

What is the value of information? Calculating the economic value of a library's services

Quanto vale a informação? Calculando o valor econômico dos serviços de uma biblioteca

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ABSTRACT

The benefits of the services provided by an information unit have been characterized by the desired results, such as the actual response of a user question, when the values are concrete enough data if considered in monetary terms, that is, what is the cost to provide such services. Assigning and measuring value to each of the informational services offered by university libraries is one of the most challenging and least applied management tasks in informational environments. This study aims to assign economic value to the services provided by a Brazilian university library, in order to develop a tool that will assist the managers in the decision-making processes and evaluation of the information units in order to guarantee the quality of the services provided.

KEYWORDS: Information costs. Information services. University library. Planning. Evaluation. Federal University of Uberlândia.

RESUMO

Os benefícios dos serviços oferecidos por uma unidade informacional têm sido caracterizados pelos resultados desejados como, por exemplo, a resposta efetiva de uma questão pelo usuário sendo os valores constituídos de dados bastantes concretos se considerados em termos monetários, ou seja, qual é o custo para disponibilizar tais serviços. Atribuir e medir valor a cada um dos serviços informacionais oferecidos pelas bibliotecas universitárias é uma das tarefas gerenciais mais desafiadoras e menos aplicadas nos ambientes informacionais. Com este trabalho objetiva-se atribuir valor econômico aos serviços prestados por uma biblioteca universitária brasileira, a fim de desenvolver uma ferramenta que venha auxiliar os gestores nos processos de tomada de decisão e avaliação das unidades informacionais visando a garantia da qualidade dos serviços prestados.

PALAVRAS-CHAVE: Custo da informação. Serviço de informação. Biblioteca universitária. Planejamento. Avaliação. Universidade Federal de Uberlândia.

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“O planejamento faz o tempo trabalhar a nosso favor”
(SLOMA, 1985 apud ALMEIDA, 2005, p. 2).

1 INTRODUCTION

Also called the "information and knowledge age", the post-industrial era differs from the others perceptibly in the economic sector, especially in services, technology and social development. Its organization takes place around information, knowledge, communication and access to its services and products. It is accompanied by the rapid growth of the quaternary sector of the economy responsible for the production, processing and distribution of information goods. Highly intellectualized industry that includes investigation, development and innovation. Information is an input used by all organizations and, when well managed, it becomes a strategic resource, essential for the decision-making process. In this context, managers of university libraries, in order to promote access to information through products, services and the diffusion of intellectual production, following technological, cultural and social changes, are challenged to plan the future in an innovative way, seeking a new form of reinventing themselves through new management models.

Information management and, consequently, knowledge management are models that began being discussed and recorded in literature from the 1980s (MARCHIORI, 2014) and have occupied more and more relevant space in the information units. That is due to it being concerned about investing in the professional capacity to produce better results, in an optimized way to reach the proposed goals and the programmed activities, identifying the information needs, the search, their use and their sharing (LEITE; SOUZA, 2014, p. 12).

In any management model, planning is an indispensable practice for the exercise of administration. According to Almeida (2005, p.2) as a "continuous, permanent and dynamic process that sets goals, defines lines of action, details the steps to achieve them and provides the resources necessary to implement those goals." Among the several stages of planning, the author affirms that the evaluation allows to measure the success in the implementation of the proposal and to defining new goals. The Dictionary of Library and Information Technology defines evaluation as "quantitative and qualitative measurement of the quality of the collection, services and programs of a library ... in relation to the level of attendance of users' needs" (AVALIAÇÃO, 2008, p. 41). Ensuring the quality of a service offered is a fundamental strategy of the evaluation process, which includes several instruments such as statistical data, quality indicators (criteria), surveys with the user perception, worksheet to calculate the value of products and services, among others. An example of quality indicators is ISO 11620, which aims to "endorse the use of performance indicators in relation to the quality of services in libraries and to disseminate knowledge on how to conduct performance measures" (INTERNATIONAL STANDARD ORGANIZATION, 2014, p. 5, personal translation). Another instrument that contributes to the analysis and evaluation of information units is the Return On Investment (ROI), defined by the University of West Florida as the relation between the economic return total and public libraries investment (UNIVERSITY OF WEST FLORIDA, 2013). The American Library Association (ALA), in its electronic

page¹, presents several libraries that use the ROI methodology, especially the British Library, Carnegie Library of Pittsburgh, Florida Public Libraries and others. The evaluation process requires the adequacy of the informational unit to the needs of its users and to the standards determined by the profession in order to satisfy those who use the services and the fulfillment of those who offer them.

