ISSN 1678-765X doi 10.20396/rdbci.v21i00.8671927/31965

Article

RDBCI
Revista Digital de Biblioteconomia e Ciência da Informação
Digital Journal of Library and Information Science

Propositional study of a model for quality evaluation in technical memory deposits in a Digital Library implemented in DSpace

Maria Aniolly Queiroz Maia[1] Caio Saraiva Coneglian[2]
Milton Shintaku[3]

ABSTRACT

Introduction: One of the forms of dissemination of technical memory occurs through Digital Libraries and Digital Repositories. These information environments can be developed and customized from various software. In Brazil, DSpace is one of the main systems used in the creation of Digital Libraries and Institutional Repositories, thus providing opportunities for the representation, dissemination, access and use of the information made available from these tools. Given such relevance, the information available in these information environments needs to be of quality, in order to ensure numerous contributions to organizations, as well as to their users. Objective: Considering the need to ensure the quality of the information available in Digital Libraries, this study aims to propose a model to foster the improvement of the quality of technical memory deposits in Digital Libraries implemented from the DSpace. Methodology: This is a qualitative and descriptive study, which makes use of the bibliographic survey technique in national and international databases. Results: Based on the bibliographic survey it was possible to propose the model of evaluation of the quality of deposits in Digital Libraries developed from the DSpace, thus presenting contributions to improve the quality of the information available in these environments so relevant to the dissemination of knowledge. Conclusion: The proposed model will allow interested parties to evaluate the quality of deposits made in Digital Libraries, especially those created through the DSpace software.

KEYWORDS

Digital libraries. Quality of information. Technical memory. DSpace.

Authors' correspondence

[1] Maria Aniolly Queiroz Maia
Universidade Federal do Rio Grande do Norte
Natal/RN - Brasil
e-mail: aniollymaia@gmail.com

[2] Caio Saraiva Coneglian
Universidade Estadual Paulista
Marília/SP - Brasil
e-mail: caio.coneglian@gmail.com

[3] Milton Shintaku
Universidade de Brasília
Brasília/DF- Brasil
e-mail: shintaku@ibict.br

Estudo propositivo de modelo para avaliação da qualidade em depósitos de memória técnica em Biblioteca Digital implementada em DSpace

RESUMO

Introdução: Uma das formas de disseminação de memória técnica se dá por meio das Bibliotecas Digitais e dos Repositórios Digitais. Esses ambientes de informação podem ser desenvolvidos e customizados a partir de variados softwares. No Brasil, o DSpace é um dos principais sistemas utilizados na criação de Bibliotecas Digitais e Repositórios Institucionais, oportunizando assim a representação, disseminação, acesso e uso das informações disponibilizadas a partir dessas ferramentas. Diante de tal relevância, as informações disponíveis nesses

ambientes de informação necessitam ser de qualidade, com vistas a garantir inúmeras contribuições para as organizações, assim como para seus usuários. Objetivo: Considerando a necessidade de garantir a qualidade das informações disponíveis em Bibliotecas Digitais, este estudo tem como objetivo propor um modelo para fomentar a melhoria da qualidade dos depósitos de memória técnica em Bibliotecas Digitais implementados a partir do DSpace. Metodologia: Trata-se de um estudo de abordagem qualitativa e de natureza descritiva, que faz uso da técnica de levantamento bibliográfico em bases de dados nacionais e internacionais. Resultados: Com base no levantamento bibliográfico foi possível a proposição do modelo de avaliação da qualidade dos depósitos em Bibliotecas Digitais desenvolvidas a partir do DSpace, apresentando assim contribuições para melhoria da qualidade da informação disponível nesses ambientes tão relevantes para a disseminação do conhecimento. Conclusão: O modelo proposto permitirá aos interessados avaliar a qualidade dos depósitos realizados em Bibliotecas Digitais, especialmente as criadas por meio do software DSpace.

PALAVRAS-CHAVE
Bibliotecas digitais. Qualidade da informação. Memória técnica. DSpace.

