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Structuring of an evaluation model of informational services in a library of an educational institution

Estruturação de um modelo de avaliação dos serviços informacionais em uma biblioteca de uma instituição de ensino

Estructuración de un modelo de evaluación de servicios informativos en una biblioteca de una institución educativa

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ABSTRACT

This study aims to structure an evaluation model of informational services performed by the library of an educational institution. To this end, the Multicriteria Methodology for Decision Support-Constructivist (MCDA-C) was used, obtaining, as main results: (1) the identification of 41 Primary Elements of Evaluation (PEEs) and 75 Concepts, which resulted in five areas of concern; (2) the identification of five performance indicators of the "Basic Services", being one descriptor with "Commitment" performance, three descriptors with "Market" performance and one descriptor with "Excellence"; and (3) the proposition of improvement actions through the 5W2H technique.

Keywords: informational services; performance evaluation; Multicriteria Methodology for Decision Support-Constructivist (MCDA-C); service management; library.

RESUMO

Este estudo tem como objetivo estruturar um modelo de avaliação dos serviços informacionais realizados pela biblioteca de uma instituição de ensino. Para tanto, foi utilizada a Metodologia Multicritério de Apoio à Decisão-Constructivista (MCDA-C), obtendo, como principais resultados: (1) a identificação de 41 Elementos Primários de Avaliação (EPAs) e 75 Conceitos, que resultaram em cinco áreas de preocupação; (2) a identificação de cinco indicadores de desempenho dos "Serviços Básicos", sendo um descritor com desempenho "Comprometedor", três descritores com desempenho de "Mercado" e um descritor com "Excelência"; e (3) a proposição de ações de melhoria por meio da técnica 5W2H.

Palavras-chave: serviços informacionais; avaliação de desempenho; Metodologia Multicritério de Apoio à Decisão-Constructivista (MCDA-C); gestão de serviços; biblioteca.

RESUMEN

Este estudio tuvo como objetivo estructurar un modelo de evaluación de los servicios de información que realiza la biblioteca de una institución educativa. Se utilizó la Metodología Constructivista de Apoyo a la Decisión Multicriterio (MCDA-C). Los principales resultados fueron: (1) la identificación de 41 Elementos Primarios de Evaluación (EPA) y 75 Conceptos, que resultaron en cinco áreas de preocupación; (2) la identificación de cinco indicadores de desempeño para "Servicios Básicos", que incluyeron un descriptor con desempeño de "Compromiso", tres descriptores con desempeño de "Mercado" y un descriptor con "Excelencia"; (3) la propuesta de acciones de mejora a través de la técnica 5W2H.

Palabras clave: servicios informativos; evaluación de desempeño; Metodología Multicriterio de Apoyo à Decisão-Constructivista (MCDA-C); gestión de servicios; biblioteca.

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1 INTRODUCTION

Informational services are described by Duarte et al. (2015) as something performed by a trained professional, in order to serve the user and provide a direction for the information resources he needs. It would also be, for these same authors, a facilitation in obtaining results of an informational need. That is, it refers to meeting some demand, in other words, seeking to satisfy the informational interests of the user in the subject he is studying.

To evaluate the quality of informational services, both national and international libraries have been using tools or concepts from the literature, such as Balanced Scorecard, Benchmarking, 5S, Entrepreneurship and Quality Management, Endomarketing, User Study, LibQUAL, ServQUAL, Contingency Assessment Method, Moments of Truth, Organizational Objectives, Plan-Do-Check-Act, QFD, Sensemaking, Deming's Theory, and Garvin's Theory (Pereira, 2017; Valls & Vergueiro, 2006). In addition to using these concepts, libraries make use of quality performance indicators.

According to Paula and Vergueiro (2018), the concern with the level of quality of information services offered by libraries is of paramount importance, with the intention that these services are oriented towards the purpose of meeting the needs of users. It is observed that most library users are linked to a particular educational institution, as in the case of Brazilian federal institutes.

Usually, in an educational institution, especially students, are always studying or looking for something new. Thus, several informational needs are emerging, causing the student of these institutions to seek information, both online and in person. Therefore, the importance of the quality of informational services made available by libraries to students comes to light, such as the services offered by the libraries of the Federal Institute of Education, Science and Technology of Santa Catarina (IFSC).

In this context, the research problem is: What aspects should be considered for evaluating the performance of informational services made available to students, and that support decision-making in a library at the Federal Institute of Education, Science and Technology of Santa Catarina?

Because it is a problem that can cover a number of variables, reinforcing the great importance of the role of the decision maker (librarian) in the provision of informational activities, the objective is to structure an evaluation model of informational services provided to students of a library of the Federal Institute of Education, Science and Technology of Santa Catarina, through the Multi-criteria Decision Support Methodology – Constructivist (MCDA-C).

Thus, this study is justified according to the dimensions of originality, importance and viability (Castro, 2006). Among the approaches focused on quality of service, one of the most traditional of marketing, two scales stand out: ServQUAL and LibQUAL. Research that adopts the use of the ServQUAL scale in higher education institutions often

approach the data from descriptive statistics analysis, ANOVA and confirmatory factor analysis (Smania et al., 2022). Research that adopts the LibQUAL scale often uses descriptive statistics, exploratory factor analysis, confirmatory factor analysis, and non-parametric hypothesis tests (Cavalcanti & Soares, 2023). Originality is achieved by applying a constructivist approach to a real performance problem of the Institution, that is, the evaluation of the performance of the informational services offered in one of the IFSC libraries. Because it is a complex situation, involving the interests of students and the team that works in the library, the decision maker, not having a defined model, wants one to be built, in a personalized way (specific to the context) according to her values. The design of this model will support the process of evaluation and development of the area of services offered, in accordance with the concerns of the decision maker, in order to meet the institutional objectives. It is noteworthy that a constructivist approach takes into account the values and perception of the decision maker, that is, the owner of the problem, in this specific case the campus librarian.

The importance of this research is due to the relevance of the theme, since several authors constantly seek to study and improve the quality of information services offered in their institutions. Some contemporary authors who study the theme of quality of services in libraries can be mentioned, such as Araújo et al. (2017), Paula and Vergueiro (2018), Viapiana et al. (2018), Afthanorhan et al. (2019), Azevedo (2020), Ghaedi et al. (2020), and Silva and Spudeit (2021).

In this sense, a multiplicity of previous researches can be found, presenting different objectives. Outside Brazil, for example, there is a wide application of LibQUAL scale or adaptations such as those of Afthanorhan et al. (2019) and Ghaedi et al. (2020). In Brazil, there are approaches, such as: by Paula and Vergueiro (2018), who presented and discussed a methodology based on nine performance indicators, based on the ISO 11620 standard; by Araújo et al. (2017), who compared the offer of services from six libraries of higher education institutions; by Azevedo and Dumont (2020), who researched the librarian's role in the face of the informational needs of students at a federal educational institution; and by Silva and Spudeit (2021), who researched library initiatives to promote informational accessibility to blind people.

Finally, this article is organized in sections, addressing theoretical framework, methodological procedures performed during the research, and analysis and presentation of results. In this context, the elaboration of the performance evaluation model is described, using the MCDA-C methodology, and the recommendations for improvements are presented, using the 5W2H tool. Finally, the final considerations and references cited during the preparation of the research are presented.

2 THEORETICAL FRAMEWORK

Using terms considered as simple as possible, Zeithaml et al. (2014) describe service as an act, process and performance made available or co-produced by an institution or person, to another institution or person. The view that most institutions would like to be leaders in the area of services has become widely accepted, and institutions that rise in relation to their performance can be found through conscious efforts to improve and coordinate their marketing functions, operations and human resources, in an attempt to establish more favorable competitive positions and better satisfy their customers (Wirtz et al., 2020).

Thus, it is necessary that managers, at all levels of an organization, lead services in the proper direction; that decide which are the appropriate strategic priorities and evaluate the strategies to be implemented in the organization (Wirtz et al., 2020). Thus, services are offered by the most diverse profiles of institutions, such as the libraries of educational institutions, both private and public.

One of the important factors for the growth and development of a nation is the existence of rich and high-quality libraries, according to the demand of users. Therefore, it is necessary that university managers and strategic planning authorities pay more attention to the quality of information services, and this must occur permanently, in all institutions (Ghaedi et al., 2020). According to Moutinho and Lustosa (2011), librarians need to assess the limitations of the institution, and seek to improve the conditions of services, resisting the discovered adversities. In this sense, planning should be used as a way to anticipate needs and, therefore, insert and adapt.

Still, according to Moutinho and Lustosa (2011), there may be certain discrepancies between what the library offers and what the user truly needs. This mismatch can come both from the library's failure to meet the needs of its users and from their unrealistic expectations. For this, there are several methodologies, focused especially on quantitative approaches to assess the quality of informational services in libraries.