In this context, this study aims to attribute economic value to the services offered by a Brazilian university library in order to develop a tool prototype to aide managers in the decision-making and evaluation process of information units aiming at ensuring the quality assurance of services provided.

2 LITERATURE REVISION

We call service the performance of any work, profit, utility, interconnected or not to a physical product representing the intangibility of a good. The provision of services, for example, does not grant the acquirer the exclusive possession of a benefit except in cases where there is an exclusivity contract. Although of an intangible nature, the services provided by many sectors require large structures and physical equipment and consume large amounts of resources.

Since information is the feedstock of libraries, an information service consists of an activity of identifying, acquiring, processing and transmitting information, and often the provision of an information product. In addition to the characteristic of intangibility, the information service is heterogeneous, simultaneous and volatile, which implies special attention in process management (Barbohal 1997; DHOLAKIA; MUNDORF; DHOLAKIA, 1997), as in the case of libraries. Among the most common services offered by libraries, mention should be made of the varied loans, the bibliographic switching, the drawing up of catalogs, the guidelines for research in databases, the standardization of academic works, among others. In order to identify the fair price for the service offered, a series of variables should be considered, for example, the environment (space rent), the employee responsible for the service, etc.

The cost-profit ratio of a product or service is the relative analysis between what is spent and what is received as profit. For Balbinoto Neto ([2016]), this relationship occurs "when two or more strategies are compared considering their consequences and costs." Bringing the term to information units, the analysis must justify the permanence of a given service in function of the benefits that results from it. The benefits of the information service have been characterized by the desired results, for example, the effective response of a

¹ Cf. <http://www.ala.org/research/librariesmatter/taxonomy/term/129>.

question by the user, and the costs are very concrete data, if considered in monetary terms, that is, how much was spent to provide such services.

According to Lancaster (1996), in order to determine the real value of the information service, it is necessary to take into account all costs including those that include users, since the time spent in using the services also has costs. For the author, a cost-profit ratio can be improved by increasing profits without increasing costs, or even reduce costs without reducing profits.

[...] the benefits of information services are often intangible, and because they can not be easily expressed in the same unit, such as costs (for example, in monetary values), true cost-profit studies are virtually unfeasible in our field (LANCASTER, 1996, p. 1).

While recognizing that the benefits of information services cannot be expressed with equal cost infallibility, still in the attempt to identify them in the same measurement units in which costs are expressed, which is in monetary units, the belief is in an approximate results analysis that should not be overlooked when planning the actions of a library. On the contrary, such evaluation is fundamental in the decision-making regarding maintaining or acquiring certain type of service.

Identifying the benefit that the work developed in informational units represents for society, considering the economic aspects, has always been a great challenge for the managers. Although Lancaster (1996) argues that cost-profit studies are virtually unfeasible in our field, it seems that attempts of this nature, with varying degrees of success, have been performed as exemplified below. The Library Network of the Spanish Higher Council for Scientific Research (CSIC, 2012) points out the return studies on investments applied to libraries as one of the attempts to fill this demand.

The Massachusetts Library Association (MLA) was pioneer in creating a spreadsheet to calculate and publicize the value of services offered by libraries, later the Chelmsford Public Library adapted the MLA calculator and made it available for web access and for sharing with other institutions. According to the CSIC (2012), the calculator is a tool developed to assist libraries in understanding and disseminating the value of services provided. It is possible to expand, adapt and correct proposals according to the needs of each library. Currently the tool is used by several libraries in the United States, such as: ALA², Vermont Library Association³, Maine State Library⁴, Sno-Isle Libraries⁵, National Network of Libraries of Medicine⁶ and New York Library Association⁷.

² Cf. http://www.ala.org/advocacy/advleg/advocacyuniversity/toolkit/makingthecase/library_calculator.

³ Cf. <http://web.archive.org/web/20071010131408/http://www.vermontlibraries.org/value.html>.

⁴ Cf. <http://www.maine.gov/msl/services/calculator.htm>.

⁵ Cf. <http://www.sno-isle.org/valuecalc/>

⁶ Cf. <https://nmlm.gov/mcr/evaluation/calculator.html>

⁷ Cf. https://www.nyla.org/max/4DCGI/cms/review.html?Action=CMS_Document&DocID=1181&MenuKey=advocacy

In 2010, the CSIC Library Network announced the initiative to adapt the MLA tool to quantify economically the benefits resulting from the use of library services. At first, there was the definition of the types of services, the measurement unit adopted to account for their use, the estimated service price (base year 2011), the source used to calculate it and the equation/data needed for definition (CSIC, 2012) (Table 1). As for the collection of the data,

[...] calculations can be made by libraries or library networks for the current year or for shorter periods, as a sampling of the provided services value, or by the users to know what it would cost to acquire these resources at one time or over a period of time (CSIC, 2012, our translation).