CRediT

- Acknowledgments: Not applicable.
- Funding: Not applicable.
- Conflicts of interest: The authors certify that they have no commercial or associative interest that represents a conflict of interest in relation to the manuscript.
- Ethical approval: Not applicable.
- Availability of data and material: Not applicable.
- Authors' contributions: Conceptualization, Data Curation, Formal Analysis, Research, Methodology, Visualization, Writing – original draft, Writing – revision & editing: MAIA, M.A.Q.; CONEGLIAN, C.S.; SHINTAKU, M. Financing Acquisition, Project Management, Resources, Software, Supervision, Validation: Not applicable.
- Translation: Sílvia Iacovacci

JITA: DN. Digital libraries.

Article submitted to the similarity system

Submitted: 10/01/2023 – **Accepted**: 22/04/2023 – **Published**: 03/06/2023

Editor: Gildenir Carolino Santos

1 INTRODUCTION

Digital Repositories and Digital Libraries, in Brazil, share many similarities, among which the use of the same technology, usually DSpace, stands out. However, the two information systems have different roots and purposes. The Digital Library was born in the Open Archives Movement to provide access to grey literature, from the first source. Repositories, on the other hand, are born in the Open Access movement to provide free access to scholarly literature, as a second source.

In Brazil, Digital Libraries were soon adapted by government agencies to disseminate their technical memory. Historically, the first use of DSpace in the creation of a digital library was in the creation of the Legal Digital Library (BDJur), maintained by the Superior Court of Justice (STJ) in 2004, as reported by Basevi (2005). Since then, it has been widely used in government institutions, with the adaptation of DSpace functionalities in its technical characteristics (MACÊDO; SHINTAKU; BRITO, 2015).

In this context, as a denomination, DSpace is used in Brazil to create numerous information systems, but Repositories are more common in universities and research units (MURAKAMI; FAUSTO, 2013), while Digital Library in government agencies (SCHIESSL et al., 2013). In much, because repositories are more related to scientific information, while digital libraries to technical documentation. This shows the flexibility of this software to create information systems, including those aimed at the dissemination of musical (Tom Jobim Collection1) and educational (ARES2) information, among others.

In this sense, the implementation of the Digital Library presents certain challenges, especially for the dissemination of the first complex and diverse source such as technical memory, in which there is no great limitation of typology. Reflecting on this topic, Acselrad (2019) argues that technical memory consists of an instrument of knowledge construction and registration that serves as a link between what has been and what is being done. In this sense, it can become a myriad of document types.

Thus, there may be major issues in the implementation of digital libraries, such as the organization and representation of a diverse collection. Macêdo, Shintaku and Brito (2015), for example, verified a great variation in the use of metadata, largely due to the diversity of documents to be represented.

This reveals another major challenge: how to maintain the quality of the information inserted in the deposit process, since, as Ang (2021) emphasizes, we are in the second decade of the 21st century, and problems of information quality are still present, such as issues of information asymmetry, distortion and de-standardization, among others.

In this strand, the present study aims to propose a model to foster the improvement of technical memory deposits in Digital Libraries implemented with DSpace. With this, it supports the discussions about the quality of information, restricting itself to those used in the deposit process in Digital Libraries. Thus, it contributes to the studies on Digital Library, disseminating technical memory, because, as Monteiro and Carelli (2007) observe, such memory is always threatened of being forgotten, so that actions are necessary to keep it alive.

[1] https://www.jobim.org/jobim/

[2] https://ares.unasus.gov.br/acervo/

2 DIGITAL LIBRARIES ON DSPACE

DSpace is a highly customizable open source software and can be used to compose various types of information systems but is being used primarily for the creation of Digital Repositories and Digital Libraries. Currently in version 7, which offers greater flexibility in its layout, it allows adjustments in the representation of the items of the collection, by adaptation of the metadata to be used in the collections.

Even without a full consensus on the differentiation between Digital Repositories and Digital Libraries, mainly because many use the same software, Repositories, which receive additions such as institutional, thematic, digital and others, have a greater relationship with the scientific literature. Part of this point is its birth in the open access movement, called the Green Road by Harnad et al. (2004). Weitzel (2006) complements this understanding by reporting that in open access, Repositories are second source and Bjork (2007) in his model of scientific communication, places repositories as facilitators of access to scientific publications, especially those made in scientific journals.

According to Santos and Shintaku (2022), historically, digital libraries were born to be primarily first source in the Open Archives movement, so much so that it still presents remnants such as the Brazilian Digital Library of Theses and Dissertations (BDTD). Thus, Digital Libraries become first source disseminators, especially those that do not go through the traditional publishing process. Currently, theses, dissertations and certain reports have started to be published in Repositories, as stated by Shintaku and Vidotti (2016), but still with scientific characteristics, while Digital Libraries maintain much of the collection of technical documents, mainly in government (SCHIESSL et al., 2021).

