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SOCIAL MEDIA IN TIMES OF LIBRARIES 2.0:
A STUDY INTO THE BRAZILIAN FEDERAL EDUCATION INSTITUITIONS' LIBRARIES BRINGING FUTURE PERSPECTIVES FOR DIGITAL PRESERVATION

MÍDIAS SOCIAIS EM TEMPOS DE BIBLIOTECAS 2.0:
UM ESTUDO EM BIBLIOTECAS DAS INSTITUIÇÕES FEDERAIS DE ENSINO
BRASILEIRAS TRAZENDO PERSPECTIVAS FUTURAS PARA A PRESERVAÇÃO DIGITAL

MEDIOS SOCIALES EN LA ERA DE LAS BIBLIOTECAS 2.0:
UN ESTUDIO EN BIBLIOTECAS DE INSTITUCIONES FEDERALES DE EDUCACIÓN
BRASILEÑAS TRAYENDO PERSPECTIVAS PARA LA PRESERVACIÓN DIGITAL

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RESUMO
O presente estudo pretende discorrer sobre os principais desafios no tocante à participação social na *Web* por parte das Bibliotecas Universitárias das Instituições Federais de Ensino (IFES) Brasileiras, bem como as transformações em relação à atuação destas instituições, especialmente as interações com seu público. A pesquisa realizou um levantamento de caráter quantitativo acerca do uso das principais mídias sociais existentes por parte das bibliotecas das IFES brasileiras. O levantamento buscou identificar o grau de envolvimento e participação dessas bibliotecas em mídias sociais. Entende-se que tal investigação se faz necessária como embasamento à urgente necessidade de sensibilização destas instituições brasileiras quanto ao valioso potencial de interação com seus usuários por meio destas mídias, apesar do estudo ter demonstrado um uso incipiente. Com base no levantamento realizado, o estudo traz uma reflexão acerca da importância que se deve dedicar à preservação digital, não somente dos seus acervos, mas também dos relevantes registros das relações estabelecidas entre as bibliotecas e seu público por meio das mídias sociais. Os resultados demonstram que a maioria das universidades públicas utilizam ferramentas *Web* 2.0 com enfoque social, sendo a maior adoção do *Facebook* (43%) e do *Twitter* (29%), porém apenas 5% delas usa esse meio de comunicação para fazer divulgação dos acervos. Dessa forma, foi possível concluir que o uso de mídias sociais por estas bibliotecas tem ainda muito a se desenvolver e consequentemente as ações de preservação digital precisam considerar a inclusão de conteúdos gerados por estas mídias que cada vez mais têm se tornado um valioso canal de comunicação.
PALAVRAS-CHAVE: Biblioteca Universitária. Mídia Social. Preservação Digital.

ABSTRACT
This study aims to discuss the main challenges regarding the social participation on the *Web* by the Brazilian Federal Education Institutions'(IFES) Libraries and the changes related to the these institutions' activities, especially interactions with their audience. The Research conducted a quantitative approach survey on the use of the main existing social media by these libraries. The survey sought to identify the level of involvement and participation of these libraries in social media. It is understood that this investigation is necessary as a foundation to the urgent need to raise awareness these Brazilian institutions as the valuable potential of

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interaction with their users through these media, despite the study demonstrated an incipient use. Based on the conducted survey, the study presents a reflection of the importance that it should devote to digital preservation, not only of their collections, but also the relevant records of the social media content. The results show that most brazilian public universities use *Web* 2.0 tools with social focus, and the greater adoption of Facebook (43%) and Twitter (29%), but only 5% of them use these medias to disseminate the collections. Thus, it was concluded that the use of social media by these libraries still have a lot to develop and consequently the digital preservation actions need to consider the inclusion of content generated by these media that increasingly have become a valuable communication channel.

KEYWORDS: University Library. Social Media. Digital Preservation.