The informational services considered by the Spanish network were: loan of books, consulted books and magazines⁸, reprography, bibliographic commutation, loans between libraries, use of study or meeting rooms, users training, librarians training, computer use, downloads of articles (Volumes, photocopies, originals, articles, hours, assistants, downloads and consultations) (Table 1).

For each of the services, estimated prices are presented. The prices defined may apply to libraries or library networks that have similar characteristics to the CSIC Library Network (2012). Aiming at the consistency of the data provided with the economic reality of the library and the environment in which it is inserted, the authors emphasize the need for constant prices updates. The CSIC (2012) also emphasizes that sources that better reflect the cost of each information service were established to calculate each of the prices. Most prices were based on averages adopted by organizations similar to the Library Network or applied by organizations and associations, such as (REBIUN, Sedic and COBDC) or document delivery services such as (SUBITO, BLD, OCLC, INIST, etc.). In some cases, a defined estimated price was based on similar service providers available on sites (cybercafé, room rent, etc.). The equations used to define each price are listed in Table 1.

3 METHOD

The methodology adopted for the development of this study was based on the presuppositions of qualitative research combined with resources of quantitative approach, with an exploratory approach, aiming to provide the necessary subsidies for the understanding of the questions related to library evaluation, quality of services offered, statistic surveys, and cost-profit. For Gunther (2016), the researcher's emotional involvement with the research theme would characterize the qualitative research, understood as a process of reflection and analysis of reality, through the adoption of techniques to better understand the object of study in its historical context or according to its structure, as a social act of knowledge construction. On the other hand, the resources of the quantitative approach consider statistical data expressed in quantities, excluding personal beliefs and values, as

⁸ Instruct that data can be collected manually or automatically by the library management system, lease function. In case of not being systematically obtained, sampling adoption is oriented.

sources of influence in the scientific process.

To formulate questions or problems, Marconi and Lakatos (1990, p.77) point out the application of exploratory research that allows "to develop hypotheses, to increase the familiarity of the researcher with the environment, fact or phenomenon for the accomplishment of a more precise future research or to modify and clarify concepts."

The collection of data was based on bibliographical and documentary surveys pertinent to the topic, published in books, scientific articles, theses and dissertations, official governmental and institutional documents and other documents available on the internet and the costing method, to compose an estimate of the services price used by the market.

Table 1. Pricing of the informational services of the CSIC Library Network

Service	Measure	Euro price	Real price	Price Source	Equation
Libros prestados	Volúmenes	37,64 €	R\$ 151,31	REBIUN: precio medio de las monografías	Σ Gasto en compra de monografías / Σ Monografías compradas
Libros consultados en sala	Volúmenes	37,64 €	R\$ 151,31	REBIUN: precio medio de las monografías	Σ Gasto en compra de monografías / Σ Monografías compradas
Revistas consultadas en sala	Volúmenes	5,48 €	R\$ 22,03	REBIUN: precio medio de los artículos	$(\Sigma$ Gasto en suscripción de revistas / Σ revistas compradas) / (4 números al año x 10 artículos por número)
Reprografía o fotodocumentación	Fotocopias	0,15 €	R\$ 0,60	CSIC: precio reproducción en A4	Precio para fotocopias A4
PI originales más tarifas de PI	Originales	45,64 €	R\$ 183,47	REBIUN: precio medio de monografías	$(\Sigma$ Gasto en compra de monografías / Σ Monografías compradas en el año) + Tarifas PI para préstamo de originales
PI artículos tarifas de PI	Artículos	10,48 €	R\$ 42,13	REBIUN: precio medio de artículos más	$((\Sigma$ Gasto en suscripción de revistas / Σ Revistas compradas) / (4 números al año x 10 artículos por número)) + Tarifas PI para copias
Uso de salas de estudio o reunión	Horas	15,00 €	R\$ 60,30	Precio estimado por hora	Estimación
Formación de usuarios para socios	Asistentes	177,00 €	R\$ 711,54	SEDIC y COBDC: precio medio de cursos	Σ Precio de cursos organizados / Σ Cursos organizados
Formación de bibliotecarios para socios	Asistentes	177,00 €	R\$ 711,54	SEDIC y COBDC: precio medio de cursos	Σ Precio de cursos organizados / Σ Cursos organizados
Uso de ordenadores	Usuarios/Hora	3,00 €	R\$ 12,06	Cibercafés: precio medio estimado por hora	Estimación
Descargas de artículos en línea	Descargas	13,00 €	R\$ 52,26	SUBITO, BLD, BNF y REBIUN: precio medio por envío electrónico de copias	Σ Precios de los servicios de obtención de documentos / Σ Proveedores
Descargas de Digital.CSIC	Descargas	13,00 €	R\$ 52,26	SUBITO, BLD, BNF y REBIUN: precio medio por envío electrónico de copias	Σ Precios de los servicios de obtención de documentos / Σ Proveedores
Servicios de Referencia	Consultas	15,00 €	R\$ 60,30	Precio estimado por consulta	Estimación