Regarding the software used for the implementation of such environments, since its launch, with the implementation of the Massachusetts Institute of Technology (MIT) Repository, DSpace has become the most used software in the world to create Open Access Repositories, according to the Registry of Open Access Repositories (ROAR). In Brazil, the use of DSpace is due, in part, to the actions of the Brazilian Institute for Information in Science and Technology (Ibict), both in the implementation of Digital Repositories in teaching and research institutes, and in government organs, as Digital Libraries.

Exclusively in the government, the Digital Libraries implemented with DSpace are present in all powers and spheres, with emphasis on the Judiciary, largely due to the action of the Judicial Digital Consortium, a legal Digital Library aggregator maintained by the STJ, which encouraged the creation of Legal Digital Libraries in other organs of its power. Thus, Government Digital Libraries, as Sousa, Dias and Shintaku (2020) clarify, are information systems that offer access to documents produced by servers and collaborators, which have not been published in a traditional publishing process and are not available from other sources.

As the Digital Libraries' collection is constituted of first source documents, one of the concerns refers to copyright. In this regard, Shintaku and Sousa (2022) report that part of the technical memory kept by digital libraries, due to its creative character, is submitted to copyright protection, the author's moral rights, as an intellectual production.

Thus, for deposit in a Digital Library, an instrument of transfer of property rights over the work must be provided.

Santos and Shintaku (2022) also argue that the construction of a digital library is collaborative and should be a goal of the body and its collaborators, in order to achieve the challenge. To this end, the work of librarians, information scientists and computer scientists is highlighted, so that the collection meets the users' needs, since Digital Libraries can be focused

on research, education, document management, etc.

Regardless of the type of Digital Library, its policy must meet the objectives, and it must be available for access by its users, preferably online, through the library's home page. Thus, it guides the development of the collection's collections, indicates the forms of access and use of documents, and protects the authors and the organization in relation to copyright.

3 QUALITY OF INFORMATION

It is increasingly growing the emergence of technologies that enable the access and use of information by organizations and social individuals. The rapid growth of data and information available in various supports has stimulated the need for high-level concepts, tools and techniques to ensure the quality of information available in various technologies (WELZER; ROZMAN, 1998).

According to Calazans (2008, p. 39), "information quality is the difference between the value assigned by the user to the characteristics present in the information and the desired quality standard. For Lee et al. (2002), information quality refers to the degree to which information is adequate for a particular purpose.

The quality of data and information can be considered as an economic, political, and ethical issue that affects the quality of decision making, the results of activities, and ultimately the country's economy, political stability, and the life and dignity of individuals. Therefore, information quality assurance is a critical component of any information management workflow (STVILIA; GIBRADZE; JOON LEE, 2022).

Given this, it is noteworthy that information quality is a topic that has been studied by numerous theorists. And because it is a complex subject, given the subjectivity involved in this process and the immensity of information available, there is no consensus on the factors and/or methodologies capable of qualifying information.

Complementarily, Alshikhi and Abdullah (2018) point out that most definitions and understandings of information quality bring the aspect of multidimensionality in which such a characteristic is assessed and measured. In general, the authors point out that information quality is organized by sets of attributes and dimensions, precisely in the search for quantifying and qualifying the evaluation to be performed on the sets of information.

In this regard, Huang, Lee, and Wang (1999), in their analysis of information quality structures, observed that the choice of evaluation criteria can be based on intuitive understanding, industry experience, literature review, or interviews with consumers. These authors also concluded that there is no consensus on the dimensions of information quality (HUANG; LEE; WANG, 1999).

Despite the absence of a general agreement, some theorists have proposed methodologies for measuring the quality of information believing that some objective factors, such as: effectiveness, completeness, relevance, credibility etc., allow validating if an information can be considered of quality.

In this conjuncture and aiming at the proposition of an information quality evaluation model of the data from the deposits available in Digital Libraries, there follows a description of the methodology used to meet this objective.

