
PROPOSAL PLAN OF FACETED CLASSIFICATION FOR FEDERAL UNIVERSITIES

PROPOSTA DE PLANO DE CLASSIFICAÇÃO FACETADO
PARA AS UNIVERSIDADES FEDERAIS

PROPUESTA DE PLAN DE CLASSIFICACIÓN FACETADA
PARA UNIVERSIDADES FEDERALES

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Submitted: 25/07/2017

Accepted: 14/09/2017

Published: 18/12/2017



JITA: IC. Index languages, processes and schemes.

RESUMO: O estudo tem como objetivo apresentar um plano de classificação facetado para a gestão arquivística de documentos nas universidades federais do Brasil. Para isso foi realizada um levantamento bibliográfico sobre a gestão arquivística no Brasil, os tipos de planos de classificação e a teoria da classificação facetada de Ranganathan, por meio de buscas em bases de dados nas áreas de Biblioteconomia e Arquivologia. Foi identificado o plano de classificação utilizado nas Instituições Federais de Ensino Superior para representar a faceta funcional e criado o plano de classificação estrutural para representar a faceta estrutural. Os dois planos de classificação foram inseridos em um sistema de gestão de repositório digital para dar origem ao plano de classificação facetado. O sistema utilizado foi o Tainacan, *software* livre baseado no *wordpress* usado na gestão de documentos digitais. O plano de classificação facetado desenvolvido permite ao usuário escolher e até combinar a forma de buscar a informação que garante uma maior eficiência na recuperação da informação.

PALAVRAS-CHAVE: Classificação facetada. Plano de classificação. Arquivologia. Gestão de documentos.

ABSTRACT: This study aims to present a faceted classification plan for the archival management of documents in the federal universities of Brazil. For this, a literature review on the archival management in Brazil, the types of classification plans and the theory of the Ranganathan faceted classification was done, through searches in databases in the areas of Librarianship and Archivology. The classification plan used in the Federal Institutions of Higher Education to represent the functional facet was identified, and the structural classification plan to represent the structural facet was created. The two classification plans were inserted into a digital repository management system to give rise to the faceted classification plan. The system used was the Tainacan, free wordpress-based software used in digital document management. The developed faceted classification plan allows the user to choose and even combine the way to look for the information that guarantees a greater efficiency in the information retrieval.

KEYWORDS: Faceted classification. Classification plan. Archivology. Document management.

RESUMEN: El presente estudio tiene como objetivo presentar un plan de clasificación facetado para la gestión arquivística de documentos en las universidades federales de Brasil. Para ello se realizó un levantamiento bibliográfico sobre la gestión arquivística en Brasil, los tipos de planes de clasificación y la teoría de la clasificación facetada de Ranganathan, por medio de búsquedas en bases de datos en las áreas de Biblioteconomía y Archivología. Se identificó el plan de clasificación utilizado en las Instituciones Federales de Enseñanza Superior para representar la faceta funcional y creado el plan de clasificación estructural para representar la faceta estructural. Los dos planes de clasificación se introdujeron en un sistema de gestión de repositorios digitales para dar lugar al plan de clasificación facetado. El sistema utilizado fue Tainacan, software libre basado en *wordpress* utilizado en la gestión de documentos digitales. El plan de clasificación facetado desarrollado permite al usuario elegir e incluso combinar la forma de buscar la información que garantiza una mayor eficiencia en la recuperación de la información.

PALABRAS CLAVE: Clasificación facetada. Plan de clasificación. Gestión de archivos. Gestión de documentos.

1 INTRODUCTION

An archival document is any document produced that contains information that proves the performance of an activity and serves as evidence of it, regardless of how, when or the material in which it was recorded.

The documents constitute evidence and should be treated as an equity of the company, since it may, in due course, define vital issues of the organization, or save it from damages, due to non-proof of legal or fiscal documents (SABINO; ROCHA, 2004, p. 85).