1 INTRODUÇÃO

The continuous development of the Internet in recent decades, as well as the sophistication of its social interaction tools, has brought important insights into the library world. Since the arrival of new technological devices, which enable from greater opportunities for interaction with its users, to the reflection on new forms of information mediation and new ways of social participation of these users in curatorial processes, and information relevance and evaluation assignment, significant challenges have been presented both for the education of the librarian as for their daily work.

The main challenges focus on the social role that the library can take in this new scenario, as stated by Jaeger, Bertot and Fleischman (2011, p. 7):

> the Internet and its associated technologies have also allowed libraries to take unthinkable social roles, such as e-government services and emergency answers to social situations in real time, being between two of the most prominent new social roles.

At the same time, these unthinkable social roles are what open great possibilities for products and information services innovation, allowing the libraries to produce new relationship strategies for social relations and involvement with its members. One of the main aspects of these innovation possibilities that may be cited is the cultural change provoked by the increase in user engagement with these new products and services, in other words, here is the finding of a greater desire and potential for social participation, as presents Mon (2011, p. 67):

> The websites of Web 2.0 have provided a cultural change in anticipation of user participation in online informational interactions. In interactive websites such as Yahoo Answers!, users do not only ask but also answer the questions; in Wikipedia, users read the pages to find information and can also rewrite these pages with new information. However, the libraries focused in a social one-on-one relationship of questions and answers where users ask and librarians respond. In the Web 2.0 sites, the proposed ratio has been one-to-many and many-to-many triggering a participatory culture of asking and answering in which anyone can participate by asking, answering or contributing to a community response to a question.

According to Torres (2009), social media are WebPages that allow users to act not only as a reader, but as a producer, curator and consumer of information, with the freedom to

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create, recommend and share content with other users. A social network can be defined as an online environment in which users can establish relationships with other users with whom they have some connection and/or common interest. Thus, it is understood that the social media concept is wider, since it is an "online tool used to disseminate content and at the same time to allow a relationship to others" (ALTERMANN, 2009). Therefore, blogs and social networks can be considered as social media types or used as a social media. For this study, we chose to use the concept of social media because of its magnitude compared to the definition of social network.

The term Web 2.0 was first used by DiNucci in 1999, although at that time the use did not exactly reference to its current use. DiNucci (1999, 32, our translation) wrote:

> The Web we know now, which loads into a browser window with essentially static resources, is only an embryo of the web to come. The first glimmerings of Web 2.0 are beginning to appear, and we've only just began starting to see how this embryo feature may develop.

The term Web 2.0 was reintroduced in its current use by Tim O'Reilly, founder of O'Reilly Media. He introduced the Web 2.0 original settings in addition to citing its seven principles:

> web as a platform; incentive to collective intelligence; flexibility in data control, able to be done by the users themselves; software no longer being products, becoming service packages; reliable software programming models for distributed applications; software above the single device level; enriching experiences of users. (O'REILLY, 2005, our translation).

Web 2.0 refers to the second generation web, designed to facilitate social relationships, information sharing, interoperability and communication (TRIPATHI AND KUMAR, 2010, p.195, our translation).

One can define Web 2.0 as a set of new technologies and standards for developing interactive pages on the Internet, which provide resources for users to publish content and interact, for example, like, share, comment, objects in these pages. The ability to understand this cultural change as the exercise of new possibilities of social roles that the library can implement, allows the library to reposition and try new ways of social relationship with its users. One of the means by which this experimentation can occur is the adoption of Web 2.0 tools, especially social media.

In an important study published by the American Library Association Woodward (2013, p. xii) it is present the claim that the libraries in the United States did not take advantage of the social media potential, arguing that when resuming its trajectory comparing the services that worked and went wrong, the most important factor to be considered is the knowledge capacity of human nature in the design of this services. Thus, what should be considered is the ability to understand the communicational and informational nature of human use of these social media that can, according to the author, boost the creation of

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innovations in the library's relationship with its users.