4 METHODOLOGY

For the development of this study, the qualitative approach and of applied nature. About this, Creswell, Lopes and Silva (2010, p. 26) explain that the qualitative treatment refers to "[...] a means to explore and understand the meaning that individuals or groups attribute to a social or human problem". The applied nature, on the other hand, "[...] aims to generate knowledge for practical application and is directed at solving specific problems. It involves local truths and interests" (SILVA; MENEZES, 2005, p. 20).

In this sense, a bibliographical research on information quality has been carried out with the aim of identifying how the subject has been treated in scientific productions, especially in the context of information available in information systems, as is the case of digital libraries. This research was carried out between December 7 and 13, 2022, in national and international information sources, especially the portal OasisBr and the databases Scopus and Web of Science.

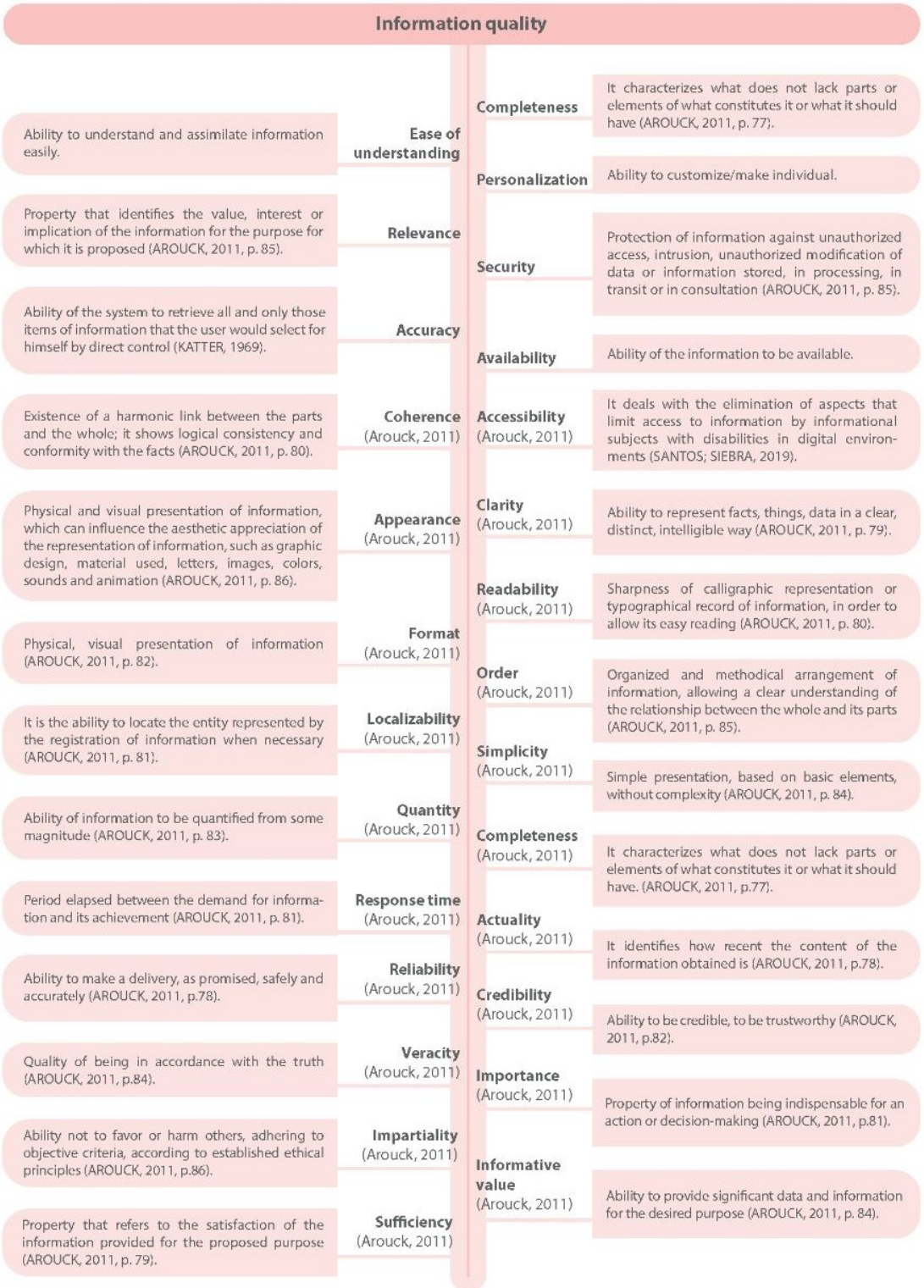
From the identification of the scientific productions that dealt with the theme of information quality, it was possible to identify some attributes used to measure the quality of information and to evaluate the strengths and points of improvement of the information in information systems, especially the deposits of technical memory in digital libraries implemented through the software DSpace, thus proposing a model for improving the information quality.

