a descriptive and qualitative perspective, based on 15 regiments, and, therefore, its results cannot be generalized. It is considered relevant that new studies on the subject should be carried out in order to comprehend more comprehensively the movements of innovation in organizational structures of SIBIs.

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