According to Paes (2002), the main purpose of an archival document is to serve the administration, constituting, with the passage of time, in the knowledge base and organizational memory. However, in the current scenario, the constant and gradual flow of information in the digital format is notorious. The transformations caused by information and communication technologies and the digitalization of documents bring challenges to information retrieval due to the increasing volume and variety of formats.

In an information retrieval system, the user aims to find a document or documents that will meet their information needs, so the information retrieval will be the consequence of the search act. Choo (2003) conceptualizes the search for information in three stages: the need, the search and the use of information. Thus, the search for information is the moment in which information becomes useful to the individual, which consequently changes their state of knowledge.

According to Rouse and Rouse (1984, p. 129), the human being seldom searches for information as an end of itself, this means that the search is part of a cognitive process in which the individual transposes his current state of knowledge. The use of information, whether for decision making, problem solving or resource allocation, depends on its recovery, especially when it comes to information in the digital format.

Information retrieval is closely related to the organization of documents. According to Federal Law No. 8,159, which refers to public and private archives consisting of individuals or legal entities, the archival management of documents is defined as "the set of procedures and technical operations related to their production, processing, use, evaluation and archiving in a current and intermediate phase, aiming at its elimination or collection for permanent custody "(BRASIL, 1991).

The activities of classification, evaluation and description of documents assisting in access to information are carried out in the archival management of documents. Thus, techniques and procedures of the archivology are used to carry out the organization of the documents contributing to its recovery. The classification plan and the temporality table are essential tools for archival management.

The classification of documents is understood as a sequence of technical procedures and operations aimed at grouping archival documents relating them to the producer organ, function, subfunction and activity responsible for their production or accumulation (SÃO PAULO, 2004, article 10).

The instrument resulting from the classification is the classification plan that aims to group the documents from common characteristics, organized systematically, and using identification codes. According to Camargo and Belloto (1996), the classification plan is a scheme by which the classification of a file is processed. Another classification plan definition is:

Scheme of distribution of documents in classes, according to specific archival methods, elaborated from the study of the structures and functions of an institution and the analysis of the file produced by it. Expression generally adopted in current files (ARQUIVO NACIONAL, 2005, p. 132).

The classification plan is the main activity of the management of commonly used documents and groups the documents into classes, organized according to a criterion that can be of two types: functional or structural.

The classification of the structural type is based on the administrative structure of the entity to organize the collection and because of this is easily implemented. According to Schellenberg (2005), this classification is not the most adequate, because the organizational structures of the entities are volatile and with changes that do not always result from a functional analysis, but from political developments that end up making the use of structural classification unfeasible. In this organization, the classification of documents accompanies the structure of the entity, so if the activity of one department is transferred to another or if a new department is created and its attributions are redistributed, all documents must be reclassified.

The classification of the functional type is based on the function of the entity and not on its structure, and is concerned with the contextualization of the documents. The function of the document is defined from the observation of how the document was generated and how it is processed. This type of classification is considered more robust and resistant to structural changes, because even with the merger or division of a department, the activities are generally preserved, impacting less the classification of documents. The Chart below presents the steps and elements necessary for the construction of a classification plan of the functional type:

Chart 1. Steps and elements for the construction of a functional classification plan

STEP	ELEMENTS
1 - Factors	<ul style="list-style-type: none"> • Existence of archival legislation • Principles governing the construction of documentary languages
2 - Context	<ul style="list-style-type: none"> • Denomination (name and acronym), location, area of action, creation and administrative and political linkage
3 - Organizational Structure	<ul style="list-style-type: none"> • Organization chart, assignments, organizational units of the activity-middle and the activity-end and changes and modifications
4 - Organizational Unit	<ul style="list-style-type: none"> • Denomination, location, responsible, hierarchical linkage
5 - Assignment	<ul style="list-style-type: none"> • Description of the activities that make up the award
6 - Activity	<ul style="list-style-type: none"> • Description of the tasks that make up the activity
7 - Task	<ul style="list-style-type: none"> • Identification of documentary types that can result from the tasks performed
8 - Technical Validation	<ul style="list-style-type: none"> • Applicable to complex areas, in technical terms

Source: Adapted by Rios (2009, p. 95 cited by SOUSA, 2007, p. 149)

Although the functional classification plan is more immune to changes, according to Souza (2014), it has limitations in day-to-day application, since the retrieval of documents may become slow and inefficient, especially in the current and intermediate phases, due to the difficulty to insert in the classification plan a document that has an interdisciplinary character and also in the abstraction that the user has to do to indicate the function or activity that the document belongs to.