A study published by Kane (2011, p. 04) on the library responsibilities, states that it is necessary to evaluate a major change of stance, where the librarian instead of waiting for the user to present a demand, actively seeks the social relationship, establishing new ways to connect to this user, new types of virtual reference services and new ways of dissemination of existing collections in the library. Accart (2012, p. 164) mentions that the success of these new virtual reference services is due to the new dimension found in the virtual information networks, facilitating access and allowing a greater degree of customization in building your demand.

The term "Library 2.0" can be defined as the abbreviation for a wide range of initiatives in all types of libraries that aim to incorporate the online collaboration tools for new ways to provide effective information services (American Library Association, 2016, our translation).

Casey and Savastinuk state that the Library 2.0 must be user-centric and add: "It's a model for library services that encourages constant and intentional change, inviting the user to take part in the creation of both physical and virtual services at will, supported by consistent ratings services" (CASEY AND SAVASTINUK, 2006, p.40, our translation).

Another not least important facet of these challenges of social media use for libraries, is to understand that this media also has a documentary side, that is to say it does not only produce virtual spaces of sociability and means of social relations between librarians and their users, but also information records that become important sources of information for research and analysis of society itself in the twenty-first century. Here another challenge is presented, that of digital preservation and the ability to produce services that consider social media as legitimate information sources, facilitating access to these databases in a friendly and accessible way.

The Association for Library Collections and Technical Services (2016, our translation) brings a concept of digital preservation that goes beyond the purely technological issues:

> Digital preservation combines policies, strategies and actions that guarantee access to digital or scanned native content regardless of the challenges related to damaged files, media or technology changes. It aims to ensure authenticity of the document over time.

Ferreira (2006, p.20) confirms this holistic view stating that digital preservation can be understood as a set of activities or processes responsible for ensuring long-term continued access to existing information and cultural patrimony in digital formats.

In this sense, the focus of digital preservation distances itself increasingly from the need to take immediate action to "recover" threatened materials prioritizing the perception that to facilitate digital materials in the long term involves the observance of careful practices of digital assets management that underlie all the information life cycle. This forces us to look at digital preservation not only as a mechanism that aims to ensure that bit sequences created today will be accessed and recovered tomorrow, but as a process that operates along with a range of services that support digital informational environments, besides dealing with global economy aspects, such as the legal and social contexts (LAVOIE; DEMPSEY, 2004, p.20, our translation).

Faced with this challenge of discussing digital preservation in the context of social media, it is possible to state that there are still few libraries concerned in producing services in that direction, but it is worth mentioning a story entitled "British Library adds billions of webpages and tweets to archive" of The Guardian (MEIKLE, 2013), relevant and renowned British newspaper, which cites the British Library initiative to archive WebPages and politicians and important public figures from the UK's social media posts, such as from Twitter. It is possible to notice here a set of materials based on documents that did not exist before then as traditional sources of information for libraries. Initiatives like this show not only the importance that social media acquires in the contemporary scene, but also the need of reflection by the professional of information about what values this form of virtual sociability has brought to the universe of informational products and services.

This research comes from this initial scenario, where on one hand there is the need for production of new experiences of social participation of users in relation to libraries through social media, and on the other the emerging need for digital preservation strategies that address these new types of documents produced. The questioning is guided by the problems of identifying and evaluating how Brazilian libraries are using social media in general to then propose a reflection on the importance of these libraries implementing digital preservation actions for these sources of information.

The next section presents the methodology used for the research, including how the libraries sample was defined, its Internet presence, especially on social media, and what criteria were used to qualify the use of these media by these libraries. In the following results section, the data collected descriptively trying to identify some trends are presented, suggesting some possibilities of interpretation. Finally, in the Final Thoughts section, we present some conclusions and, above all, how it is intended to in the future deepen this study to a larger framework of libraries in the Brazilian scene.

2 METHOD

This research is considered to hold a quantitative approach, since the investigative process was sequential and evidential. It starts with an idea from which are extracted the

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objectives and research questions after it has been delimited, the literature is then reviewed and the framework or theoretical perspective is built. In short, this approach uses the data collection based on the numerical measurement and statistical analysis to establish standards and prove theories.