Source: Adapted from CSIC (2012).

To approach the Brazilian reality, the costs of services in Euro have been converted to Real. Quotation 04/21/2016. Cf. <http://www4.bcb.gov.br/pec/conversao/conversao.asp>.

The cost information, as well as its analysis, are strategic subsidies in the managers' decision making in the optimization of the organizations' performance. In order to carry out cost analyzes, it is necessary to use costing systems that refer to how to determine the costs of the products or services by a particular company. For this research, the activity-based costing system (ABC) was adopted, which "assumes that it is not the goods or services that consume resources, but rather the resources that are consumed by the activities and these, on their turn, are consumed by the goods or services (ABBAS, GONÇALVES, LEONCINE, 2003), mixing "human, material, technological and financial resources used to produce goods and services (MARTINS, 2000, p.)."

Data analysis and interpretation were performed based on the information obtained in the literature (bibliographic and documentary survey), compared to the data collected (statistical data of services offered by the Central Library of Santa Monica, collected in the base year 2015 and prices of information services in the market).

Considering the questions pointed out by the authors: How much are our services worth? Is there any initiative in Brazil of this nature, which prices the information services provided by libraries? And the fact that in the universe searched, it was not identified any tools adapted to those made available by the libraries abroad (USA and Spain), was there the intention to identify the categories and define criteria to price the services provided in the information units? The definition of the categories was based on the model adopted by the CSIC Library Network (Table 1), adapted according to the reality lived in the UFU libraries, object in question. Among the categories analyzed and identified were the following: Loan, Query, Reprography, Bibliographic Commutation, Access, Download, Use of collective environments, User training, Server training, Computer use, Reference services, Publication Cataloging and Information on the website.

The Santa Monica Central Library, defined as the object of this study, was the first large UFU library built, inaugurated in 1991 with a physical space of 5,735m². This is the location of the SISBI/UFU board of directors, the divisions that develop the internal services such as: selection, acquisition, preparation, cataloging, classification and treatment of all information material acquired for the eight libraries of the system. In addition to the collection of works of the fields: Exact and Earth Sciences, Humanities, Applied Social Sciences, Engineering, Linguistics, Letters and Arts (UFU, 2016). Among the offered services are: lost and found, acquisition of informational material, publication cataloging, registration opening, loan of informational material, netbook, tablet and e-reader loans, interlibrary loan, renovation, reservation and donation of informational material. As well as: Bibliographic commutation and survey, lockers, collection listing, normalization, receiving of the MEC commission, submission of theses or dissertations to BDTD, suggestions of literary works, trainings, VideoSaude Fiocruz (health video indications), self-service (return, loan, scanning of texts), multimedia island, research island, collaborative laboratories, application of the SISBI/UFU mobile management software and wireless Wi-Fi network. Also information acquisition Management System, Video conferencing, 7-in-1 audio system,

assistive technologies, 24-hour room, audiovisual room, reservation room, environment for use of audiovisual materials.

Finally, this work is a preliminary study from which it is intended to elaborate an application plan to develop, in partnership with the Information Technology Center (CTI), a tool to calculate the value of the services offered by UFU libraries that will be installed on the SISBI/UFU website so that other institutions can benefit from it. Because it is a public university, the source code of the calculator is intended to be available to the interested parties to make adaptations according to the peculiarities of their institution, corroborating the principles of more rational management of resources and computing expenses, and expansion of partnerships and reinforcement of free software policy in the public sector of the Ministry of Planning, Budget and Management (MPOG) (BRAZIL, [2016a]). The Calculator will be a tangible product resulting from the study of the description of the services offered by the libraries and the assessment of the value of these services.

