

Academic journals with a presence on Twitter are more widely disseminated and receive a higher number of citations



*Previous research has shown that researchers' active participation on Twitter can be a powerful way of promoting and disseminating academic outputs and improving the prospects of increased citations. But does the same hold true for the presence of academic journals on Twitter? **José Luis Ortega** examined the role of 350 scholarly journals, analysing how their articles were tweeted and cited. Findings reveal that articles from those journals that have their own individual Twitter handle are more tweeted about than articles from journals whose only Twitter presence is through a scientific society or publisher account. Articles published in journals with any sort of Twitter presence also receive more citations than those published in journals with no Twitter presence.*

At the beginning of this year I wrote about how the **participation of scholars on Twitter can influence the tweeting of their articles**. Based on the results of **previous research**, I explained that research articles whose authors have a Twitter handle are more tweeted and, by extension, this fact favours their future citation impact. These results made clear that dissemination (as measured by tweets) is of great importance to scientific impact (as measured by citations), and so raised the question of to what extent citation impact is a reflection of dissemination rather than research quality.

Continuing along these lines, more recent **research** explores the role of journals on Twitter, analysing how their articles are tweeted and cited. 4,176 research articles from 350 scholarly journals were extracted from altmetric provider, PlumX. These journals were classified in four categories according to their engagement degree on Twitter:

- Journals with their own Twitter handle
- Journals without a Twitter handle but whose owner (professional association, scientific society, etc.) does have a Twitter account
- Journals whose only presence on Twitter is through the account of their publisher (Elsevier, Wiley, Springer, etc.)
- Journals with no presence of any type on Twitter.

After a log transformation and a time-normalisation of the Twitter accounts, the average tweets and citations received by these journals were statistically compared.





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Results showed that articles from journals with their own account are 46% more tweeted, on average, than articles from journals without a Twitter account; 36% more than articles from journals with an owner account; and 25% more than papers from journals with a publisher account. However, looking at citations, the most significant variation was found regarding papers from journal and publisher accounts, which receive 34% and 32% more citations, on average, than papers from journals without a Twitter account. This result again demonstrates the strong relationship between dissemination and citation impact, emphasising that the diffusion of research findings on Twitter will improve, in the long run, the number of citations academic outputs receive.

But the mere presence of journals on Twitter is not enough to understand the way in which the dissemination on that social network favours the tweeting and citation of research papers. What type of action is more influential in the success of a research paper on Twitter? A regression analysis was performed to estimate the effect of the social networking metrics (e.g. number of tweets, followers, and followings) of a Twitter account on the academic impact (citations) and dissemination (tweets) of their research papers. Results found that followers is the only variable accepted in the model ($\beta=.47$), suggesting that the number of followers has a positive effect on the number of tweets that a paper receives. Particularly, an increase of 10% of followers might cause Twitter mentions to grow by 4.7%. As we can see, the required effort to increase the number of followers is too much (more than the double) and not worth the benefits. In addition, the fit is poor ($R^2=.46$) and therefore the effect is only perceptible for less than the half of the journals. Even so, this result emphasises the power of the network of followers to the successful spreading of information on Twitter.

Looking at the number of citations, regression analysis found even weaker relationships. The number of followers by year is again the only variable that influences the number of citations an article receives. But now the coefficient is smaller ($\beta=.283$), and the fit is poorer than in the case of tweets ($R^2=.18$). These findings tell us that activity on Twitter has less influence on citation impact. The model suggests that a 10% increase in followers would produce only 2.8% growth in citations. This percentage is better (3.4%) if only journals with their own Twitter handle are considered. This result provides yet more evidence that the effort of maintaining a large network of followers is not enough to improve citation impact of one's research papers.

In conclusion, these results make clear that the institutional presence of research journals on Twitter is fundamental for the dissemination and visibility of their outputs. Journals should consider Twitter as an important instrument for broadening audiences and tracking the social media impact of their publications. Furthermore, these findings suggest the best strategy to promote academic journals on Twitter is to have an individual account devoted exclusively to disseminating the journal's content. Publishers and scientific societies should take heed and go to the effort of creating specific Twitter accounts for their journals. This would have the benefit of providing clear identification of the journal and track, in detail, social media engagement and impact of their publications.

From a research evaluation point of view, these results might suggest that journal activity on Twitter can affect the number of tweets and citations its papers receive. However, these results should be interpreted in term of dissemination, in which the broadcasting of research outputs

has an impact on a specific audience of researchers that use that information for future studies. The more an article is spread over social networks, repositories, blogs, news sites, etc., the bigger audience it reaches, increasing the likelihood of it being cited by colleagues. This being the case, these results should be used by publishers to inform efforts to improve the discoverability of journals and not with a view to assessing quality or academic impact. The number of mentions on Twitter should be understood as a dissemination metric, not as a scholarly impact indicator.

*This blog post is based on the author's article, "[The presence of academic journals on Twitter and its relationship with dissemination \(tweets\) and research impact \(citations\)](#)", published in the *Aslib Journal of Information Management* (DOI: 10.1108/AJIM-02-2017-0055).*

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About the author

José Luis Ortega is a web researcher partner of the Cybermetrics Lab at the Spanish National Research Council (CSIC). He has published more than 40 research papers about web metrics (link analysis, altmetrics, etc.), information consumption, web usage mining and academic search engines (Google Scholar, Microsoft Academic Search). Recently, he has published the monograph [Social Network Sites for Scientists: A Quantitative Survey](#) in which he analyses the most relevant academic social networks (ResearchGate, Academia.edu, Mendeley, etc.) using webometric techniques. His ORCID iD is [0000-0001-9857-1511](#).



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