Through a quality indicator that evaluates Brazilian Federal Higher Education Institutions, the General Index of Evaluated Institution Courses (IGC - latest version 2014), produced by the Anísio Teixeira National Institute of Educational Studies and Research (INEP, 2016)[4], it was possible to outline the sample to be investigated, sixty-one Federal Institutions of Higher Education (IFES). It was found that fifty-six out of this total use social media.

It is understood that the sample of Brazilian Federal Higher Education Institutions geographically covers the entire country, thus giving one a broad view of the use of Web 2.0 tools by the university libraries of institutions that are part of the same public sphere. It is worth emphasizing here that since the Federal Educational Institutes operate primarily in the provision of vocational and technological education in all its levels and modalities (MEC, 2016), and due to its high amount, it was decided not to include this modality in the survey sample.
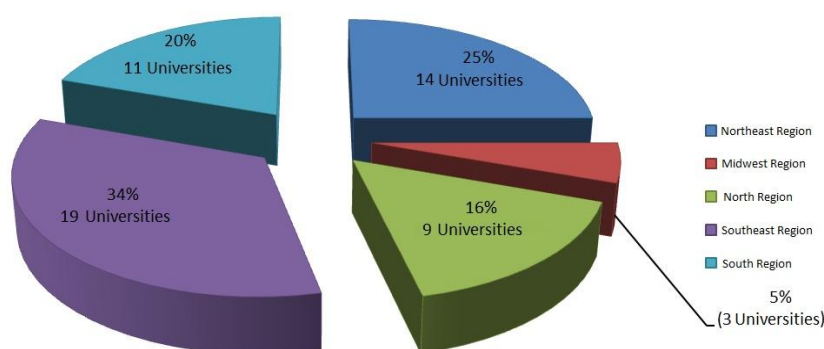
Initially, the goal was to define the content to be investigated regarding the use of Web 2.0 tools in the Brazilian libraries scenario. This work aims to identify and characterize the university libraries of Brazilian Federal Higher Education Institutions using social media, which is the platform used, their audiences, content types and posting frequency considering its lifetime. The data collected by the researchers of this study were extracted from the very social media of the sample libraries. At the end, the questionnaire tool "Google Forms[5]" was used to organize and tabulate the collected data.

3 RESULTS

Here after we presente the results of this study aiming to outline the scenary of Web 2.0 tools usage by the university libraries of Brazilian Federal Higher Education Institutions (BFHEI).

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[4] Disponível em : http://portal.inep.gov.br/educacao-superior/indicadores/indice-geral-de-cursos-igc

[5] Disponível em: < http://www.google.com/intl/pt-BR/forms/about/>.

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Graph 1. Bibliotecas Universitárias das IFES Brasileiras que utilizam ferramentas *Web* 2.0 por região geográfica
Source: os autores

Graph 1 highlights the expressive general participation of all Brazilian regions in the use of Web 2.0 tools. The university libraries of all Brazilian FHEI of the five Brazilian regions are using Web 2.0 tools. It is suggested that such a scenario demonstrates a concern for users interaction via social media by these information units, although the next graphics signal that this use is still incipient and superficial.
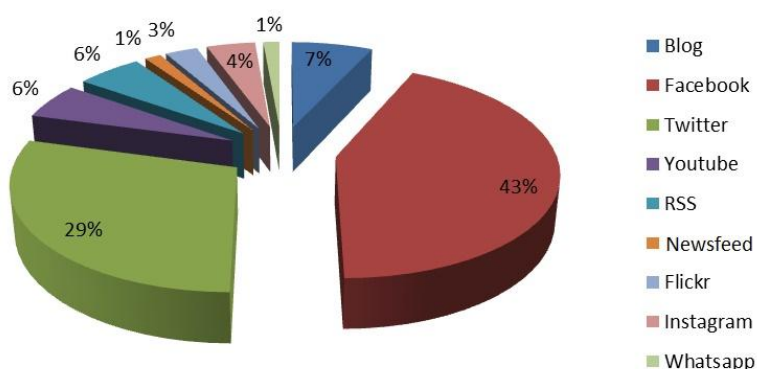
**Graph 2.** Ferramentas *Web* 2.0 utilizadas pelas bibliotecas universitárias das IFES brasileiras
Fonte: os autores