One of these methodologies is presented in the international literature by Afthanorhan et al. (2019) and Ghaedi et al. (2020), who used the LibQUAL instrument to evaluate the quality of informational services offered by libraries. The instrument has been applied mainly in university libraries in the United States to measure the quality of information services, as noticed by library users.

LibQUAL, applied and improved over time, consists of a current version with 22 items (closed and open questions) combined in three dimensions: (1) service affection, which deals with how the library staff serves its users (kindness, care, promptness and knowledge to answer questions); (2) information control, which addresses issues of updating and access in locating information (modern materials and equipment); and (3) library as a place, which deals with how well the library environment

accommodates the needs of users looking for a place for research (Morales et al., 2011).

The research conducted by Paula and Vergueiro (2018), in the literature on performance indicators used for library services, elected the indicators to be applied, after review of the third edition of BS ISO 11620 Information and documentation – Library performance indicators, standard with performance indicators applicable to all types of libraries, published in 2014, and the second edition of the International Federation of Library Associations and Institutions (IFLA) Guidelines entitled, originally in English as *Measuring quality: performance measurement in libraries*, published in 2007, and translated in this article freely as “Measuring Quality: performance review in libraries.” Viapiana et al. (2018) chose the indicators for the evaluation of information services guided by ISO 11620, of 2014, not citing the use of IFLA guidelines.

The organization of performance indicators in ISO 11620:2014 is grouped into four main areas: (1) Resources, access and infrastructure - providing indicators that measure the adequacy and availability of resources and services of libraries, taking as an example the issues of personnel, collections and spaces for users; (2) Use - this aspect displays indicators that measure the amount of use of resources and services, citing as an example loans, downloads and use of facilities; (3) Efficiency - this perspective provides indicators that measure resources and services by efficiency, such as, for example, cost per loan, time to acquire or process documents, and employee productivity; and (4) Potentials and development - this area provides indicators to measure the library and its ability to achieve resources and financing for development in service areas, such as, for example, percentage of library employees who provide service via electronic format and have formal training (International Standardization, 2014; Pimenta & Coelho, 2016). The indicators can therefore be adapted to the various institutional profiles.

Although the literature presents several types of indicators, it is noteworthy that the best indicators must originate in the context investigated, considering the perception of the area manager, since each context has its own characteristics, showing a degree of personalization. The use of personalized indicators to evaluate the performance of services is essential in libraries, and one tool that can help make the manager an agent of change is the Multi-criteria Decision Support-Constructivist Methodology (MCDA-C). After a bibliographic search in the Google Scholar search engine, using Portuguese terms “biblioteca”, “MCDA-C”, “serviços” and “qualidade”, and another search with the English terms “library”, “MCDA-C” “services” and “quality”, only one publication was found, by Silveira et al. (2019), which cited MCDA-C and library services. In this localized article, MCDA-C was used in the management of innovation in libraries, with services being a small part of the scope of the study (Silveira et al., 2019). It is believed that the almost zero number of publications in this sense is due to the quality of the services being predominantly linked to the perception of the user who receives it.

In the constructivist paradigm, which underlies the MCDA-C, the objective of the construction of an evaluation model is to generate knowledge to the decision maker(s). To this end, evaluation models must be developed that serve as a means to base the decisions of the decision maker(s), in the way that he/she considers most appropriate, according to his/her system(s) of values. Such evaluation models must have rigorous concepts, be well formalized, present precise calculation procedures and solid axiomatic results (Roy, 1993). Models and the modeling process, according to the constructivist paradigm, can generate knowledge for decision makers, in particular, as follows, according to Roy (1993): (i) separating robust conclusions from fragile conclusions; (ii) dispelling misunderstandings that may occur in the communication between the decision maker(s); and (iii) emphasizing, once understood, results where there is no controversy.

Traditional models of evaluation of the quality of services in general, such as ServQUAL and ServPERF (Parasuraman et al., 1988; Cronin & Taylor, 1992) and the most used model of quality evaluation of library services, LibQUAL (Cook & Thompson, 2000), approach the quality of services according to the users' perception. The statistical analyzes traditionally used with these models are factor analysis and modeling of structural equations, in line with the usual research practices of marketing (Smania et al., 2022; Cavalcanti & Soares, 2023). The constructivist multicriteria approach thus constitutes a unique approach when focusing on the manager's vision.

Thus, the Multicriteria Methodology to Support Constructivist-Decision, selected for this research, and the performance indicators resulting from the application of the method, in this article, are described in the sections of methodological procedures and analysis and presentation of data, consecutively.

3 METHODOLOGY

The research methodology used in this work observes two parts. In the first part, the methodological framework of the research is discussed; and, in the second part, the chosen intervention tool is described for the construction of the evaluation model of the informational services offered to students by the IFSC library of the Araranguá campus, which is the Multicriteria Methodology of Support to Constructivist Decision (MCDA-C).

3.1 Research Methodological Framework

Regarding the nature of the objective, this research is classified as exploratory, as it promotes the evaluation and generation of knowledge in the decision maker, the librarian. It seeks to develop knowledge on the subject and, with this, organize a set of aspects, in the form of performance indicators, which allows the "Evaluation of the informational services offered to students by IFSC library – Campus Araranguá", through the perception and values

proposed by the decision maker, in this case, the librarian (Creswell, 2014; Marconi & Lakatos, 2010; Richardson, 2010; Yin, 2010).

As for the nature, this study is considered as an applied research, in the form of a case study, with the objective of solving a real problem, that is, the construction of an evaluation model of informational services in a library of the Federal Institute of Santa Catarina. Regarding the approach to the problem, this research is qualitative. Regarding the qualitative approach, it is found in the structuring stages and recommendations of MCDA-C methodology. The constructivist foundation, followed in this research, takes into account the opinions and preferences of the Decision-Maker, in this case, the librarian. With regard to data collection, it encompassed both primary and secondary data.

Primary data were collected through semi-structured interviews, in accordance with the MCDA-C Methodology protocol, which sought to verify the concerns of the decision maker for the structuring of the model. Under the terms of the steps/activities inherent to the MCDA-C Methodology, the decision maker was encouraged to explain their perceptions, with the help of the facilitator. Thus, as a script, the steps of the MCDA-C Methodology, presented in section 4, were followed, and each semi-structured interview required around two hours, that is, considering that five activities were carried out, under the terms of the Methodology protocol, the duration of the total interviews involved around 10 hours.

The secondary data focused on the analysis of the reports generated in the Sophia system, software for managing the collection of IFSC libraries, where the quantitative and qualitative data of the collection and users are found (Creswell, 2014; Marconi & Lakatos, 2010; Richardson, 2010; Yin, 2010).

3.2 Intervention instrument for the construction of the constructivist multicriteria model

In agreement with Ensslin et al. (2010), the implementation of the MCDA-C methodology, as a scientific management instrument, occurred from the 1980s. The scientific bases of MCDA-C appear with the research publications of Roy (1993) and Landry (1995) when deliberating the limits of objectivity for decision support methods; in the studies of Skinner (1986) and Keeney (1992), when adopting that the characteristics (objectives/criteria) are particular for each context, from the perceptions of the manager/decision maker; and, in addition to these with the work of Bana e Costa (1993) when specifying the convictions of MCDA (Ensslin et al., 2010).

The distinction between the MCDA-C methodology and the traditional MCDA methodologies resides, above all, in the fact that the traditional MCDAs restrict the support to the decision in two phases: from formulation, and from evaluation to select, according to a defined group of objectives (with little or no participation of the decision

maker) in which, among the previously established possibilities, is the best (optimal solution) (Ensslin et al., 2010). According to Ensslin et al. (2010), the traditional MCDA research logic is rationalistic, while the MCDA-C employs a constructivist logic, taking into account the decision maker's perception and values.

MCDA-C methodology is developed in three main phases, as evidenced in Figure 1: (i) Structuring Phase; (ii) Evaluation Phase; and (iii) Recommendation Preparation Phase.