5 RESULTS

From a literature search, conducted in national and international sources of information, numerous productions that deal with the Quality of Information. In Brazil, from studies on the theme, Arouck (2011) presented some attributes that can be considered to evaluate information. In the international scope, DeLone and McLean (1992, 2003) can be cited, who proposed a methodology for evaluating information systems in which one of the dimensions to be considered refers to its quality.

In this context, based on the readings carried out, especially the approaches of Arouck (2011) and DeLone and McLean (1992, 2003), it was possible to identify some attributes that can be used to evaluate the information available in information systems, as shown in Figure 1:

Figure 1. Attributes for evaluating Information Quality.



Source: Adapted from Arouck (2011) and DeLone; McLean (1992, 2003)

The choice of attributes to be used to evaluate the quality of the information depends on the objectives pursued, i.e., the typology of the system and/or of the information product. In this sense, considering the twenty-seven attributes presented in Figure 1, it is proposed to use all of them in the application of the evaluation of information content in digital libraries and repositories that use the DSpace software.

It is worth mentioning that the identification of these attributes, based on the bibliographic survey carried out, provided the opportunity to adapt them for use in the context of information quality of deposits in digital libraries.

Thus, based on the identification of these attributes, it was possible to enumerate, from four dimensions (Communities and Collections, Representation and Description of Metadata, Organization of Archives and Checking of Attributes), the elements that must be evaluated and considered at the time of the verification of the information quality of the data of deposits, as presented in Chart 1.

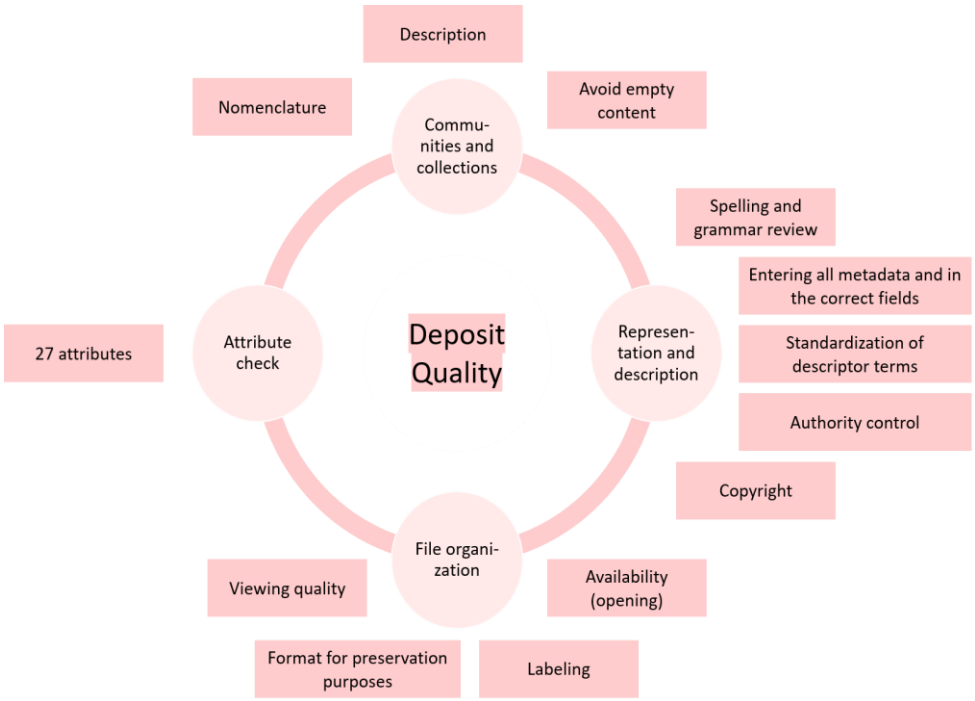
Chart 1. Quality of Digital Library Deposits

Communities and collections	Representation and description of metadata	File organization	Attribute Checking
Nomenclature	Form description based on document typology	Standardization of nomenclature with clues to long-term preservation	27 attributes
Description	Authority Control	Accessible and preservable format	
Avoid creation without content	Standardization of key words from controlled vocabularies	Availability (Openness)	
	Creative Commons license description if any	Do not allow locked files	
	Availability of information in separate fields		
	Spelling and grammar check		

Source: Authors (2022).

