Does the Global South have Altmetrics?
Analyzing a Brazilian LIS Journal

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Introduction

As a new emerging field, Altmetrics has become a trendsetter, and received a good deal of attention by researchers involved in the evaluation of scientific research. Moreover, it has led to a notable growth in the related academic literature. The international landscape has displayed an exponential growth in the field of scholarly publishing with several studies exploring altmetrics (both their potential benefits and limitations) in the last 3 years. However, in the Global South this subject is still not widespread, with a few empirical works. Alperín (2014) explored altmetrics measurements from articles in South American journals retrieved from sources such as SciELO, Redalyc and Latindex. This author also carried out an analysis of 21,560 articles published by the Brazilian journals in SciELO. This explored its altmetrics data with the Altmetric.com tool, and showed that these new measurements in the region are still in their early stages. Alperín (2014) also believed that the spread of science on the Internet and social networks in Brazil seems to have been limited in scope. This is because there are few or no sources of alternative performance metrics such as Blogs, Wikipedia, videos and social media like Google Plus, LinkedIn, Reddit, Pinterest, and others. The only media that appears to have significant data is Twitter, with 6.03% of mentions, followed by Facebook, with only 2.81%.

Nascimento & Oddone (2014) also used Altmetric.com to conduct an analysis of altmetrics indicators in 2 Brazilian journals in Library and Information Science (LIS). This showed that out of a total of 55 articles, 35 (63%) recorded mentions of Twitter, 22 (40%) of Mendeley, 19 (34%) of Facebook and 1 (1%) of Pinterest. Similarly, Araújo (2014) analyzed the altmetrics data of Brazilian LIS journals either through Altmetrics.com, with the cut-outs of 121 articles published in the last 3 editions of 4 core national journals in this area. From this total sample, only 6 articles of 3 different journals returned altmetrics data. Apart from the limited amount of altmetrics data in the source, it is clear that all of the data were from Twitter, with no mentions on Facebook, or on blog posts. Araújo (2014) argues that these meagre results in the use of Altmetrics.com may have been caused by (1) a limitation of the tool due to the issues already considered such as DOI and, others; and (2) the coverage provided by other social media services.

It has been suggested that this drawback in the use of social media (such as Twitter, Facebook and LinkedIn) can be overcome through the use of an API (Application Programming Interface) that once parametrized, can provide more precise altmetrics indicators from articles (Araújo, 2014). Following this suggestion, we performed an altmetrics analysis of a Brazilian LIS journal (DataGramaZero) through the use of APIs of the two largest social media in Brazil in terms of active users: Facebook and Twitter. DataGramaZero (DGZ) is a pioneer publishing venture in the area of the Brazilian LIS and has had an entirely digital format since its inception, as well as being among the core journals in LIS in the nation. However, the absence of a DOI precludes this journal from obtaining results from the use of tools for altmetrics data collection e.g. Altmetrics.com. In addition, as well as not being indexed in international databases, it is not included in the citation results of Web of Science (WoS). This study seeks to conduct an empirical analysis to check the altmetrics measurements in the DGZ articles as an example of the lack of altmetrics in the Global South.

Methods

This exploratory research study carried out an altmetrics analysis of the DGZ journal through the use of APIs of Facebook[i] and Twitter[ii]. The first difficulty in obtaining altmetrics data is how to establish the WWW by using URLs as a database, since the same content may have different URLs. Consultations were parametrized on June 21, 2014, to obtain the URL of all the articles in the journal, together with their quantitative and numerical representation in social media in terms of shared opinions, likes and comments to Facebook and tweets to Twitter, with parameter data output in a JSON format.

Results

Table 1. Mentions per year.

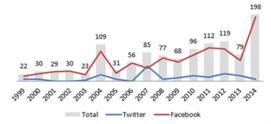| Year	Articles	Mentions	(%)
1999	6	22	1,89
2000	23	30	2,58
2001	26	29	2,49
2002	29	30	2,58
2003	27	23	1,98
2004	29	109	9,36
2005	24	31	2,66
2006	27	56	4,81
2007	26	85	7,30
2008	31	77	6,62
2009	34	68	5,84
2010	34	96	8,25
2011	39	112	9,62
2012	43	119	10,22
2013	32	79	6,79
2014	11	198	17,01
Total	**441**	**1164**	**100**

Figure 1. Mentions by Social Media.

Discussion

The DataGramaZero journal provided a total of 441 articles for analysis, published between 1999 to 2014. We identified 1,164 altmetrics data, which are shown on a year-by-year basis in Table 1. The URL <www.dgz.org> has the most widespread altmetrics data with 995 mentions, followed by URL <www.datagramazero.org> with 169 mentions, with an average of 2.63 mentions per article. A total of 211 articles obtained one or more mentions, and 230 did not provide any altmetrics data. Out of the 1,164 total sample, 15.72% of the mentions came from Twitter and 84.28% from Facebook. This result is quite different from those obtained by Alperín (2014), Nascimento & Oddone (2014), and Araújo (2014), where in a comparison made between the two social media, only a low number of mentions were obtained from Facebook or no mentions at all. Figure 1 shows the distribution of the mentions received annually, indicated by the total value (bar) and by the number of occurrences (line) in each social media. With regard to the differences in performance between each social media, the only year in which the mentions in Twitter exceeded the altmetrics data from Facebook was in 2007. In this year, Twitter provided 45 mentions, and Facebook, 40. In the other years Facebook leads the preference for the dissemination of journal articles.

Conclusions

Altmetrics is a relatively new field and has the potential to analyse the information flow from research publications and measure the amount of attention they receive in the social web. However, as Alperín (2014) points out, it seems that there remains an inherent bias within the altmetrics tools which can be attributed to the fact that social media is used to a greater extent by countries in the North, with less representation in the Southern hemisphere. The fact that a large amount of scientific output from the Global South is not indexed in international databases such as WoS, PubMed, Scopus and others, prevents the majority of those journals (including Brazilians) from being included in citation services as well as the default absence found in the journals, e.g. a DOI number also reduces their chances of obtaining altmetrics data in the current scenario, by using available tools.

The purpose of this research is to overcome these barriers by analysing a Brazilian LIS journal with the use of APIs in some social media and conducting an analysis of the individual URLs for each journal article. The altmetrics results showed that the use of APIs can represent an answer to this problem (since the search for URLs is applicable regardless of whether or not the journal has a DOI). This suggests that there is a much higher coverage than is shown by Altmetric.com, in either absolute terms or even individual numbers (for each social media), especially when looking at the performance of Facebook. Although the value of the altmetrics data represents a challenge for researchers who are involved in data collection through APIs, it is an alternative that should be considered.

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[i] http://graph.facebook.com
[ii] https://dev.twitter.com