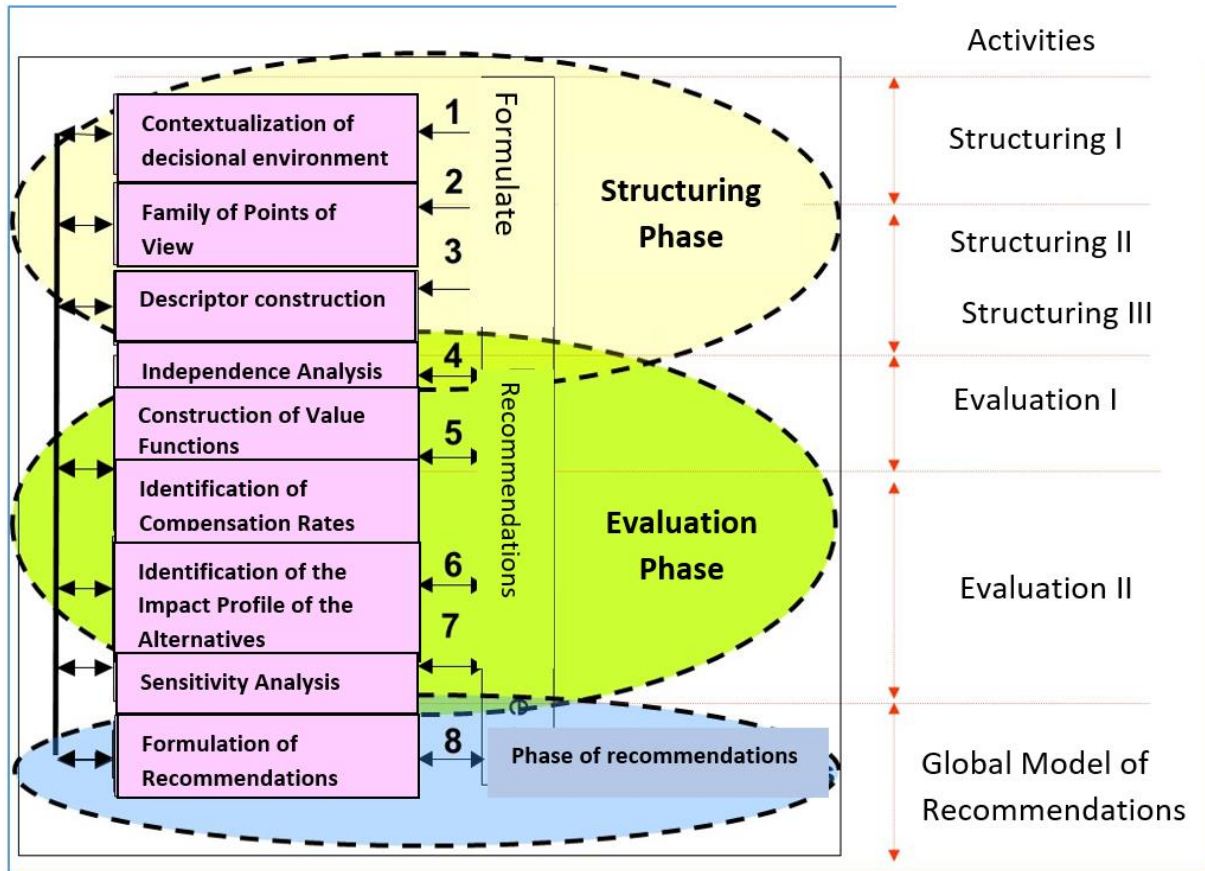


Figure 1. MCDA-C methodology phases
Source: Adapted from Ensslin et al. (2001).

The structuring phase, fundamentally, proposes to organize, develop and expand the decision maker's knowledge about the decision-making context. For this to happen, some steps need to be taken to achieve this goal (Ensslin et al., 2000; Ensslin et al., 2001; Bortoluzzi et al., 2011; Ensslin et al., 2020a; Ensslin et al., 2020b; Caldatto et al., 2021). In the first step of this phase, the activities of describing the environment (problem that will be treated), delimiting the actors (stakeholders) involved in the decision-making process, designing a label for the problem and organizing a summary that includes a brief summary of the decision-making context (Ensslin et al., 2001, Bortoluzzi et al., 2011; Dutra et al., 2015) are carried out.

The second step of the structuring phase comprises the activities of identifying the Primary Elements of Evaluation (PEEs), the construction of the Concepts (present pole and opposite pole) for the PEEs, the construction of the Family of Viewpoints (FPV) and the validation of PEEs as sufficient and necessary (Cardoso et al., 2016).

The third and final step of the structuring phase refers to the construction of Cognitive Maps, with the identification

of Clusters and Sub-clusters (if any); the arrangement of the value tree, with the respective Elementary Points of View (EPVs), which are the dismemberment of PVFs until the identification of a lower Point of View, which can be subject to ordinal measurement (Ensslin et al., 2000; Ensslin et al., 2001); the constitution of Descriptors, with the distinction of reference levels (ordinal scale), the performance profile (status quo) and the imputation of performance stages, designated as Excellent, Competitive (market or expected) and Compromising (Ensslin et al., 2000; Ensslin et al., 2001; Bortoluzzi et al., 2011; Zamcopé et al., 2012; Dutra et al., 2015).

In the evaluation phase, the objective is to explain the qualitative model built in the structuring phase, in a mathematical model, where the quantitative performance of the individual context (in each aspect of the model) or globally (global evaluation of context performance) can be verified (Ensslin et al., 2000; Bortoluzzi et al., 2011; Dutra et al., 2015; Cardoso et al., 2016). It is noteworthy that this phase was not developed in this work, considering that the librarian chose to focus on the development of knowledge in relation to the services offered by the library. Thus, the

quantitative approach was not applied in the present research.

In the recommendation phase, we seek to propose actions that the decision maker can put into practice to improve the performance of the studied context, focusing on improving the performance of the descriptors considered in the model (Ensslin et al., 2001; Bortoluzzi et al., 2011; Azevedo et al., 2013; Rolim-Ensslin et al., 2014; Lacerda et al., 2014; Dutra et al., 2015; Cardoso et al., 2016).

The knowledge generated allows the decision maker to understand, graphically and numerically, for each performance indicator, whether the performance is excellent, competitive or compromising. This additional information from the decision maker will provide a subsidy for him to define which action, or strategy, is the most appropriate (Ensslin et al., 2001; Cardoso et al., 2016).

It is noteworthy that the model built and presented, from the next section, based on the Multicriteria Methodology of Support to Constructivist Decision (MCDA-C), focuses on the structuring and recommendation phases, presented in Figure 1. It is evident that, in the recommendation phase, 5W2H methodology was used, a method created by the Japanese automotive industry in the course of quality studies. Currently, it is considered an administrative and quality tool, which can be applied in various business areas and in different contexts, within an organization (Napoleão, 2018). This method can also be used to prepare action plans focused on improving services. 5W2H is an acronym, derived from the initial letters of seven questions What? (o quê?), Why? (por quê?), Where? (onde?), When? (quando?), Who? (quem?), How? (como?) e How Much? (quanto custa?) (Silva, 2019).

4 ANALYSIS AND PRESENTATION OF DATA

This section presents the construction of the constructivist multi-criteria performance evaluation model for information services, made available by the IFSC library, Araranguá campus. The section is structured as follows: (a) contextualization of the institution studied; (b) elaboration of the evaluation model, with presentation of the actors involved in the process, description of the Primary Elements of Evaluation (PEEs), definition of the Families of Fundamental Points of View (FFPV), construction of the cognitive map of the Elementary Point of View (EPV) “1.1.1 Basic Services”, constitution of the Hierarchical Value Structure (HVS) and EPV descriptors “1.1.1 Basic Services”; and (c) Recommendations for improvements, using 5W2H.

4.1 Contextualization

The library of Araranguá campus of IFSC was created together with the campus, on March 20, 2008. Currently, the campus receives about 900 students in professional qualification courses (FIC), 3 integrated technical courses, 5 subsequent technical courses, 4 specializations, 1

undergraduate degree, 1 technology degree and 1 youth and adult education integrated into technical education (Proeja). (Federal Institute of Education, Science and Technology of Santa Catarina, 2023). In the library, where 4 servers operate, there is a collection of more than 4,000 titles and 9,000 copies in various media, in a physical area of 152.88m². In it, a computerized collection management system is adopted, through software Sophia, and using internet access for consultation, renewal or online reservation of the collection.

The purpose of the libraries of the Federal Institute of Education, Science and Technology of Santa Catarina, according to the respective regulation, is “To offer informational access to the teaching, research and extension programs of IFSC, developing services and products that make it possible to satisfy the informational needs of its users.” (Federal Institute of Education, Science and Technology of Santa Catarina, 2023).

Among the informational services offered by libraries are: Home loan service; Renewal of loan; Reserve of materials; Local and online consultation service to the collection; Internet access for academic research; Bibliographic survey; Reference service; Guidance for standardization of academic works; Guided visits; List of new acquisitions; Preparation of institutional catalog sheets and User training (Federal Institute of Education, Science and Technology of Santa Catarina, 2011). Thus, it is observed that there is concern with the performance of information services, in front of the target public (students).

