Twitter presence and altmetrics counts of SciELO Brazil Journals

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1 Introduction

This study investigates the relationship between the Twitter engagement of journals published in Brazil that are indexed in SciELO (Scientific Electronic Library Online) and the different altmetrics counts received by their articles. Altmetric.com is one of the most prominent providers of altmetrics data worldwide.

Our main hypothesis is that there is a kind of 'Twitter presence advantage' observable for scientific journals, i.e. journals that have a Twitter account would receive higher altmetrics counts for their publications compared to those without such presence (Trueger et al., 2015). To our knowledge, the Twitter accounts of SciELO Brazil Journals (or other international journals) have not been studied before, particularly regarding their potential role as enhancers of the social media visibility of their publications. SciELO has concentrated one of the largest amounts of open access publications in the world, and plays an essential role in the online

dissemination of scholarly outcomes in Latin America, Ibero America, South Africa and internationally (Alperin, Fischman, & Cetto, 2015; Packer, Cop, Luccisano, Ramalho, & Spinak, 2014; Spano et al., 2014). Apart from the tracking of altmetrics (provided by Altmetric.com), SciELO also measures downloads of publications on its system (Spinak, n.d.). Based on the extensive amount of publications, widely spread disseminations of thereof and coverage within numerous countries, SciELO is a relevant information source for research on altmetrics (Alperin, 2015; Araújo, Murakami, Leduc de Lara, & Fausto, 2015).

2 Data and Methodology

We retrieved all Journals of Brazil that are indexed in SciELO (n=296), and their publications with DOIs (Digital Object Identifiers) from the years 2012 until 2015. We have chosen the year 2012 as a starting year as the more adequate considering the starting point of data collection by Altmetric.com. It has to be noted that not every journal in Brazil is indexed in SciELO. For each publication we collected the 5 most important altmetrics sources provided by Altmetric.com (Twitter, Facebook, blogs, news items and citations in Wikipedia). We excluded some Altmetric.com sources (LinkedIn, Pinterest, Google+, Reddit, Pinterest, Q&A and F1000), because of their low coverage in our dataset.

The presence in Twitter by the SciELO Brazil Journals was performed by a manual check in July 2016. Only Twitter accounts of journals were included, thus, we excluded accounts by academic societies or research centres that are responsible for some of the journals. The altmetrics impact of publications from journals *with* active Twitter accounts (n=28) were compared with those *without* Twitter accounts (n=268). We defined an active Twitter account as active in Twitter during the years 2012–2015 (journals with an inactive Twitter account were not included in the study). The total sample includes 83,318 publications. Journals *without* Twitter accounts are responsible for 72,793 publications, while journals *with* Twitter presence are responsible for 10,525 publications, which means that journals with Twitter account have a higher average number of publications per journal (376 vs. 272).

3 Preliminary results

Preliminary findings suggest that journals *with* Twitter accounts seem to receive for the whole range of years, 2012–2015, a slightly higher visibility in Altmetric.com sources. In the 5 Altmetric.com sources considered here, the average counts were (at least by the factor of 1,5 times) higher for those publications in journals *with* a Twitter account than the ones from journals *without* Twitter account (see also the Appendix). Also, the proportions of papers with at least one mention in Twitter, Facebook, blogs, news or at least a Wikipedia citation are (at least by

the factor of 1,5) higher for those publications in journals *with* a Twitter account than those from journals *without* presence in Twitter. The analysis by years showed similar results. Only news counts and proportions in 2015 were slightly higher for journals *without* Twitter accounts.

Regarding the number of followers of the SciELO Journals with presence in Twitter, there are substantial differences among them. That is, 11 Twitter accounts have less than 100 followers, 13 accounts exhibit between 100 until 500 followers, 2 accounts between 500 until 1,000 followers, and only 2 accounts have more than 1,500 followers. By dividing the journals into 2 segments, those with more than 180 followers and those with less than 180 followers, we find again a 'Twitter presence advantage' for those journals with more followers in the sources Twitter, Facebook and blogs[1] (see also the Appendix). The sources Wikipedia and news show a relatively slight difference towards the other direction[2]. The limitation of our analysis is, that the number of followers does not date back to the time, when the SciELO Journal publications were published, which could influence the results. We will try to solve this issue by comparing the Twitter accounts with archived snapshots from the Internet Archive (archive.org).