From the classification plan is drawn up the temporality table, which is another one used in archival management. The time table defines the deadlines for guarding, in the current and intermediate phases, and the destination of the files, in order to guarantee access to information. According to Paes (2002):

the temporality table is the instrument of destination that determines the deadlines in which the documents must be kept in the current and / or intermediate archives, or collected to the permanent archives, establishing criteria for microfilming and elimination (PAES, 2002, p. 106).

The temporality table is the result of the documentary evaluation process, while the classification plan is used to classify the documents produced or received by an entity, both are basic tools in archival management that allow the definition of custody and destination periods, storage and the retrieval of the information contained in the archives.

Establishing the type of organization of the classification plan can be a limiting factor for the user. An organization defined through functions and activities in the functional type, or across sectors and departments, in the structural type, determines how an individual should seek the information he needs by directing how he can behave within the system. The proposal of a faceted classification plan that has both forms of classification, structural and

functional, allows the user to choose the search strategy that suits him best, in this context it is even possible to combine the two strategies, ensuring greater accuracy in the recovery of information. This study proposes to elaborate a model of a faceted classification plan for archival management of documents in the federal universities of Brazil, in order to assist the user in the retrieval of information in a Computerized Archives Records Management System (SIGAD), using faceted classification theory from Ranganathan.

2 SIGAD

The growing production of documents in digital format led to the creation of computerized systems capable of managing them. The SIGAD is an archival management system that aims to capture, store and make available archival documents by managing them in their life cycles. According to the National Archives Board (CONARQ), a SIGAD is "a set of procedures and technical operations that aim to control the life cycle of documents, from production to final destination, following the principles of archival document management and supported in a computerized system "(BRAZIL, 2011).

The SIGAD covers the current and intermediate phases of document management, but not the permanent management of the documents, and the elimination must be done in a controlled manner and in accordance with the legislation in force. In order to control the document life cycle, the classification plan and the temporality table in the SIGAD are implemented. Thus, the process of document management with regard to the life cycle of documents and their destination becomes simpler and automatic.

To help retrieve information, SIGAD has search engines that can be implemented through filters or search fields. The search performed through a filter ensures the accuracy of the information that will be retrieved and guides the user suggesting what to search, on the other hand prevents the individual from performing generic searches. The search through search fields gives the user the freedom to search the information they need, but does not guarantee the accuracy of what will be retrieved. Some types of SIGAD have both types of search and allow to combine more than one filter in the search, which considerably increases the accuracy of information retrieval.

3 FACETED CLASSIFICATION

The classification aims to group similar documents into the same class, constituting one of the activities carried out in the archival management of documents that includes methodologies and specific routines to streamline information management. The classification can be based on three aspects: social, philosophical and bibliographical.

In the hall of the great names of the classification is the librarian and mathematician

Shiyali Ramamrita Ranganathan, creator of the faceted classification. In the quest to develop a technique that could fragment a complex subject, Ranganathan created, in the 1930s, an analytical scheme that comprises the division of several parts of a subject.

For Ranganathan, one of the problems of traditional classification systems is that the classification of items only occurs after the definition of the classes or the terms used. The author aimed to start from the items to later, collect and organize the facets that could characterize it and not the other way around. In traditional classification systems composite subjects must be elaborated before classification of documents, already in the faceted classification, composite subjects can be generated during the search, with the combination of terms of different facets. In this way, the classification system becomes leaner and gains greater flexibility and specificity, optimizing the organization, representation, search and retrieval of information. Facets can be defined as groupings of terms that allow to describe items from multiple angles, perspectives, or attributes (HEDDEN, 2010).