For the purposes of libraries to be achieved, special care is taken to assess whether there is a need for changes or improvements in the information services performed. In this sense, this research was developed to evaluate the performance of information services made available to students, and that subsidize decision making in IFSC libraries, applying the Multicriteria Methodology of Decision Support – Constructivist (MCDA-C) with the decision maker of the library of IFSC Araranguá campus. The library of this campus follows the same precepts as the other institution libraries.

With the development of this work, it is possible to: identify, organize, establish reference levels judged as relevant by the decision maker. The generated model allows viewing the profile of the current situation, highlighting its strengths and weaknesses and having a process to identify opportunities for improvement. Finally, it remains to inform that the feasibility of the research was first due to the interest of the librarian, who works at the institution, in building a personalized model that provides a basis for decision-making; then, because one of the authors is part of the institution.

4.2 Elaboration of the performance evaluation model using MCDA-C

The performance evaluation model of information services, offered by IFSC library of the Araranguá campus,

was built according to the perception of the campus librarian (decision maker), based on the information acquired in different interviews. According to the decision maker's statements, in these interviews, an attempt was made to produce information regarding the aspects that were considered important and that impact the performance of the informational services offered.

The choice of the campus librarian as a decision maker in this process is due to the fact that she is responsible for organizing the information services in this

library, thus being the person with the necessary skills to make the decisions regarding the information services offered by the campus. Thus, based on the main focus of the work, pointed out by the decision maker, the label that best identified the model was defined: "Evaluation of the informational services offered to students by IFSC library – Araranguá campus". Likewise, the actors involved in the decision-making process of the research context were identified, as shown in Table 1.

Table 1
Actors involved in the decision-making process.

Stakeholders	Decision-maker	Campus Librarian
	Intervening parts	Library Servers Superiors
	Facilitator	Authors of the work
	Acted	Students

Source: Authors' elaboration.

Thus, once the label and the actors involved were defined, the Primary Evaluation Elements (PEEs) were identified, which are qualities or characteristics that the decision-maker considers important and/or that impact their values and preferences regarding the context (Ensslin et al., 2013; Ensslin et al., 2010). From the identification of the PEEs, the concepts that guide the direction of preference were constructed, pertinent to the PEE and which is

followed by its psychological opposite (minimum permissible of the underlying objective), represented by ellipsis (...) that could be read as "rather than" (Cardoso et al., 2017). However, it is observed that a PEE can unfold in more than one concept (Ensslin et al., 2013; Ensslin et al., 2010). At this stage of the research process, in all, 41 PEEs were counted, from which 75 concepts were built. From these 75 concepts, a cutout was selected and presented in Table 2.

Table 2
Selected PEEs with built-in concepts

No.	PEE	Concept
9.1	Attendance at all levels of education	Personalized service for each level of education... Avoid standardized services for all levels of education.
16	Difficulty locating information	Guide students in locating information... Have difficulties in guiding students to locate information.
21.3	Student performance	Provide resources for better student performance... Provide outdated printed books.
29	Home loan	Make home loan... Restrict the number of copies for loan.
30	Loan Renewal	Carry out loan renewal... Make it impossible to renew loans.
31	Reservation of materials	Make reservation of materials... Reserve material, but do not inform about the availability of the material when returned.
32	Referral Service:	Perform the practice of reference service... Not knowing how to investigate the user's real need with the reference questions.
34	Guided visits	Acting in guided visits... Being unprepared to carry out guided visits.
35	Tools provided by the library (individual)	Guide on the use of the tools made available by the library, such as <i>software</i> Sophia... Not knowing the use of tools made available by the library.
40.1	Sources of information on the Internet	Promote training on information sources on the internet... Do not promote training on information sources on the internet.

Source: Authors' elaboration.

After constructing the 75 concepts, the information generated was weighted and organized by areas of concern chosen by the decision maker, and then given rise to candidates for Fundamental Viewpoints (FPVs). The concepts were divided into five areas of concern, called as

follows: FPVs: "1. Student's service"; "2. Educational levels"; "3. Planning of services"; "4. Financial resources"; and "5. Library staff." To understand the analyzed context, FPVs were organized in a structure called Family of Points of View, as shown in Figure 2.

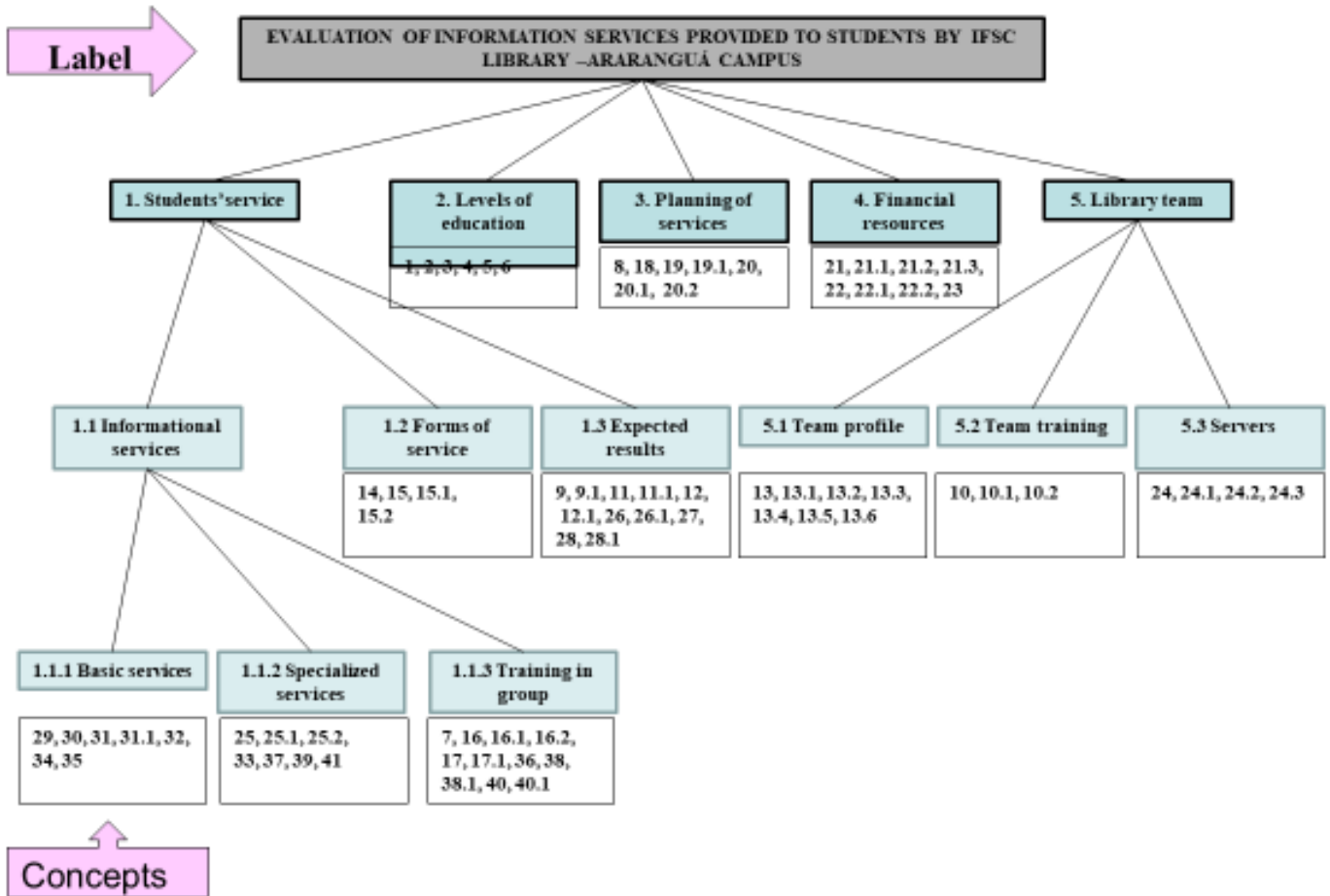


Figure 2. Family of Fundamental Viewpoints (FFPV).
Source: Authors' elaboration.

It is possible to see in Figure 2, that, according to the concerns presented by the decision maker, the five FPVs were identified. Below each of them are listed the concepts that exhibit the same strategic concern for the decision maker. In the same figure, the dismemberment in Elementary Points of View (EPVs) of FPV "1 Students' Service" is visualized. Subsequently, EPV Cognitive Map "1.1.1 Basic Services" was built (Figure 3). With the elaboration of the Cognitive Map, it is sought to structure and expand the decision maker's knowledge, through means and ends relations.