4 RESULTS

In order to fulfill the this study's proposed goal to assign economic value to the services provided by a university library, from the services indicated by the CSIC Library Network (Table 1) faced with the reality lived in the Santa Monica Central Library of UFU the following informational⁹ services were defined to compose the reality of a Brazilian university library:

- a) **loans of books, DVDs, CDs, sheet music, EEB and EIB:** indicates the number of borrowed "copies", in the period of time analyzed, according to the library's statistical data;
- b) **mobile loan:** Indicates the number of "units" borrowed, over the time period analyzed, according to library statistics;
- c) **consulted books:** indicates the number of "copies" consulted in the premises of the library, through manual collection;
- d) **consulted magazines and newspapers:** indicates the number of "issues" consulted in the dependences of the library;
- e) **reprography:** indicates the number of "pages" scanned in the library;
- f) **bibliographic commutation:** indicates the number of "articles" requested;
- g) **access to audiobooks and music:** indicates the number of hits;
- h) **"download" of e-books and documents from signed databases and "access" to Portal Capes articles, and BDTD theses and dissertations:** indicates the number of items downloaded;
- i) **use of study, multimedia and videoconference rooms:** indicates the number of hours that users use these environments, according to data collected automatically;

⁹ The established measurement units are highlighted in each of the services.

- j) **training**: indicates the total number of trained users (in group or individually) ("participations") to use library services and products (guided tour, database search and standardization);
- k) **formation**: indicates the total number of servers (librarians and assistants) attending continuing education courses and / or attending events in the activity area ("participations");
- l) **computer usage**: indicates the number of "hours" during which users use the library computers for academic research according to data collected by sampling;
- m) **reference services**: indicates the total number of calls made by the referral service (instruction on the use of self-loan equipment and the online catalog, how to pay a fine, the location of books on the shelves, general information about the university and services of the library, among others), according to data collected manually;
- n) **publication cataloging**: indicates the total number of "cataloging cards" elaborated by the librarians;
- o) **information through the electronic page**: indicates the number of "hours" dedicated to update the electronic page of the library, by a librarian (Table 2).

For each of the services, an estimated price was established based on the values practiced by companies providing services to SISBI and UFU or applied by organizations and associations such as the Association of Librarians of Minas Gerais (ABMG) or document delivery services such as COMUT. In some cases, an estimated price has been set based on similar service providers available on the market (cybercafés, room rent, etc.). The equations used to define each price are presented in Table 2.

In Table 2, the highlighted (red) categories were not considered in the appliance of the research in the Santa Monica Central Library, during the analyzed period, due to the lack of consistent data at the moment of collection, but are described since they will be considered in the tool to be developed, which is the next step of this study.

Table 2. Pricing of informational services of the Santa Monica Central Library/UFU

Service		Measure	Price	Source – value	Equation
Loan	Books	Copies	R\$ 176,15	SISBI/UFU: average price of solicited items (2015)	Σ Total value of requests for national and foreign books / Σ Issue number
	DVD	Copies	R\$ 90,33	SISBI/UFU: average price of solicited items (2014)	Σ Total value of pawned DVDs / Σ Number of copies purchased
	CD	Copies	R\$ 99,87	SISBI/UFU: average price of solicited items (2012)	Σ Total value of pawned CDs / Σ Number of copies purchased
	Sheet music	Copies	R\$ 65,82	SISBI/UFU: average price of solicited items (2014)	Σ Total value of pawned sheet music/ Σ Number of copies purchased
	In-library loan UFU (EIB)	Copies	R\$ 176,15	SISBI/UFU: average price of solicited items (2015)	Σ Total value of requests for national and foreign books / Σ Issue number
	In-library loan (EEB)	Copies	R\$ 176,15	SISBI/UFU: average price of solicited items (2015)	Σ Total value of requests for national and foreign books / Σ Issue number
	Mobile devices	Units	R\$ 762,94	SISBI/UFU: average price of solicited items (2013)	Σ Total value of requests for national and foreign books / Σ Issue number
Consultation	Books	Copies	R\$ 176,15	SISBI/UFU: average price of solicited items (2015)	Σ Total value of requests for national and foreign books / Σ Issue number
	Journals	Issues	R\$ 0,00	SISBI/UFU: average price of signed items	Σ Signature value/pawned renewals/ Σ Number of issues purchased
	Newspapers	Issues	R\$ 0,00	SISBI/UFU: average price of signed items	Σ Signature value/pawned renewals/ Σ Number of issues purchased
Reprography		Pages	R\$ 0,10	UFU (Block 50 - Santa Mônica Campi): Copy price (2015)	Value of copy per page
Bibliographic commutation		Article	R\$ 6,60	COMUT: average value per article (2016)	Value of Comut (R\$2,20 each 5 pages/article) - Average: 15 pages/article
Access	Audiobooks	Access	R\$ 2,18	SISBI/UFU: Value of database signature <i>Naxos Spoken Library</i> (2015)	Σ Signature value/acquisition/ Σ Number of titles signed / purchased
	Music	Access	R\$ 3,49	Itunes and Amazon: average price per download (2016)	Average value of each download
Download	E-books	Downloads	R\$ 101,81	SISBI/UFU: average price of solicited items (2013)	Σ Total value of pawned e-books / Σ Number of titles acquired