Classification is based on the creation of groups with items that have recurring characteristics. Ranganathan noted the existence of recurring concepts in practically all areas and to establish the relationship between them, the author used what he called the fundamental categories of abstract notions called Personality, Matter, Energy, Space, and Time. The fundamental categories can be defined as:

"Personality," which is the subject or object; "Matter", which is the decomposition of this subject or object into different attributes or characteristics (materials, properties, quality); "Energy", which are the actions, activities or processes in relation to the subject or object investigated; "Space", which is the setting of the subject or object, as well as its geographical location; and "Time", which is usually the date or historical-contextual period of the object studied, or even the year of production of such knowledge (MACULAN, 2011, p. 81).

From the faceted classification it is possible to perform faceted navigation which is considered in the area of information retrieval an efficient search strategy, since it allows users during the research, to gradually filter the results, combining the terms that are grouped in each facet (SILVA , 2013).

Currently, faceted navigation is becoming popular, being used mainly in e-commerce sites, digital libraries and yellow pages (Denton, 2003). In the context of archival management, through the faceted navigation plan it is possible to carry out face-to-face navigation in a SIGAD for retrieval of archival documents.

4 METHODOLOGY USED

Based on the concepts presented and considering the objective of this study to combine the faceted classification to the archival management for a better information retrieval, one can conceptualize this work as an exploratory research that performs a survey of information about the theme and identifies the factors that determine and contribute to the deepening of knowledge. Because it is a very specific type of research, it almost always takes the form of a case study (GIL, 2008).

For the execution of the work the following steps were followed: 1 - Bibliographic survey; 2 - Identification of the classification plan used in federal universities; 3 - Creation of the structural classification plan; and 4 - Creation of the faceted classification plan in a SIGAD.

The bibliographical survey consisted of a list of bibliographies, whether books, periodicals, theses, dissertations and other bibliographic materials on classification plans, types of arrangements and faceted classification. This stage is a previous selection of bibliographies or documents that can be used as reference in the development of the work.

In this way, researches were carried out in national and international databases in the areas of Library Science and Archivology. The following databases were selected: a) Brazilian Digital Library of Theses and Dissertations (BDTD); b) Digital Journal of Library Science and Information Science (RDBCI); c) Digital Library of Theses and Dissertations of the University of São Paulo; d) Scielo Brasil, an electronic database of scientific data; e) E-prints in Library and Information Science (E-LIS); and f) Google Scholar. The keywords used to search the databases were: faceted classification, classification plan and document management. In this case, these words could be in any field of the record, such as title, abstract and keywords.

In order to have a starting point, it was necessary to identify the classification plan generally used in federal universities. After a search on the internet, the classification plan was identified in the SIGA¹ platform, a repository whose objective is to preserve, store, disseminate and guarantee access to documents, norms and laws related to archival management in Brazil.

The classification plan found was functional and as no structural classification plan

¹ System of management of archives of the federal public administration. Table of temporality and destination of archive documents related to the final activities of the Federal Institutions of Higher Education – IFES.

Available at

http://www.siga.arquivonacional.gov.br/images/codigos_tabelas/portaria_n0922011_tabela_de_temporalidade_e_destinao.pdf>

was located for federal universities, it was assumed that it was necessary to create one to compose the faceted classification plan. The structural type classification represents the various levels of the internal division of an organization such as directories, units and departments in the case of federal universities.

In order to develop the structural classification plan, searches were carried out on the websites of Brazilian universities and federal institutes. With this research, organizational charts were retrieved from the institutions that supported the construction of the structural facet and made possible the understanding of the functioning of the structure of these institutions and their similarities.

After the creation of the structural classification plan and the possession of the functional classification plan used at federal universities, the next step was to join the two plans into a MSSAD to form the faceted classification plan. The chosen SIGAD was a digital repository management system, the Tainacan.

Tainacan is an open source system developed from a partnership between the Ministry of Culture and the Federal University of Goiás, aiming at managing digital documents focused on collaboration, usability and user experience. This system allows the creation of several collections on the same platform and was chosen mainly because it allows the insertion and search from a faceted classification.