For this construction, the concepts of the EPV "1.1.1 Basic services" were organized in the form of a map, as

shown in Figure 3, and at the bottom of the map are the concepts of means (operational) and at the top are the considered strategic final concepts. A cause and effect analysis was performed on each concept and, as the understanding of the problem was expanded, the concepts were modified, and at times it was necessary to build new concepts. The new concepts are highlighted on the map, in blue and without the numbering referring to the PEEs. Based on the organization of the concepts on the map, the clusters were established, each one being related to a designation that conceives the decision maker's focus of interest. (Ensslin et al., 2013; Ensslin et al., 2010).

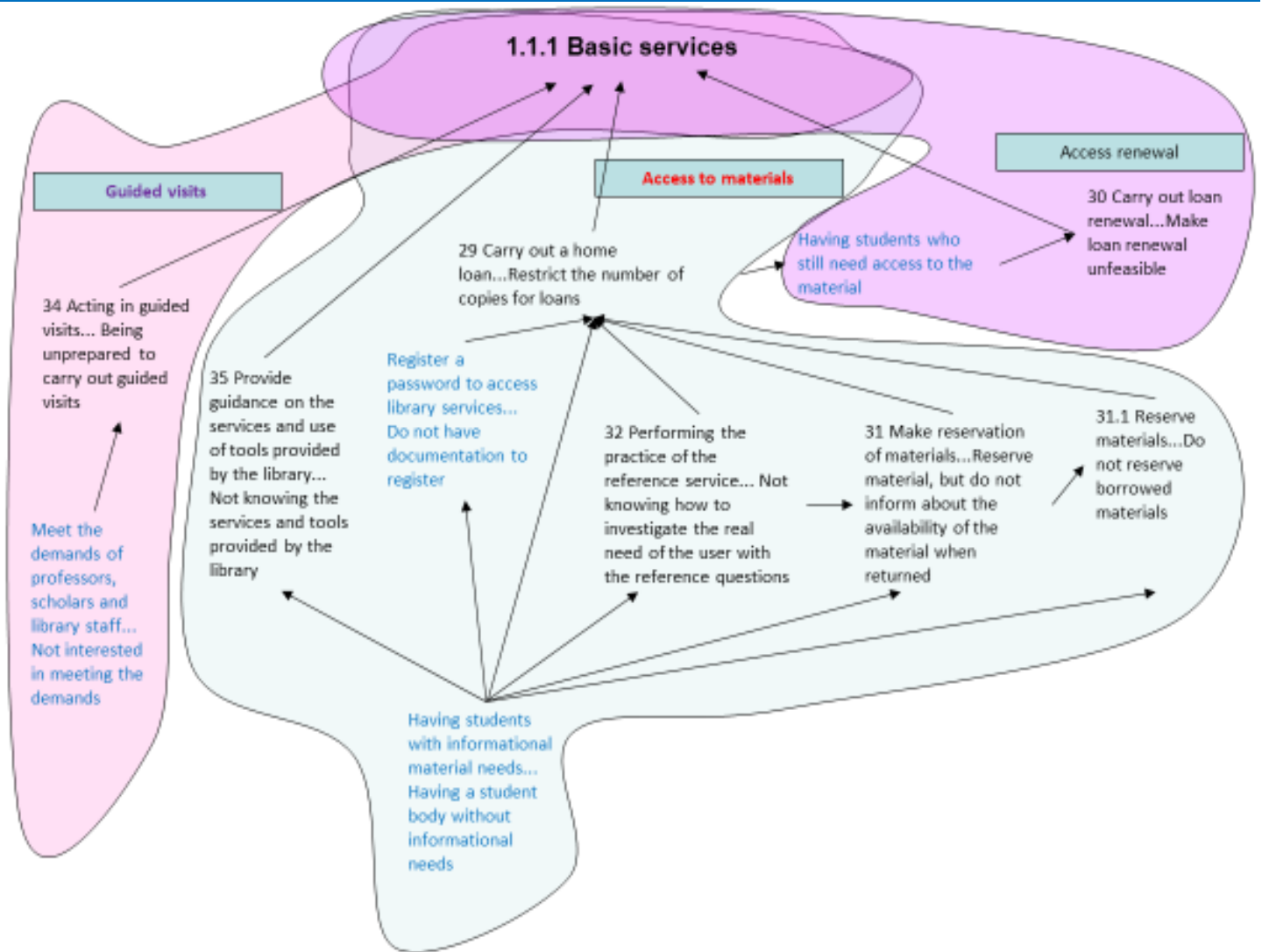


Figure 3. Cognitive Map – EPV 1.1.1 Basic Services
Source: Authors' elaboration.

Figure 3 shows that the EPV map "1.1.1 Basic services" displays three clusters: the first, which represents the "guided visits" service, is offered when the student enters the institution, constituting a way for him/her to get to know the space and the basic services of the library. The second cluster presents the "access to materials", dealing with access to the password and the loan of materials, and how to continue the loan service. The last cluster related is the "access renewal", which deals with the students' knowledge in renewing the loan of materials. The process of creating the cognitive map brought the possibility for the decision maker to obtain relevant information for the development of the concept according to her interests and pointed out the means to achieve the desired end. The expansion of EPV "1.1.1 Basic Services", through this procedure, allowed the aggregation of concepts from the cognitive map, thus giving rise to the Hierarchical Value Structure (HVS) (Ensslin et al., 2013). Figure 4 shows the HVS for EPV "1.1.1 Basic Services".

The Hierarchical Value Structure, shown in Figure 4, shows the Elementary Viewpoints (EPVs), created from the cognitive map. Below the EPV "1.1.1 Basic services", the

identification of Points of View that can be measured can be observed. For each of these EPVs, scales were constructed, called, in the MCDA methodology, as descriptors, which allow the evaluation of the performance of each EPV characteristics, which operationalize the objectives presented in the cognitive map (Cardoso et al., 2017; Rolim-Ensslin et al., 2015).

In the scale presented in Figure 4, the reference levels "Good" and "Neutral" are exposed, which allow the comparison of performance between the descriptors (Ensslin et al., 2000), and the performance presented at one of the scale points above the reference level "Good" will be considered excellent; those below the reference level "Neutral" will be considered compromising performance; and those between the two reference levels will be considered as competitive performance (market or expected) (Cardoso et al., 2017, Ensslin et al., 2001). Based on the defined reference levels, it is possible to describe the performance profile of the basic services described in the research and which are offered by the Araranguá campus library, as illustrated in Figure 4.