After identifying the key points for improving the quality of the deposits available in Digital Libraries, it was possible to develop a model proposition according to the representation in Figure 2, which follows:

Figure 2. Methodological proposal for assessing the quality of Digital Library deposits



Source: Authors (2022).

According to Figure 2, the methodological proposal to evaluate the quality of the repositories available in digital libraries considers four categories (dimensions), namely: Communities and Collections, Metadata Representation and Description, File Organization, and Attribute Control. Each of these categories has aspects that need to be analyzed in order to improve the quality of the repositories of these systems.

With regard to communities and collections, it is appropriate to focus on the clear nomenclature and description of their collections.

As for the perspective of representation and description of metadata is equally important, since from the attendance to this aspect there will be a good recovery of the information made available in the digital libraries. Thus, it is proposed the orthographic and grammatical revision of these metadata, besides the need to identify if the keywords have been added based on controlled vocabularies. As far as the organization of the archives is concerned, it is suggested that attention be paid to the nomenclature of the archives, thus following a standardization for the purposes of preservation and organization. Another aspect to be considered is the verification of the availability of the archive, for example, if it has any opening problems that compromise its access.

Finally, as far as the verification of attributes is concerned, 27 attributes of information quality have been defined that need to be analyzed, focusing on the metadata and on the deposits themselves.

From this methodological proposal it was possible to establish some guidelines to guarantee a good quality deposit according to the checklist presented in Chart 2.

Chart 2. Checklist for Evaluating Digital Library Deposits

Items	Evaluation (Likert Scale)
1. The communities and collections are named according to institutional need;	
2. The collections have a presentation summary;	
3. All communities and collections have content;	
4. The description metadata are filled out according to document typology;	
5. When describing the metadata, orthographic and grammatical revision was performed;	
6. The keywords described were added based on controlled vocabularies;	
7. Authority control was performed in the representation of the information;	
8. There is information about copyright and/or Creative Commons license;	
9. The files are named correctly;	
10. The files have no access restrictions	
11. The files are in accessible format;	
12. The files are in preservation format;	
13. The files open correctly;	
14. The metadata meets all (or most) of the attributes of informational quality;	
15. The deposits meet all (or most) of the attributes of informational quality.	

Fonte: Autores (2022).

The checklist contemplates the dimensions presented in the model represented in Figure 2, treating all dimensions and the elements that compose it. Furthermore, this checklist shows itself as an instrument that guides the evaluation, seeking to measure the quality of information of the deposits from a process that makes use of the Likert Scale, proposed in 1932, whose

objective is to measure the attitude in a scientifically accepted way. This scale has been used for many decades and is quite accepted in information quality evaluation processes (LIKERT, 1932).

In this case, the analysis of the attributes of information quality, which deal with metadata and the deposits themselves, can be done individually, considering attribute by attribute, which enables the expansion of the analysis, in order to promote the possibility of checking in more detail the deposits and the metadata.

After the evaluation, it is recommended that the process be finalized by the construction of an improvement report. This report should clearly express which items are not adequate and what should be done so that the Digital Library has an acceptable quality in its deposits.

It is also worth noting that the evaluation analyzes in a holistic way the deposits, considering elements such as copyright, digital preservation, nomenclature, information organization, information representation, grammatical aspects, information availability, among others. Thus, at the end of the assessment, based on the checklist, we have a measurable view of the deposits, which becomes essential considering the purposes of a digital library.

6 CONCLUSION

The Quality of information of the deposits available in Digital Libraries is a theme of great relevance, given the immensity of documents available in these tools and also due to the fact that these systems are accessed by numerous users interested in quality information.

In view of the above, it is believed to be relevant to the development of a methodological proposal in order to improve the quality of the available deposits in these information environments. Thus, this paper sought to present a model composed of the dimensions and elements of analysis necessary to qualify the deposits made in Digital Libraries.

Moreover, with the intention of contributing so that the Digital Libraries may have a technical instrument that supports the qualitative and quantitative measurement of the deposits, it was made the conception of a checklist that punctuates the items to be considered in the process of evaluation.