Graph 2 shows which Web 2.0 tools are used by the university libraries of Brazilian FHEI. Most libraries use Facebook and Twitter. It is noteworthy that the sum of the use of these two tools totals 72% of the libraries. This number can be justified by the use easiness and young audience.
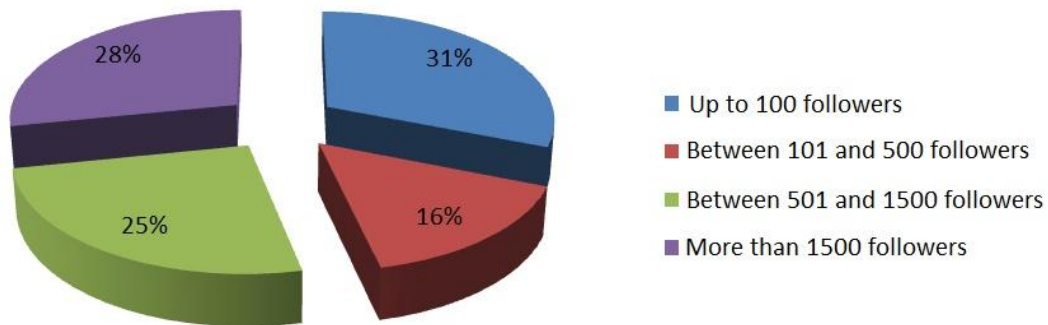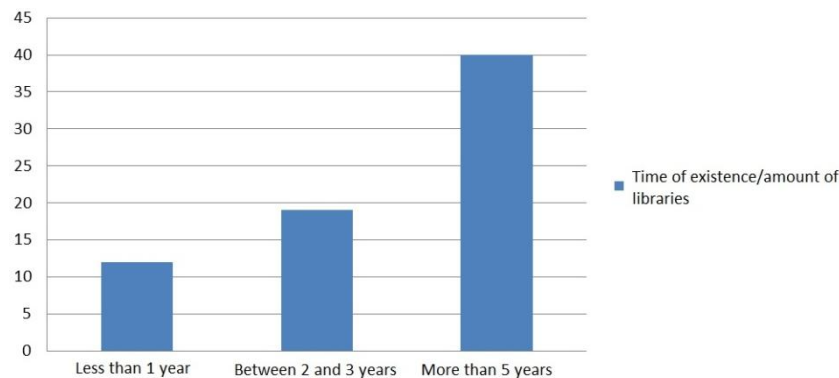
Graph 3. Audiência das ferramentas Web 2.0 utilizadas nas bibliotecas universitárias das
IFES brasileiras
Fonte: os autores