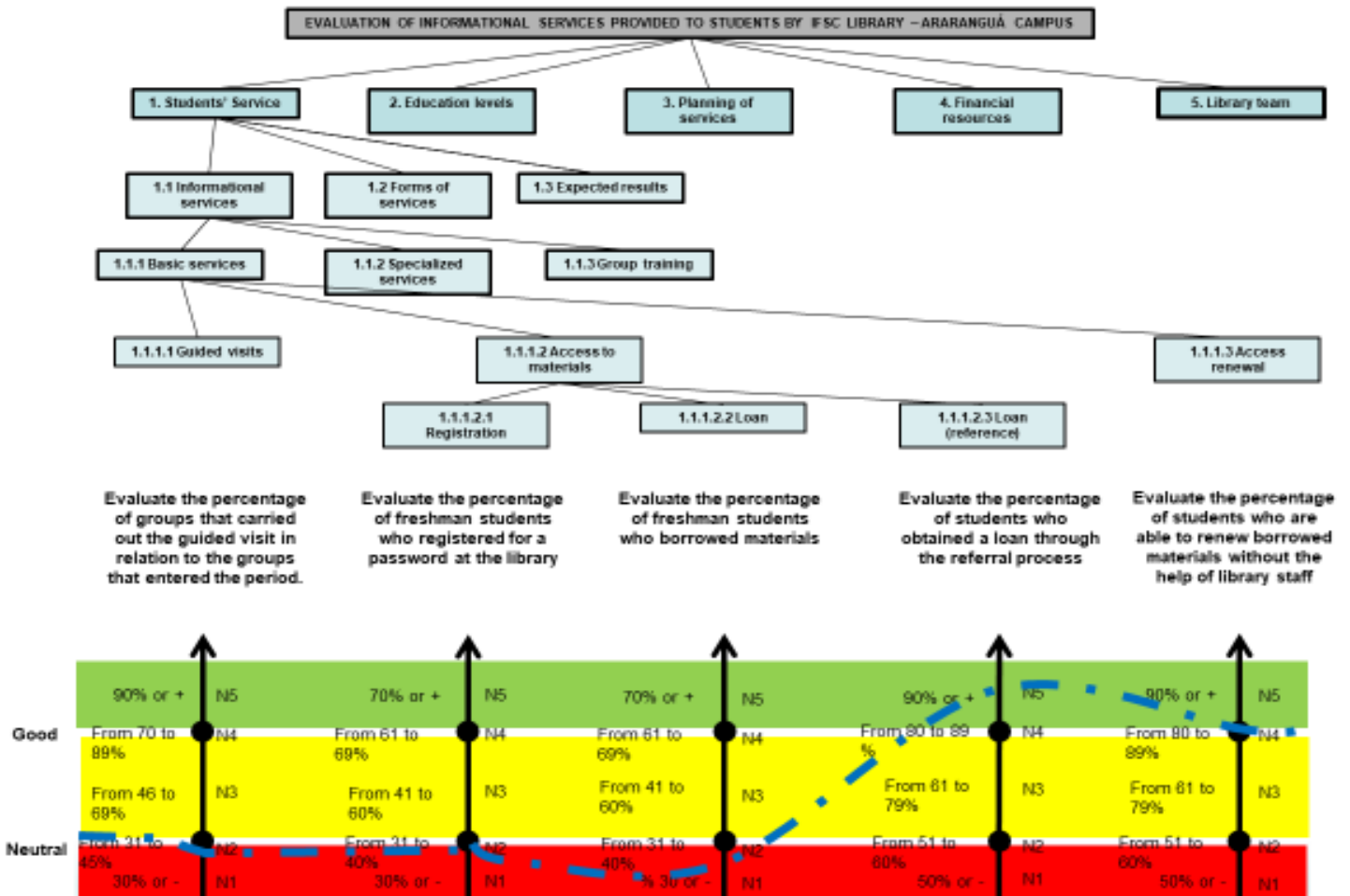


Figure 4. Hierarchical Value Structure (HVS) and descriptors of EPV 1.1.1 Basic Services
Source: Authors' elaboration.

Looking at Figure 4, it is possible to see that, for the EPV descriptor "1.1.1 Basic services", five levels were built, which allowed to evaluate the decision maker's concerns related to this descriptor (ordinal measurement scale). The blue dashed line shows the performance profile (status quo) is demonstrated, indicating that: three descriptors have market performance; one has excellent performance; and one descriptor shows compromising performance. The success of a service will only be achieved if the reality is known and, for this, indicators play a fundamental role in the performance evaluation processes.

Thus, we proceed to describe how the performance level calculations (status quo) of the indicators shown in Figure 4 were performed.

To measure the level of the first descriptor, "1.1.1.1 Guided Visits", the percentage was calculated based on the incoming classes in semester 2019.1, chosen because it was the last semester with fully face-to-face pre-pandemic assistance. Thus, nine groups entered, and four (44.44%) of them carried out the guided visit, leaving this indicator at a neutral level.

In order to verify the second descriptor, "1.1.1.2.1 Registration", a report was generated in software Sophia on the number of enrollments registered in the system in 2019 (752), and it was asked to IFSC Library System (SIBI/IFSC)

coordination to report the number of these students who had a password. The report resulted in data that 32.44% (244) of enrolled students created a password for use of the library's loan services, leaving this indicator also at the neutral level.

In order to verify the data of the third descriptor, "1.1.1.2.2 Loan", the number of 2019 enrollments (752) available in Sophia was used, and a loan report was generated from these applicants in 2019. With the results generated through software, it was found that the percentage of incoming students who took out a loan was 27.92% (210), thus remaining this indicator at a compromising level.

For the fourth descriptor, "1.1.1.2.3 Loan (reference)", the measurement was made based on the decision maker's personal experience and in the literature on the reference process. The term "reference process" is used to designate the activity involving the person who is performing the consultation and the execution of the reference service provided to it. The reference service is the assistance that is offered to the user who needs information (Grogan, 1995). Also according to Grogan (1995), the normal reference process has eight steps to be defined: The problem; The need for information; The initial question; The negotiated question; The search strategy; The search process; The

answer; The solution. In this case, based on the literature and the decision maker's personal knowledge, this indicator was at excellence level, with 95%.

In the case of the fifth and last descriptor, "1.1.1.3 Renewal of access", the loan renewal report of 2019 was generated, and the result showed that, of the 7,633 renewals carried out in the period, 6,388 (83.69%) were carried out by the student itself, using Sophia's access on the internet, and only 1,245 (16.31%) were carried out by the staff in the library, in person. That is, the indicator was also at excellence level, with 83.69%.

In a performance overview, one indicator performed excellently: "1.1.1.2.3 Loan (reference)", with the percentage of students who obtained a loan through the reference process. Three indicators remained at the competitive level: (1) "1.1.1.1 Guided Visits", with the percentage of classes that conducted the guided visit in relation to the classes that entered the period; (2) "1.1.1.2.1 Registration", with the percentage of incoming students who registered a password in the library; (3) "1.1.1.3 Access renewal", with the percentage of students who were able to renew the materials loan without the staff's help of the library. And one indicator showed compromising performance: "1.1.1.2.2 Loan", with the percentage of incoming students who borrowed materials.

Most of the descriptors (loan, renewal, guided visits) that resulted from this research were also found as quality indicators in libraries, calculated not based on students, but

rather based on the number of collections, on the literature, according to studies by Paula and Vergueiro (2018), Viapiana et al. (2018) and Pimenta (2016) The indicators that were based on password registration and the number of loans made after going through the reference process were not found in the literature.

It is understood that this result comes from the constructivist characteristic of MCDA-C methodology, which analyzes that the proposed model is customized to the application context (Cardoso et al., 2017). In this way, the particularities and attributes of the IFSC library - Araranguá campus and the librarian's perception were respected in the construction of indicators in the model structuring phase.

4.3 Recommendations for improvements using 5W2H

In the recommendations phase, the descriptor that performed at the compromising level was considered, and improvement actions were proposed for the growth and development of the information services offered by IFSC library, Araranguá campus. As shown in the EPV descriptors "1.1.1 Basic services" (Figure 4), the only performance indicator of this evaluated EPV, which was at the compromising level, was: "1.1.1.2.2 Loan", with the percentage of incoming students who borrowed materials. Table 3 presents the recommendations for improvements suggested to improve the performance of the indicator, causing it to achieve higher levels of performance.

Table 3

Recommendations for improvement actions, using 5W2H.

EPV	1.1.1.2.2 Loan			
Indicator	Percentage of new entrants who took out loan			
Current performance (status quo): N1 - 27,92%				
Goal: N4 - From 61 to 69%				
5W2H	1st action	2nd action	3rd action	4th action
What	Update the collection according to the needs of the courses offered by the campus.	Update the literature collection to meet the literary interests of the adult and adolescent public.	Carry out publicity campaigns for the library's collection.	Improve the location of the Library within the campus by building a library in a well-located environment.
Why	So that students have access to PPCs bibliographies.	Diversify the collection available to students.	To make the collection marketing available.	To make it easier for students to access library space.
Where	Araranguá Campus Library	Araranguá Campus Library	Araranguá Campus	Araranguá Campus
When	Annually	Annually	Annually	2023
Who	Coordinators, teachers and library staff.	Servers, students, and library staff	Library staff	Library Coordination, Librarian and Campus Management
How	Using PPCs data and part of the available funds for acquisition of materials.	Suggesting titles and using part of the money available for acquisition of materials.	Disseminating the collection through social networks, spaces available at the campus and in the library itself.	Presenting the demands of physical space and difficulty of accessibility, and seeking funding for the construction of a new space.
How much	Estimated R\$ 40,000.00	Estimated R\$4,000.00	No charges	Estimated R\$ 2.500.000,00

Source: Authors' elaboration.

To achieve higher levels of performance, increasing the number of loans, four actions were considered. The first (1st action) refers to improving the quality of the collection of technical books, in order to meet the demands of students and course staff. For this, the references of Pedagogical

Projects of the Courses (PPCs) would be used and, if they were outdated or exhausted in the book market, new titles would be suggested. The second (2nd action) deals with the updating of the literature collection (fiction, romance, suspense) to meet the interests of the library's reader

profile, which could suggest new titles for purchase. In the third (3rd action) it was proposed to disclose what the library already has and what will be acquired, making more people aware of what the library offers. The fourth (4th action) deals with improving the location of the library within the institution, since it is located far from the space with the greatest circulation of people.

The value estimates for updating the collection were made based on the values related to the collection purchases and the suggestions for the purchase of technical and literature books, made by servers and students, in the last two years. And to estimate the value of building a new physical space for the library, an estimate was requested from the responsible budget engineer.

As can be seen in Table 3, improvement actions are presented using 5W2H tool. The proposed improvement actions depend on several actors, and the entire library team is involved, highlighting that the coordination and the librarian (decision maker) manage the activities developed by the team. In this case, it is emphasized, in most actions, the need for cooperation between course coordinators, campus management, teachers, all profiles of servers and students, as they involve actions that depend on or are demanded by the academic community. However, as they interfere with the performance of the library, it is up to the librarian, together with the coordination, to seek solutions from those involved.