Services		Measure	Price	Source – value	Equation
	Documents – Signed databases	Downloads	R\$ 6,60	SISBI/UFU: valor da assinatura das bases de dados <i>Naxos Sheet Library, Jstor e UpToDate</i> (2015)	Value of Comut (R\$2,20 each 5 pages/article) - Average: 15 pages/article
	Articles - Capes/MEC Journal Portal	Downloads	R\$ 6,60	COMUT: average value per article (2016)	Value of Comut (R\$2,20 each 5 pages/article) - Average: 15 pages/article
	Digital Library of Theses and Dissertations	Downloads	R\$ 39,60	COMUT: average value per dissertation/theses (2016)	Value of Comut (R\$2,20 each 5 pages/article) - Average: 90 pages/theses or dissertation
Use of group, multimedia and videoconference study rooms		Hours	R\$ 35,00	B2B Virtual Office: Room rental price per hour (2016)	Average amount charged, per hour, for an air-conditioned room equipped with data show, big screen, flip chart, white board and internet.
Training	Oriented visit	Participants	R\$ 11,25	Content Mind: Average price of courses (2016)	Average amount of training course in the field, per hour
	Database	Participants	R\$ 10,00	Content Mind: Course price in the area (2016)	Average amount of training course in the field, per hour
	Normalization	Participants	R\$ 8,33	Content Mind: Average price of courses (2016)	Average amount of training course in the field, per hour
Formation	Librarians and assistants	Participants	R\$ 0,00	Training Division (DICAP) / UFU: average price of courses	Σ Amount invested in training course / Σ Number of participations
	Event and meeting participation	Participations	R\$ 1.303,57	System of Daily Allowance and Tickets (SCDP) / UFU: average price of daily rates, tickets and registration at events (2015)	Σ Amount invested in participation in events / Σ Number of participations
Use of computers for academic research		Hours	R\$ 3,00	Cybercafés: estimated average hourly price (2016)	Average amount charged, per hour, in Internet cafe
Reference service		Calls	R\$ 22,92	Average earnings /time librarian (level E) - UFU Notice (2015)	Average compensation of a librarian, per hour
Publication cataloging		Cards	R\$ 132,00	ABMG (2016)	15% of minimum wage
Information through electronic page		Hours	R\$ 22,92	Average earnings /time librarian (level E) - UFU Notice (2015)	Average compensation of a librarian, per hour

Source: adapted from CSIC (2012).

Table 1 shows that the information services value of the Santa Monica Central Library for the year 2015 exceeded R\$ 30,000,000.00. 2015 was an atypical year, since the library was closed in the period from March 17 to May 25, due to the strike of the education technical-administrative federal employees of the Federal University of Uberlândia (UFU). This impacted the annual average in relation to the other years and, consequently, the total value of the services rendered, in the year in question.

Table 1. Pricing of information services of the Santa Monica / UFU Central Library