5 RESULTS ACHIEVED

The faceted classification plan implemented in the Tainacan system presents the two facets of documentary organization, structural and functional. The structural facet represents the classification plan from the departmental division of the organization, so a document generated from the purchase of materials will be stored in the folder of the purchasing sector, for example. The functional facet provides the documents from their functions, so a registration document will be stored in the students' academic folder, for example.

The functional facet of the classification plan was identified on the SIGA website, which provides the classification plan used in the Federal Institutions of Higher Education. This facet was included in the Tainacan is divided from five major functions: Higher Education; Search; Extension; Basic and Professional Education; and Student Assistance.

The structural facet of the classification plan was developed from organizational charts of some universities and federal institutes. An organization chart is a type of diagram that represents the hierarchical relationships or distribution of the sectors, functional units and positions within an organization. The organization chart represents the distribution of positions and structure of an entity, in that context, were used organizational charts of

Brazilian universities and federal institutes to compose the structural classification plan, the research to identify the organization charts was carried out on the websites of the following institutions: Federal University of Goiás - UFG; Federal Institute of Baiano - IFbaiano; Federal University of the State of Rio de Janeiro - Unirio; University of the Contestado - UNC; Federal University of Ceará - UFC; and Federal Technological University of Paraná - UTFPR. Image 1 below shows the structural facet developed for the classification plan.