It is noted that the only EPV descriptor "1.1.1 Basic services", which presented compromising performance, refers to the percentage of incoming students who borrowed materials during the first year at the institution. Thus, this situation now provides the opportunity for improvement, through the proposed actions, cooperating to improve the information services offered by the IFSC library, Araranguá campus, mainly to improve the provision of basic services.

5 FINAL CONSIDERATIONS

The proposed evaluation model presented in this study has a significant contribution within a constructivist process of a methodology for the management of informational services in libraries. Rescuing the objective of this article, the aim was to propose a model to evaluate informational services provided to students by the IFSC library, Araranguá campus, through the Multicriteria Decision Support Methodology – Constructivist (MCDA-C). In this sense, it is understood that the objective was reached, with the presentation of important parts of the development of the model implemented with the methodology, having chosen, for this article, to focus on the services considered most important for the academic community, named basic services.

With the establishment of the status quo, it was feasible to identify the aspects of the basic services that presented the performances: excellence, competitive and compromising. The singular descriptor with excellent performance was: the percentage of students who obtained

a loan through the reference process. The three descriptors that were at the competitive level were: (1) percentage of classes that took the guided tour in relation to the classes that entered in the period; (2) percentage of freshman students who signed up for a password at the library; and (3) percentage of students who managed to renew the loan of materials without assistance from library staff. The descriptor that remained with compromising performance was: the percentage of incoming students who borrowed materials. For this point, in view of the need for improvement the performance of services, improvement actions were suggested, aiming to boost the performance of the number of loans, in the case of this indicator.

In the understanding of the authors of this research, the construction of the personalized model, to evaluate the informational services of the IFSC library, Araranguá campus, provided elements to improve the management of informational services and support the library's decision-making, contributing to, in the future, increase the performance of indicators. This may be possible by implementing the suggested actions.

However, it is observed that this research is limited to the construction of a personalized evaluation model to support the management of the IFSC library, Araranguá campus, according to the librarian's perception, in the decisions to be adopted. Therefore, in order to carry out a replication of this research, adaptations must be made, as it is necessary to consider the singular context of the object to be replicated, meaning that the aspects considered important for the library of the IFSC campus Araranguá will not necessarily be considered to collaborate in improving the performance of other libraries or institutions. Another limitation of the search was the lack of distinction between the institution's student profiles, as all student profiles were considered together. It is believed that if student profiles were removed from short courses, the descriptors could have different results.

Although the results of this research cannot be generalized, which is outside the scope of the approach used, the process employed in building the model (MCDA-C) can be used in other studies aimed at building models for evaluating information services

For future research, the following are suggested: (a) the construction of a model for evaluating the performance of secondary activities (technical process, physical preparation and acquisition) of the library; (b) the use of the MCDA-C methodology in evaluating information services in other IFSC libraries or in other library profiles; and (c) measuring the results obtained after applying the recommended actions, in order to observe the performance obtained in the library's indicators, in the following years.

REFERENCES

- Afthanorhan, A., Awang, Z., Rashid, N., Foziah, H., & Ghazali, P. L. (2019). Assessing the effects of service quality on customer satisfaction. *Management Science Letters*, 9(1), 13-24. <https://doi.org/10.5267/j.msl.2018.11.004>

- Araújo, A. R. S., Oliveira, R. M. F. S., & Bezerra, M. G. (2017). Serviços de informação em bibliotecas universitárias: Estudo comparativo entre bibliotecas de instituições de ensino superior da cidade de Juazeiro do Norte, Ceará. *Revista Brasileira de Biblioteconomia e Documentação*, 13, 1017-1033. <https://rbbd.febab.org.br/rbbd/article/view/822>
- Azevedo, K. R., & Dumont, L. M. M. (2020). Letramento informacional em bibliotecas do Instituto Federal do Espírito Santo: O trabalho do bibliotecário frente às demandas e necessidades informacionais dos estudantes. *InCID: Revista de Ciência da Informação e Documentação*, 11(2), 121-141. <https://doi.org/10.11606/issn.2178-2075.v11i2p121-141>
- Azevedo, R. C., Lacerda, R. T. O., Ensslin, L., Jungles, A. E., & Ensslin, S. R. (2013). Performance measurement to aid decision making in the budgeting process for apartment building construction: A case study using MCDA-C. *Journal of Construction Engineering and Management*, 139(2), 225-235. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0000587](https://doi.org/10.1061/(ASCE)CO.1943-7862.0000587)
- Bana e Costa, C. A. (1993). Três convicções fundamentais na prática do apoio à decisão. *Pesquisa Operacional*, 13(1), 9-20.
- Bortoluzzi, S. C., Ensslin, S. R., Ensslin, L., & Valmorbidia, S. M. I. (2011). Avaliação de desempenho em redes de pequenas e médias empresas: Estado da arte para as delimitações postas pelo pesquisador. *Revista Eletrônica de Estratégia & Negócios*, 4(2), 202-222. <https://doi.org/10.19177/reen.v4e22011202-222>
- Caldatto, F. C., Bortoluzzi, S. C., Pinheiro de Lima, E., & Costa, S. E. G. (2021). Urban sustainability performance measurement of a small Brazilian city. *Sustainability*, 13(17). <https://doi.org/10.3390/su13179858>
- Cardoso, T. L., Ensslin, S. R., & Dias, J. (2016). A avaliação de desempenho da sustentabilidade financeira da Universidade do Mindelo (Cabo Verde): Um modelo multicritério construtivista. *Revista Eletrônica de Estratégia & Negócios*, 9(2), 234-264. <https://doi.org/10.19177/reen.v9e22016221-248>
- Cardoso, T. L., Ensslin, S. R., Dutra, A., & Dias, J. (2017). Um modelo multicritério construtivista para apoiar a gestão da atividade de pesquisa da universidade de Mindelo. *Revista de Gestão e Secretariado*, 8(2), 76-96. <https://doi.org/10.7769/gesec.v8i2.576>
- Castro, C. M. (2006). *A prática da pesquisa*. (2. ed.). São Paulo: Pearson Prentice Hall.
- Cavalcanti, C. O. P., & Soares, S. V. (2023). Panorama dos métodos quantitativos usados em pesquisas com o instrumento LibQUAL, em instituições de ensino superior. *Revista de Administração, Contabilidade e Economia da Fundace*, 1(14), 21-41. <https://doi.org/10.13059/racef.v14i1.914>
- Cook, C., & Thompson, B. (2000). Reliability and validity of SERVQUAL scores used to evaluate perceptions of library service quality. *The Journal of Academic Librarianship*, 26(4), 248-258. [https://doi.org/10.1016/S0099-1333\(00\)00114-2](https://doi.org/10.1016/S0099-1333(00)00114-2)
- Creswell, J. W. (2014). *Research design qualitative, quantitative and mixed methods approaches*. Los Angeles: Sage.
- Cronin, J. J., Jr., & Taylor, S. A. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, 56(3), 55-68. <https://doi.org/10.1177/002224299205600304>
- Duarte, E. J., Vieira, F. S., Silveira, J., & Lopes, A. F. (2015). Os serviços e os produtos de informação oferecidos pela Biblioteca Pública de Santa Catarina. *Revista ACB*, 20(3), 606-620. <https://revista.acbsc.org.br/racb/article/view/1100>
- Dutra, A., Ripoll-Feliu, V. M., Ensslin, S. R., Ensslin, L., & Gonçalves, L. P. (2015). Opportunities for research on evaluation of seaport performance: A systemic analysis from international literature. *African Journal of Business Management*, 9(20), 704-717. <https://doi.org/10.5897/AJBM2015.7833>
- Ensslin, L., Dutra, A., & Ensslin, S. R. (2000). MCDA: A constructivist approach to the management of human resources at a governmental agency. *International Transactions in Operational Research*, 7(1), 79-100. <https://doi.org/10.1111/j.1475-3995.2000.tb00186.x>
- Ensslin, L., Giffhorn, E., Ensslin, S. R., Petri, S. M., & Vianna, W. B. (2010). Avaliação do desempenho de empresas terceirizadas com o uso da metodologia multicritério de apoio à decisão-construtivista. *Pesquisa Operacional*, 30, 125-152. <https://doi.org/10.1590/S0101-74382010000100007>
- Ensslin, L., Mussi, C. C., Dutra, A., Ensslin, S. R., & Demetrio, S. N. (2020a). Management support model for information technology outsourcing. *Journal of Global Information Management (JGIM)*, 28(3), 123-147. <https://doi.org/10.4018/JGIM.2020070107>
- Ensslin, L., Mussi, C. C., Rolim-Ensslin, S., Dutra, A., & Fontana, L. P. B. (2020b). Organizational knowledge retention management using a constructivist multi-criteria model. *Journal of Knowledge Management*, 24(5), 985-1004. <https://doi.org/10.1108/JKM-12-2019-0689>
- Ensslin, L., Neto, G. M., & Noronha, S. M. (2001). *Apoio à decisão: Metodologias para estruturação de problemas e avaliação multicritério de alternativas*. Insular.
- Ensslin, S. R., Ensslin, L., Back, F., & Rogerio, T. O. L. (2013). Improved decision aiding in human resource management: a case using constructivist multi-criteria decision aiding. *International Journal of Productivity and Performance Management*, 62(7), 735-757. <https://doi.org/10.1108/IJPPM-04-2012-0039>
- Ghaedi, R., Valizadeh-Haghi, S., Ahmadi, E., Zeraatkar, Z., & Baghestani, A. R. (2020). Gaps between users expectations and their perceptions on service quality of college libraries of Shahid Beheshti University of Medical Sciences: A case study. *DESIDOC Journal of Library & Information Technology*, 40(2), 20-31. <https://doi.org/10.14429/djlit.40.2.14958>
- Grogan, D. (1995). *A prática do serviço de referência*. Brasília: Briquet Lemos.
- Instituto Federal de Educação, Ciência e Tecnologia de Santa Catarina. (2023) *Resolução CEPE/IFSC Nº 165, de 25 de outubro de 2011*. Estabelece o regulamento único para o Sistema de Bibliotecas do Instituto Federal de Educação, Ciência e Tecnologia de Santa Catarina. [Florianópolis: IFSC].
- Instituto Federal de Educação, Ciência e Tecnologia de Santa Catarina. *Histórico*. [Araranguá: IFSC]. <https://www.ifsc.edu.br/web/campus-ararangua/historico>
- International Standardization. (2014). *Information and Documentation - Library performance indicators*. (ISO 11620:2014). Switzerland: ISSO.
- Keeney, R.L. (1992). *Value-focused thinking: A path to creative decision making*. London: Harvard University Press.
- Lacerda, R. T. D. O., Ensslin, L., Ensslin, S. R., & Dutra, A. (2014). A constructivist approach to manage business process as a dynamic capability. *Knowledge and Process Management*, 21(1), 54-66. <https://doi.org/10.1002/kpm.1428>
- Landry, M. (1995). A note on the concept of 'problem'. *Organization Studies*, 16(2), 315-343. <https://doi.org/10.1177/017084069501600206>
- Marconi, M. A., & Lakatos, E. M. (2010). *Fundamentos de metodologia científica*. São Paulo: Atlas.