The audience of the Web 2.0 tools used by the libraries of Brazilian FHEI are presented in Graph 3. The largest share is the 31% of the libraries that hold up to one hundred (100) followers. This number represents approximately the share of libraries that according to Graph 2 claimed to have the following social media: YouTube, RSS News Feed, Flickr, Instagram and Whatsapp. It is emphasized that in this share the following social media are not included: Facebook, Twitter and Blog. Moreover, 28% of the libraries claim to have more than 1500 followers. The latter figure is related to the participation of libraries in Facebook and twitter, social media that gets a significant reach.
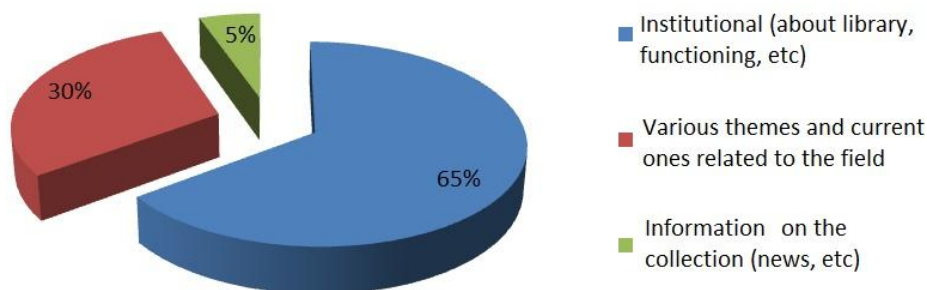
Graph 4. Tipos de informações postadas nas ferramentas *Web* 2.0 das bibliotecas
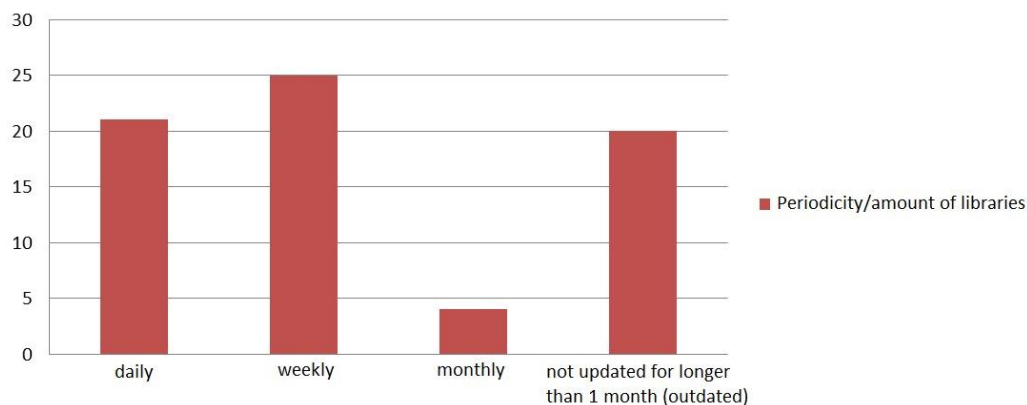universitárias das IFES brasileiras
Source: os autores

Regarding the types of information posted on the Web 2.0 tools of university libraries of Brazilian FHEIs, it is worth noting in Graph 4 that 65% of the libraries are using social media to post institutional information. Since only 5% of libraries post information on the collection, it can be said that besides the absence of planning focused on the use of collaborative tools, there is no connection between the collection contents disclosure and social media. This may also signal that the digital libraries technological solutions and the general collection management used by Brazilian libraries do not interact with Web 2.0 tools. This disassociation causes the existing content in these libraries' social media to not relate to the movement of existing collections.

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Graph 5. Tempo de existência das ferramentas Web 2.0 das bibliotecas universitárias das IFES brasileiras.
Source: os autores

Graph 5 presents the data related to the time of existence of Web 2.0 tools in the Brazilian FHEI academic libraries. Most of the tools of these libraries has been established for more than five (5) years. Such a scenario demonstrates the interest of these university libraries to participate in collaborative tools on the Web for some time, although the previous graph data shows that the present contents need to be diversified, particularly in regards to the dissemination of information of their collections.

Graph 6. Periodicidade das postagens nas ferramentas *Web* 2.0 das bibliotecas universitárias das IFES brasileiras
Source: os autores

Regarding the posting frequency of Web 2.0 tools in academic libraries of Brazilian FHEIs, it can be said, based on Graph 5, that daily and weekly posts appear in greater quantity, justified by the significant presence of these libraries on Facebook and Twitter. The other tools (Youtube, RSS, news feed, Flickr, Instagram and Whatsapp) are out of date in general, with posts at intervals of more than one (1) month. Such a situation may signal once again the concern of these libraries in working collaboratively on the Web 2.0 interacting

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with its users, but without an effective planning for social media presence aiming at increasing the frequency and diversifying the content of the posts.