Service		Quantity	Reference number	Service value
Loan	Books	60.685	R\$ 176,15	R\$ 10.689.662,75
	DVD	796	R\$ 90,33	R\$ 71.902,68
	CD	31	R\$ 99,87	R\$ 3.095,97
	Sheet music	339	R\$ 65,82	R\$ 22.312,98
	In-library loans UFU (EIB)	627	R\$ 176,15	R\$ 110.446,05
	In-library loans (EEB)	39	R\$ 176,15	R\$ 6.869,85
	Mobile devices	1.439	R\$ 762,94	R\$ 1.097.870,66
Consultation	Books	69.075	R\$ 176,15	R\$ 12.167.561,25
	Journals	0	R\$ 0,00	R\$ 0,00
	Newspapers	0	R\$ 0,00	R\$ 0,00
Reprography		73.205	R\$ 0,10	R\$ 7.320,50
Bibliographic commutation		33	R\$ 6,60	R\$ 217,80
Acess	Audio books	47	R\$ 2,18	R\$ 102,46
	Music	7.629	R\$ 3,49	R\$ 26.625,21
Download	E-books	12.949	R\$ 101,81	R\$ 1.318.337,69
	Documents – Signed database	27.582	R\$ 6,60	R\$ 182.041,20
	Articles - Capes/MEC Journal Portal	384.983	R\$ 6,60	R\$ 2.540.887,80
	Digital Library of Theses and Dissertations	0	R\$ 39,60	R\$ 0,00
Use of group, multimedia and videoconference study rooms		12.542	R\$ 35,00	R\$ 438.970,00
Capacitação	Guided visit	1.255	R\$ 11,25	R\$ 14.118,75
	Database	1.709	R\$ 10,00	R\$ 17.090,00
	Normalization	260	R\$ 8,33	R\$ 2.165,80
Formação	Librarian and assistants	0	R\$ 0,00	R\$ 0,00
	Participation in events and meetings	13	R\$ 1.303,57	R\$ 16.946,41
Use of computers for academic research		50.204	R\$ 3,00	R\$ 150.612,00
Reference Services		54.877	R\$ 22,92	R\$ 1.257.780,84
Publication cataloging		636	R\$ 132,00	R\$ 83.952,00
Information through the electronic page		163	R\$ 22,92	R\$ 3.735,96
TOTAL				R\$ 30.230.626,61

Source: The authors.

Another factor that influenced the total value was the fact that it was not possible to collect data for some categories (highlighted in red in Table 1). In the case of consultations

and newspapers, these data are not even collected manually, and it is not possible to do sampling as pointed out by CSIC (2012). TEDE1, the BDTD software, does not allow the extraction of statistical data on the number of downloads. It is estimated that it will soon be possible to collect these data considering that the SISBI / UFU is in the process of migrating the theses and dissertation from the TEDE to the DSPACE (institutional repository) that provides this information.

The results show how valuable are the services offered by the Santa Monica Central Library. Analyzing the data in Table 1, most of the time the values of services exceed the value invested in the acquisition of products that are transformed into services. As an example, only one type of loan is sufficient to exceed in excess of 10 times the budget for the acquisition of information material for the entire SISBI / UFU.

Contrary to the overvalued services, Reprography does not exceed the amount invested in the acquisition of two planetary scanners, R \$ 126,000.00 in 2013, being necessary in this context, approximately 10 years to "pay" each equipment. However, user satisfaction, agility in service, contribution to the environment and the possibility of performing internal services, such as the digitization of Theses and Dissertations, justify the acquisition of the equipment.

5 FINAL THOUGHTS

In order to reach this study's goal: to allocate economic value to the services offered by the Santa Monica Central Library, several studies and analysis of these services were carried out. Among the various challenges, the definition of an equation for pricing services was considered the most complex task. The experience of other foreign libraries, specifically regarding the development/provision of calculators for use in libraries, guided the authors facilitating in part the elaboration of this study.

As pointed out in the goals, this study is not exhausted here. The next step will be the elaboration of an application plan for the development of a tool to calculate the values of information services focused on the Brazilian reality. Until the construction of the application plan, the services indicated in this paper, as well as the pricing formula, will be re-evaluated by the UFU Library System team, who will also be supported by colleagues from other institutions in order to build an instrument that is applicable to any Brazilian university library.

The present research presented important contributions to the management actions of SISBI / UFU since it allowed the identification of points that need to be improved in data collection and extended the universe of arguments that justify the need for greater financial investment in UFU libraries. With the dissemination of data to the university community of UFU, it is expected to achieve greater appreciation of the services offered and

the professional staff of the libraries and in the future, with the implementation of the calculator, contribute globally.

REFERENCES

ABBAS, K.; GONÇALVES, M. N.; LEONCINE, M. Os métodos de custeio: vantagens, desvantagens e sua aplicabilidade nos diversos tipos de organizações apresentadas pela literatura. **Contexto**, Porto Alegre, v. 12, n. 22, p. 145-159, 2. sem. 2012. Disponível em: <http://www.joinville.udesc.br/portal/professores/oliveira/materiais/Artigo_3.pdf>. Acesso em: 19 abr. 2016.

ALMEIDA, M. C. B. de A. **Planejamento de bibliotecas e serviços de informação**. 2. ed. rev. e ampl. Brasília, DF: Briquet de Lemos/Livros, 2005.