4 Conclusions

This paper provides preliminary results on the effects of Twitter engagement of SciELO Journals towards their altmetrics visibility, suggesting the idea of an advantage for those journals with Twitter presence. The abstract is a research in progress, and will compare the current data with those from journals from Mexico, South Africa and Spain that are indexed in SciELO. The journals in these countries are seen as a reference to Journals of Brazil, and will be used to expand our sample and will be taken as a control group. Finally, the journals will be grouped based on SciELO categories to study potential differences among disciplines.

5 References

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[1] More than 180 followers – Twitter counts: by a factor of 2,5 times higher; Facebook counts: by a factor of 1,5 times higher; Blog counts: by a factor of 8,5 times higher; share Twitter: by a factor of 1,5 times higher, share Facebook: by a factor of 0,2 times higher; share blogs: by a factor of 5,5 times higher.

[2] Less than 180 followers – News counts: by a factor of 3,5 times higher; Wikipedia citations: by a factor of 2,5 times higher; share news: by a factor of 3 times higher; share Wikipedia: by a factor of 2,4 times higher.

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6 Appendix

Table 1: Twitter presence of journals, total number of publications (N), average and proportions (shares) of altmetrics mentions of journal publications (pubs.).

Twit-ter	N	Twitter counts /pubs.	Facebook counts /pubs.	Blog counts /pubs.	News counts /pubs.	Wikipedia Citations/ pubs.	Share pubs. Twitter	Share pubs. Facebook	Share pubs. blogs	Share pubs. news	Share pubs. Wikipedia
No	72793	0,197	0,076	0,002	0,002	0,002	0,089	0,045	0,002	0,001	0,002
Yes	10525	0,510	0,203	0,080	0,003	0,004	0,164	0,118	0,046	0,002	0,004

Note: The numbers are rounded.

Table 2: Twitter presence of journals, total number of publications (N), average and proportions (shares) of altmetrics mentions of journal publications (pubs.) by publication years (PY).

PY	Twit-ter	N	Twitter counts /pubs.	Facebook counts /pubs.	Blog counts /pubs.	News counts /pubs.	Wikipedia Citati-ons/ pubs.	Share pubs. Twitter	Share pubs. Facebook	Share pubs. blogs	Share pubs. news	Share pubs. Wikipedia
2012	*No*	18678	0,1646	0,0636	0,0015	0,0008	0,0027	0,0780	0,0389	0,0013	0,0004	0,0021
2012	*Yes*	2757	0,2731	0,0867	0,0294	0,0018	0,0033	0,1465	0,0664	0,0178	0,0007	0,0033
2013	*No*	18306	0,1634	0,0760	0,0023	0,0020	0,0018	0,0781	0,0429	0,0020	0,0010	0,0017
2013	*Yes*	2536	0,4673	0,1759	0,0513	0,0028	0,0035	0,1534	0,1096	0,0268	0,0016	0,0032
2014	*No*	18212	0,1830	0,0905	0,0033	0,0015	0,0020	0,0774	0,0445	0,0031	0,0008	0,0016
2014	*Yes*	2565	0,7314	0,2172	0,0811	0,0051	0,0078	0,1485	0,1216	0,0468	0,0035	0,0062
2015	*No*	17597	0,2816	0,0739	0,0021	0,0038	0,0009	0,1221	0,0554	0,0016	0,0027	0,0009
2015	*Yes*	2667	0,5816	0,3360	0,1571	0,0026	0,0015	0,2070	0,1770	0,0922	0,0022	0,0015

Table 3: Number of Twitter followers of journals, Twitter presence of journals, total number of publications (N), average and proportions (shares) of altmetrics mentions of journal publications (pubs.).

Twitter followers	N	Twitter counts /pubs.	Facebook counts /pubs.	Blog counts /pubs.	News counts /pubs.	Wikipedia Citations/ pubs.	Share pubs. Twitter	Share pubs. Facebook	Share pubs. blogs	Share pubs. news	Share pubs. Wikipedia
<180 followers	6297	0,3121	0,1675	0,0192	0,0043	0,0052	0,1309	0,1131	0,0154	0,0027	0,0044
>180 followers	4228	0,8042	0,2561	0,1696	0,0012	0,0021	0,2133	0,1261	0,0913	0,0009	0,0021
No Twitter	72793	0,1972	0,0760	0,0023	0,0020	0,0019	0,0885	0,0453	0,0020	0,0012	0,0016