- Morales, M., Ladhari, R., Reynoso, J., Toro, R., & Sepulveda, C. (2011). Factor structure and psychometric properties of a Spanish version of LibQUAL+™. *Performance Measurement and Metrics*, 12(1), 23-37. <https://doi.org/10.1108/14678041111124270>
- Moutinho, S. O. M., & Lustosa, I. T. (2011). As bibliotecas dos Institutos Federais frente às novas demandas gerenciais e informacionais causadas pela Lei 11.892/2008. *Fórum de Bibliotecários da Rede Federal de Educação Tecnológica*, 6.
- Napoleão, B. M. (2018). *5W2H*. <https://ferramentasdaqualidade.org/5w2h/>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 16(1), 12-40.
- Paula, M. A., & Vergueiro, W. D. C. S. (2018). Avaliação de desempenho em bibliotecas: Revisão de literatura e apresentação de indicadores. *Informação & Sociedade*, 28(1). <https://brapci.inf.br/index.php/res/v/92568>
- Pereira, A. M. (2017). Avaliação de serviços de informação. In D. Spudeit & M. S. Kroeff. *Gestão de unidades de informação*. (pp. 113-143) São Paulo: FEBAB. http://repositorio.febab.org.br/files/original/2/1534/Gestao_de_unidades_de_informacao_-_Spudeit-D_Kroeff-MS_2017.pdf
- Pimenta, E. C. T. (2016). *Desempenho de uma biblioteca universitária baseada em indicadores da ISO 11620: Ações para melhoria do desempenho e da qualidade dos serviços prestados*. (Tese de Doutorado). Universidade Federal do Espírito Santo - UFES, Vitória. http://portais4.ufes.br/posgrad/teses/tese_10058_Disserta%20E7%E3o%20Final%20-%20Elaine%20Cristina%20Tom%E1s%20Pimenta.pdf
- Pimenta, E. C. T., & Coelho, T. P. C., Jr. (2016). O uso de indicadores de desempenho da ISO 11620 para avaliar bibliotecas universitárias. *Seminário Nacional de Bibliotecas Universitárias*, 19. http://repositorio.febab.org.br/files/original/31/4481/SNBU2016_099.pdf
- Richardson, R. J. (2010). *Pesquisa social: Métodos e técnicas*. (3. ed.). São Paulo: Atlas.
- Rolim-Ensslin, S., Dutra, A., de Souza-Duarte, C., Cezar Bortoluzzi, S., & Ripoll-Feliu, V. M. (2014). A avaliação de desempenho como proposta para gestão das equipes do programa brasileiro "Estratégia da Saúde da Família"(ESF). *Revista Gerencia y Políticas de Salud*, 13(26), 10-25. <https://doi.org/10.11144/Javeriana.RGYPS13-26.adpg>
- Rolim-Ensslin, S., Dutra, A., Ensslin, L., Valmorbida, S. M. I., & Cardoso, T. L. (2015). Avaliação multicritério de desempenho de portos marítimos brasileiros: Estudo de caso para apoiar à gestão do porto de São Francisco do Sul. In *Congresso Internacional de Desempenho Portuário (CIDESPORT)*, Florianópolis, SC.
- Roy, B. (1993). Decision science or decision-aid science? *European Journal of Operational Research*, 66(2), 184-203. [https://doi.org/10.1016/0377-2217\(93\)90312-B](https://doi.org/10.1016/0377-2217(93)90312-B)
- Silva, A. F., & Spudeit, D. (2021). A oferta de serviços informacionais acessíveis para pessoas cegas em bibliotecas universitárias. *Revista Brasileira de Biblioteconomia e Documentação*, 17, 1-27. <https://febab.emnuvens.com.br/rbbd/article/view/1560>
- Silva, L. C. (2019). *Proposta de integração dos objetivos de desenvolvimento sustentável com o orçamento público: Estudo em um município brasileiro para apoiar decisões sobre desempenho ambiental*. (Dissertação de Mestrado). Universidade Federal de Santa Catarina - UFSC, Florianópolis.
- <https://repositorio.ufsc.br/handle/123456789/215617>
- Silveira, M. M., Vianna, W. B., & Cândido, A. C. (2019). Construção e legitimação de modelo multicritério para a gestão da inovação em bibliotecas. *Revista Interamericana de Bibliotecologia*, 42(3), 223-234. <https://doi.org/10.17533/udea.rib.v42n3a03>
- Skinner, W. (1986). The productivity paradox. *Management Review*, 75, 41-45.
- Smania, G. R., Soares, S. V., Lima, C. R. M., & Becker, D. E. (2022). Utilização de métodos quantitativos em pesquisas sobre o uso da escala ServQUAL em instituições de ensino superior. *Revista Pernambucana de Administração*, 1(2), 1-22. <https://rpad.emnuvens.com.br/revista/article/view/14/48>
- Valls, V. M., & Vergueiro, W. C. S. (2006). A gestão da qualidade em serviços de informação no Brasil: Uma nova revisão de literatura, de 1997 a 2006. *Perspect. Ciênc. Inf.*, 11(1), 118-137. <https://doi.org/10.1590/S1413-99362006000100010>
- Viapiana, N., Castro, A. C., Kroeff, M. S., & Moraes, M. C. B. (2018). Modelo de avaliação da gestão para uma biblioteca pública. *Ciência da Informação*, 47(3). <http://revista.ibict.br/ciinf/article/view/4168/3974>.
- Wirtz, J., Hemzo, M. A., & Lovelock, C. (2020). *Marketing de serviços: Pessoas, tecnologia, estratégia*. São Paulo: Saraiva.
- Yin, R. K. (2010). *Estudo de caso: Planejamento e método*. Porto Alegre: Bookman.
- Zamcopé, F. C., Ensslin, L., & Ensslin, S. R. (2012). Desenvolvimento de um modelo para avaliar a sustentabilidade corporativa. *Production*, 22(3), 477-489. <https://doi.org/10.1590/S0103-65132012005000048>
- Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2014). *Marketing de serviços*. Porto Alegre: Grupo A.

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