AVALIAÇÃO. In: CUNHA, M. B.; CAVALCANTI, C. R. de O. **Dicionário de biblioteconomia e arquivologia**. Brasília, DF: Briquet de Lemos, 2008. p. 41.

BALBINOTO NETO, G. **Análise de custo benefício**: aula 5. [2016]. Disponível em: <<http://migre.me/tBjo1>> . Acesso em: 19 abr. 2016.

BARBALHO, C. R. S. Padrão de conformidade para unidades de informação: apresentação do modelo inglês. **Informação & Informação**, Londrina, v. 2, n. 2, p. 47-54, jul./dez. 1997. Disponível em: <<http://www.uel.br/revistas/uel/index.php/informacao/article/viewFile/1626/1380>>. Acesso em: 19 abr. 2016.

BRASIL. Ministério de Planejamento, Orçamento e Gestão. Portal do software público brasileiro. **Modelo de licença livre para o código-fonte, proteção da identidade original entre nome, marca, código-fonte, documentação e outros artefatos relacionados por meio do modelo de Licença Pública de Marca – LPM**. Brasília, DF, [2016a]. Disponível em: <<https://softwarepublico.gov.br/social/spb/o-que-e-o-software-publico>>. Acesso em: 19 abr. 2016.

CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS (Espanha). Red de Bibliotecas y Archivos. Unidad de Recursos de Información Científica para la Investigación. **Valoración y uso de las bibliotecas**. Madrid, 2012. 1 arquivo em PDF, 90,03 KB.

DHOLAKIA, N.; MUNDORF, N.; DHOLAKIA, R. R. Novos serviços de informação e comunicação: um quadro de referência estratégico. **Ciência da Informação**, Brasília, DF, v. 26, n.3, set./dez. 1997. Disponível em: <http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0100-19651997000300002>. Acesso em: 19 abr. 2016.

GÜNTHER, H. Pesquisa qualitativa versus pesquisa quantitativa: esta é a questão?

Psicologia: teoria e pesquisa, Brasília, DF, v. 22, n.2, p. 201-210, maio/ago. 2006.

INTERNATIONAL STANDARD ORGANIZATION. **ISO 11620**: Information and documentation: Library performance indicators. Geneva, 2014.

LANCASTER, F. W. **Avaliação de serviços de bibliotecas**. Brasília, DF: Briquet de Lemos, 1996.

LEITE, J. S. G.; SOUZA, E. D. A gestão da informação e do conhecimento nas organizações. **Ciência da Informação em Revista**, Maceió, v. 1, n. 1, p. 12-16, jan./abr. 2014. Disponível em: <<http://www.seer.ufal.br/index.php/cir/article/view/1299/900>>. Acesso em: 19 abr. 2016.

MARCHIORI, P. Z. Gestão da informação: fundamentos, componentes e desafios contemporâneos. In: SOUTO, L. F. **Gestão da informação e do conhecimento: práticas e reflexões**. Rio de Janeiro: Interciência, 2014. cap. 2, p. 27-45.

MARCONI, M. de A.; LAKATOS, E. M. **Técnicas de pesquisa: planejamento e execução de pesquisas, amostragens e técnicas de pesquisa, elaboração, análise e interpretação de dados**. 2. ed. São Paulo: Atlas, 1990.

MARTINS, E. **Contabilidade de custos**. São Paulo: Atlas, 2000.

UNIVERSIDADE FEDERAL DE UBERLÂNDIA. Sistema de Bibliotecas. **Estatística 2015**. Uberlândia, 2106. Disponível em: <<http://www.bibliotecas.ufu.br/node/835>>. Acesso em: 19 abr. 2016.

UNIVERSIDADE FEDERAL DE UBERLANDIA. Faculdade de Educação. Programa de Pós-Graduação em Tecnologias, Comunicação e Educação. **Diretrizes para elaboração do relatório de qualificação e relatório final (dissertação, plano de aplicação ou produto)**. Texto de Mirna Tonus et al. Uberlândia, 2014. Disponível em: <http://www.ppgce.faced.ufu.br/sites/ppgce.faced.ufu.br/files/Anexos/Bookpage/DIRETRIZES_QUALIFICACAO_DEFESA_PPGCE.pdf>. Acesso em 19 abr. 2016.

UNIVERSITY OF WEST FLORIDA. Haas Center. **Taxpayer Return On Investment in Florida Public Libraries: 2013**. Pensacola, 2013. Disponível em: <<http://roi.info.florida.gov/Content/PDFs/Studies/Library%20ROI%202013.pdf>> . Acesso em: 18 nov. 2016.