In this sense, it is believed that this methodological proposal brings benefits not only for the quality of the Digital Library deposits, but also can be used in other information environments, especially those that make use of the DSpace software for its creation and management.

It is also pertinent to highlight that, due to the fact that the bibliographic research was carried out in specific sources of information, it did not cover all the theoretical reflections on the theme "Quality of information", nor did it present all the dimensions and attributes that can be used in the process of evaluation of the Quality of Information.

Still in this perspective, because a methodological proposal of evaluation of the Quality of Information was carried out from the perspective of the DSpace software, the utilization of this from other softwares may not have the same results when compared to the mentioned system.

REFERENCES

ACSELRAD, H. A "memória técnica" das grandes barragens: considerações sobre a aplicação da noção de memória a fatos técnicos. **Novos estudos CEBRAP**, São Paulo, v. 38, n. 2, p. 389–408, 2019. DOI: https://doi.org/10.25091/S01013300201900020007. Access on: 25 May 2023.

ALSHIKHI, O. A.; ABDULLAH, B. M. Information quality: definitions, measurement, dimensions, and relationship with decision making. **European Journal of Business and Innovation Research**, London, v. 6, n. 5, p. 36–42, 14 out. 2018. Available at: https://encr.pw/Av46W. Access on: 25 May 2023.

AROUCK, O. C. **Atributos de qualidade da informação**. 2011. 117 f. f. Dissertação (Mestrado) – Universidade de Brasília, Brasília, 2011. Available at: https://repositorio.unb.br/handle/10482/9501. Access on: 25 May 2023.

BASEVI, T. BDJur Consortium: Juridical Digital Library: implementing DSpace in the Brazilian Judiciary. *In*: INTERNATIONAL CONFERENCE ON ELECTRONIC PUBLISHING (ELPUB), 9., 2005. **Proceedings** [...]. Leuven-Heverlee, Bélgica: Peeters Publishing Leuven, 2005. p. 127–132. Available at: https://bit.ly/43kSUuB. Access on: 25 May 2023.

BJÖRK, B-. C. A model of scientific communication as a global distributed information system. **Information Research**, Borås, v. 12, n. 2, 2007. Available at: https://bit.ly/42snL6V. Access on: 25 May 2023.

CALAZANS, A. T. S. Qualidade da informação: conceitos e aplicações. **Transinformação**, Campinas, SP, v. 20, n. 1, p. 29–45, 2008. Available at: https://bit.ly/3qlpAoZ. Access on: 25 May 2023.

CARELLI, A. E.; MONTEIRO, S. D. Ciberespaço, memória e esquecimento. *In*: ENCONTRO NACIONAL DE PESQUISA EM CIÊNCIA DA INFORMAÇÃO, 8., 2007. **Anais** [...]. Salvador: ANCIB, 2007. Available at: https://brapci.inf.br/index.php/res/v/171512. Access on: 25 May 2023.

CHEN ANG. Current problems in accounting information disclosure quality and the causes analysis. **Journal of Frontiers of Society, Science and Technology**, Ontario, Canada, v. 1, n. 1, p. 85–90, 2021. Available at: https://bit.ly/42mgPsb. Access on: 25 May 2023.

CRESWELL, J. W. **Projeto de pesquisa**: métodos qualitativo, quantitativo e misto. trad. Sandra Maria M. Rosa. 3. ed. Porto Alegre: Bookman Artmed, 2010. 264 p.

DELONE, W. H.; MCLEAN, E. R. Information system success: the quest for dependent variable. **Information Systems Research**, Catonsville, MD, v. 3, n. 1, p. 60–95, 1992. Available at: https://www.jstor.org/stable/23010781. Access on: 25 May 2023.

DELONE, W. H.; MCLEAN, E. R. The DeLone and McLean Model of information systems success: a ten-year update. **Journal of Management Information Systems**, London, v. 19, n. 4, p. 9–30, abr. 2003. DOI: 10.1080/07421222.2003.11045748. Access on: 25 May 2023.

HARNAD, S. *et al.* The access/impact problem and the Green and Gold Roads to Open Access. **Serials Review**, London, v. 30, n. 4, p. 310–314, jan. 2004. DOI: 10.1080/00987913.2004.10764930. Access on: 25 May 2023.