4 FUTURE PROSPECTS FOR THE DIGITAL PRESERVATION OF SOCIAL MEDIA IN TIMES OF LIBRARIES 2.0

The results show that the use of Web 2.0 tools by the university libraries of FHEIs is significant and covers various social media platforms. This directs the initial question of the present research to the urgent need to initiate national level discussions on how to preserve this type of content since it holds huge informational volume, relevant content, exponential growth and covers a significant number of users of these information units. These discussions are necessary since the current digital preservation actions in libraries, although incipient, generally prioritize the content of the collections.

To contextualize the scenario of Brazilian digital preservation actions, the following Graph 7, extracted from the Directory of Open Access Repositories (2016) shows that 82.4% of the total of Brazilian digital repositories registered on this basis do not have digital preservation policies defined. The "unstated" share represents the repositories that relate to the digital preservation policy, however it was not found. The "Unknown" share represents the cases where no reference to digital preservation policy was located in the repository. Adding up the "Undefined" and "Unknown" shares, it amounts to 89.2% of repositories indexed in this directory that do not have digital preservation policy.
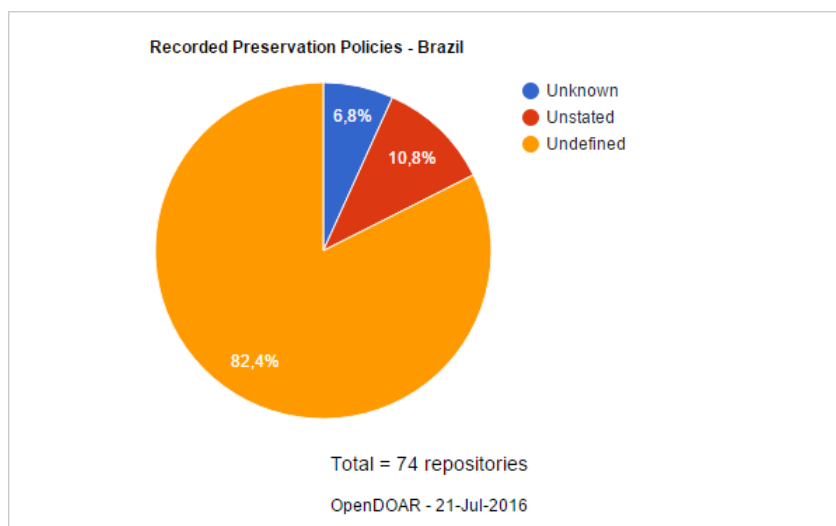
Graph 7. Políticas de Preservação Digital Registradas no Brasil
Source: Directory of Open Access Repositories:
Disponível em: <http://www.opendoar.org/onechart.php?cID=31&ctID=&rtID=&clID=&lID=&potID=5&rSoft
WareName=&search=&groupby=pog.pogHeading&orderby=pog.pogID&charttype=pie&width=600&height=3
00&caption=Recorded%20Preservation%20Policies%20-%20Brazil >

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Since much of the repositories listed in this directory are from educational institutions, one can consider that this data is also part of the context of university libraries of Brazilian FHEIs. Whereas these libraries in general do not have a set of digital preservation policy for their repositories, it is understood that neither would they have defined actions to preserve their social media content.

There is researches that considers that due to this lack of production of specific policies for digital preservation of social media content, we risk entering a new era of darkness because of the lack of ability to retrieve this information (JEFFREY, 2012). Because of this, researchers in the fields of social sciences, history, archeology, among others, would have no material conditions to reconstruct the sociability ways produced in these digital spaces and to recover objects such as videos, photos, images, graphics, among others, which are a fundamental part of the methodological strategies for the production of their research.

It is essential to produce new strategies of education, experimentation and construction of information governance policies that consider this dimension and can offer preservation solutions to ensure the strategic keep conditions of this material. News of some actions in this direction are available and are worth reporting here.