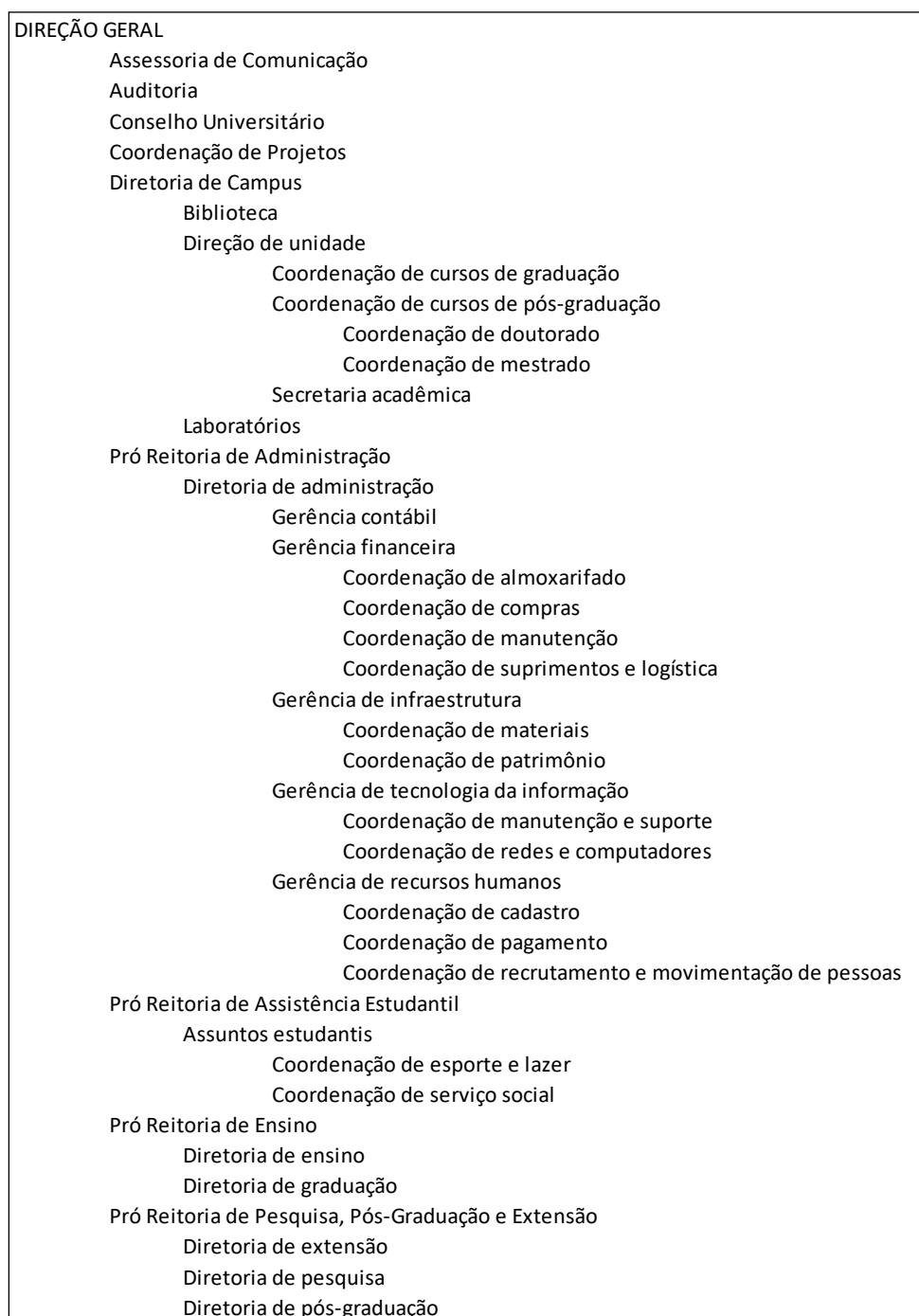


Image 1. Structural Classification Plan.

Source: Elaborated by the author.

The functional and structural facets were inserted into the Tainacan system as shown in Image 2.

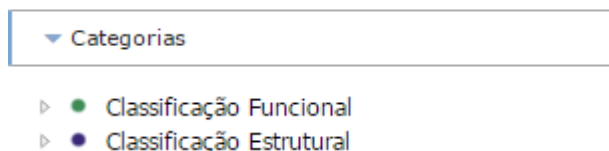


Image 2. Facets of the Classification Plan.

Source: Elaborated by the author.

The functional facet inserted contemplates all the functions of the classification plan used in the IFES as shown in Image 3 below.

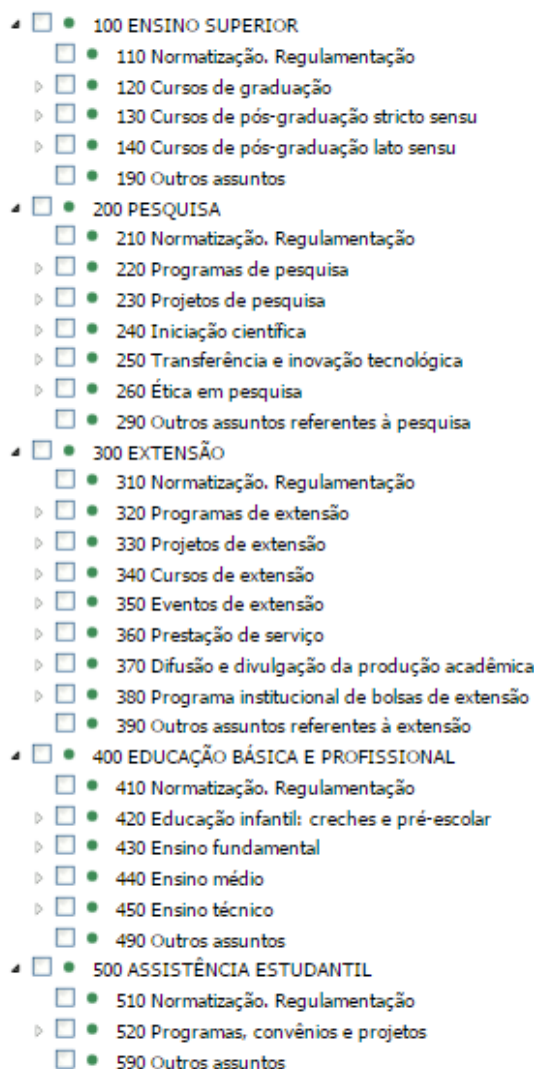


Image 3. Functions of the functional facet

Source: Elaborated by the author.

The structural facet developed from the organizational charts of universities and federal institutes was inserted in Tainacan as shown in Image 4 below.