HUANG, K.-T.; LEE, Y. W.; WANG, R. Y. **Quality information and knowledge**. Upper Saddle River, NJ: Prentice-Hall, 1999.

LEE, Y. W.; STRONG, D. M.; KAHN, B. K.; WANG, R. Y. AIMQ: a methodology for information quality assessment. **Information & Management**, Amsterdam, v. 40, p. 133–146, 2002. DOI: 10.1016/S0378-7206(02)00043-5. Access on: 25 May 2023.

LIKERT, R. A technique for the measurement of attitudes. **Archives of Psychology**, Washington, DC, v. 22, n. 140, p. 55–55, 1932. Available at: https://psycnet.apa.org/record/1933-01885-001. Access on: 25 May 2023.

MACÊDO, D. J.; SHINTAKU, M.; BRITO, R. F. de. Dublin Core usage for describing documents in Brazilian Government Digital Libraries. *In*: INTERNATIONAL CONFERENCE ON DUBLIN CORE AND METADATA APPLICATIONS, 2015. **Anais** [...]. São Paulo: DCMI, 2015. p. 129–135. Available at: https://dcpapers.dublincore.org/pubs/article/view/3768. Access on: 25 May 2023.

MURAKAMI, T. R. M.; FAUSTO, S. Panorama atual dos Repositórios Institucionais das Instituições de Ensino Superior no Brasil. **InCID**: Revista de Ciência da Informação e Documentação, Ribeirão Preto, v. 4, n. 2, p. 185, 20 dez. 2013.DOI: 10.11606/issn.2178-2075.v4i2p185-201. Available at: http://www.revistas.usp.br/incid/article/view/69327. Access on: 25 May 2023.

SANTOS, G. C.; SHINTAKU, M. O que sabemos sobre bibliotecas digitais: um panorama da atualidade. *In*: SANTOS, G. C.; SHINTAKU, M. (org.). **Ecossistemas e inovações tecnológicas: da construção as boas práticas**. Campinas; Brasília: Unicamp/BCCL; Ibict, 2022. p. 31–51. DOI: 10.22477/ISBN9786588816363.cap2. Access on: 25 May 2023.

SCHIESSL, I. T.; SHINTAKU, M.; COSTAL DE CASTRO DOS SANTOS, M.; VECHI DA SILVA, B. D. Cenário das bibliotecas de governo do Poder Executivo Federal. **Revista Conhecimento em Ação**, Rio de Janeiro, v. 6, n. 2, 19 dez. 2021. Available at: https://revistas.ufrj.br/index.php/rca/article/view/44375/26647. Access on: 25 May 2023.

SHINTAKU, M.; SOUSA, R. P. M. D. Direitos autorais e memória técnica em órgãos públicos. **Revista de Doutrina Jurídica**, Brasília, DF, v. 113, p. e022012, 25 nov. 2022. DOI: 10.22477/rdj.v113i00.778. Access on: 25 May 2023.

SILVA, E. L. da; MENEZES, E. M. **Metodologia da pesquisa e elaboração de dissertação**. 4. ed. Florianópolis: UFSC, 2005. 121 p.

SOUSA, R. P. M. de; DIAS, G. A.; SHINTAKU, M. Lei de Acesso à Informação e repositórios governamentais como instrumentos para um modelo aberto de governança. **Encontros Bibli**, Florianopólis, v. 25, p. 01–17, 2020. DOI: 10.5007/1518-2924.2020.e73599. Access on: 25 May 2023.

STVILIA, B.; GIBRADZE, L.; LEE, D. J. What is data quality to research data repositories? *In*: ICONFERENCE, 2023. **Proceedings** [...]. Barcelona: iSchools, 2023. DOI 10.13140/RG.2.2.31510.01609. Access on: 25 May 2023.

WEITZEL, S. da R. O papel dos repositórios institucionais e temáticos na estrutura da produção científica. **Em questão**, Porto Alegre, v. 12, n. 1, p. 51–71, 2006.

WELZER, T.; ROZMAN, I. Information quality supported by meta model. *In*: HAWKINS, C.; ROSS, M.; STAPLES, G. (org.). **Software Quality Management VI**. Londres: Springer, 1998. p. 81–88. DOI 10.1007/978-1-4471-1303-4_7. Access on: 25 May 2023.