In the text that recounts the digital preservation policy strategy of the British Library for the period of 2013 to 2016 (BRITISH LIBRARY, 2013), it is estimated that they have collected around 280 terabytes of coming of web content, which is around 11.5 million items collected. Because of this plan, the British Library already estimated to expand its collection of sites collected to 4.8 million and reach 5 petabytes of collected web content by 2020. A noticeable explicit policy here mentions web content collection strategies and creation of a database aimed at ensuring the preservation and recovery of such content.

Another strategy worth mentioning in this article is of the Digital Preservation Coalition (2015), a coalition of international institutions interested in digital preservation, which held a seminar specifically on digital preservation of social media, trying to present technologies, methodologies and governance strategies within the British government. The seminar dealt with forms social media archiving, access troubles, data documentation and technologies involved.

Actions such as these, aimed at production of governance policies and research and education actions, prove to be a key debate for the development of new strategies that may prevent us from facing a future era of darkness due to lack of information.

5 FINAL THOUGHTS

This research conducted a descriptive analysis on the situation of public libraries connected to federal universities regarding the use of social media experiences on the issue of digital preservation of social media content.

The results demonstrate the existence of a significant and fairly representative amount of the university libraries of FHEIs using Web 2.0 tools with social focus, with the greater adaptation of Facebook (43%) and Twitter (29%), followed, but with much less intensity by blogs (7%). In terms of the types of media used, it is noticeable a relationship with the way Brazilians use social media. Data from Facebook itself (2014) show that around 45% of Brazilians access Facebook monthly. There seems to be a correlation between institutional usages of social media and the way people, in general, use these collaborative tools in their lives.

The distribution of followers count on the libraries' social media of the institutions surveyed proved quite different. To further assess the meaning of these results, it is suggested to, in the future, correlate the number of students and professionals of each institution and the number of followers in the platforms. Thus allowing to understand if this number is due to the size of these institutions or specific dissemination policies and media adoption.

A result that also deserves highlighting concerns the social media use strategies by these institutions' libraries. Only 5% of them use this means of communication to disseminate its collections. This information proved surprising, since at the beginning of this research, it was anticipated a more effective use of these media with the aim to inform the academic community about informational materials that these libraries have, as well as newly acquired titles, rare books, exhibitions, among others possible collections dissemination strategies. There is a huge potential for production of new strategies here that not only aim to disseminate institutional information alone, such as hours of operation, services offered, use policies, but also to approximate the user to the collections through the innovative way of content dissemination that is social media. The same applies to the frequency of posts, indicating there are still many libraries that do not update their channels frequently, generating possible users disinterest to participate and follow the social media, affecting its credibility as an official channel of social interaction.

Finally, through the conducted bibliographical and documentary research, actions for digital preservation of social media content, even at early stages, have not been identified in Brazil. This indicates the incipient nature of this type of practice in these libraries at a national level. There is here a great potential for experimentation and production of both new sources of information and databases, as preservation policies for Web 2.0 tools content since these have become increasingly relevant in contemporary society. Again, here we have a point that can be explored in future research.

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New trends are perceived, although still very embryonic, in the sense of academic community education and the production of policies and conservation strategies that considers social media and internet data in general. It is understood that mapping these strategies and knowing its results not only provides an interesting perspective for future studies, but also allows that new experiences can be experienced by the Brazilian community of researchers and information equipment managers.

Thus, what can be inferred as this research's final consideration is that the use of social media by the libraries of Brazilian FHEIS has much yet to develop. Factors related to the formal education of librarians in regards to the use of these platforms and the lack of specific information policies for social interaction with users on this basis may perhaps explain the current situation of these libraries in relation to their social media as described in this study. However, it is necessary the availability of new informational products and services by these libraries that not only expands the potential connection and facilitate the social participation of their network users, but also expands the potential circulation in social media of content originated in their collections and thus further democratize the access to information. It is believed that it is in this direction that the Brazilian public university libraries should promote the effective use of their social media presence to then be considered 2.0 libraries.

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