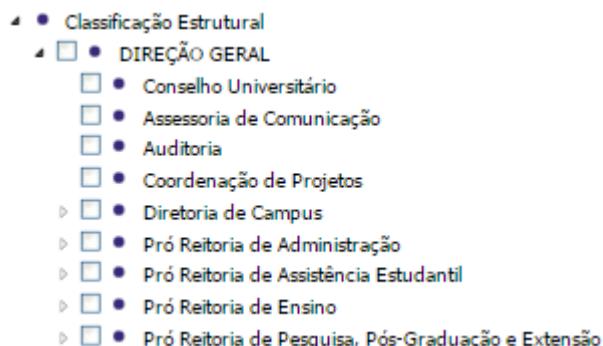


Image 4. Structural facet of the classification plan.
Source: Elaborated by the author.

Figure 5 below shows the first level of segmentation of these structures.

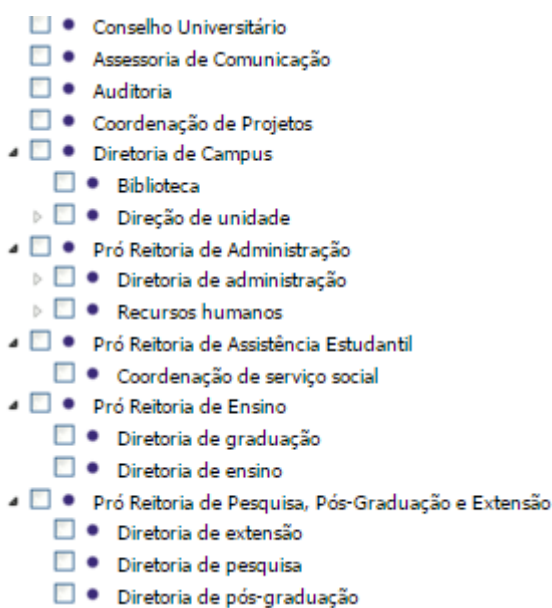


Image 5. Divisions of structural facet.
Source: Elaborated by the author.

Using the Ranganathan categories, the structural facet of the classification plane represents the space category. This facet comprises the place where an item belongs, the structural type represents the physical organization of the entity reflected in the classification, where the subclasses are arranged as the departments of that entity, representing its geographic organization. It is important to emphasize that this facet does not contain the documentary items, so that there is no redundancy, since these classes already exist in the functional facet from the end-activity classification plan used as the basis. This arrangement also does not interfere in the temporality table, in which the guard periods continue to be

associated with the functional facet classes.

The functional facet represents Ranganathan's personality category. This category is the most difficult to identify, usually defined by the elimination of others, mainly because of the complexity of this category. Personality is seen as what is demonstrated as basic and fundamental to the understanding of a certain subject. According to Grolier (1962), the personality has no theoretical value, it is characterized as an attributed label, indispensable to the existence of things. The function of a document is the essence for its use and recovery in the facet of the functional type, being the essential and relevant characteristic for this classification.

6 FINAL THOUGHTS

The objective of this work was to develop a faceted classification plan for archival document management at Brazilian federal universities and to implement it in a SIGAD using Ranganathan's faceted classification theory to assist the user in the search and ensure a better retrieval of information.

The functional facet of the developed classification plan was identified in the system that integrates the documentation and standards related to Brazilian archival management, the SIGA platform of the Ministry of Finance. In the case of the structural facet, it was developed from the organizational charts retrieved on the websites of Brazilian universities and federal institutes. The combination of these two facets gave rise to the faceted classification plan.

The facet classification plan developed for the archival management of documents at federal universities enables the retrieval of information in a more efficient way, in which the user can choose the search strategy, filtering the documents by a functional or structural facet class, or even combining terms from both facets to narrow the search.

From this work we can, in the future, evaluate the users of the Federal University of Goiás the usability of the faceted classification for the search of information and apply this classification plan in other universities to evaluate their suitability in other institutions and verify if this plan may become a model for digital archival management.

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