

Engagement and impact through 'amplifier platforms'

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Digital and social media have grown exponentially to become highly influential spheres of public communication – increasingly crowded, contested, and corrupted, and increasingly in need of scholarly engagement. As public debate is conducted more through social and digital media, alternative metrics ('altmetrics') that are generated from social and digital media platforms become important as indicators of impact and engagement. We review the growth of amplifier platforms and the academic and contextual reasons for their growth. Amplifier platforms are defined to distinguish them from traditional media outlets (where the scholarly voice is mediated through and 'gatekept' by journalists, whose editors retain final control), personal blogs (very few of which can be maintained over time) and from social media platforms (where the scholarly voice is accorded no presumptive standing). A significant range of amplifier platforms is canvassed while acknowledging that in Australia, the amplifier platform *The Conversation* plays a central role.

Keywords: public scholarship, amplifier platforms, digital media, online scholarly communication, The Conversation

Introduction

The Australian Research Council (ARC) recently released the findings of its first engagement and impact assessment exercise in March 2019. Of the 626 case studies that were submitted to the ARC for assessment, 85 per cent were rated as having a high or medium level of engagement, while 88 per cent of the 637 submitted impact case studies were assessed as having a medium or high level of impact. Seventy-six per cent were assessed as having a medium or high rating for approach to impact (Australian Research Council, 2019). Minister for Education Dan Tehan said the results show that 'University research is improving the lives of every Australian' (Ministers for the Department of Education and Training, 2019). Universities are pleased with what appear to be good results, but what work practices and institutional dynamics lie behind these results?

This article reports insights from an ARC-funded Linkage project (LP160100205 Amplifying Public Value: Scholarly Contributions' Impact on Public Debate) to shed light on the public communication element of engagement and impact. As public debate increasingly is conducted through social and digital media, alternative metrics ('altmetrics') that are generated from social and digital media platforms become more important as indicators of impact and engagement. We seek to understand how scholars frame their own practices of engagement and impact, how they use platforms like *The Conversation*, and how institutions are supporting such activities on these sites.

Amplifying public value

The understanding of the term impact differs between users and audiences and as most scholars are publicly-funded

researchers, understanding how they pursue impact and 'influence beyond academia' (Penfield *et al.*, 2014, p. 21) is vital. Australian researchers engage in a variety of public communication activities. They can write for platforms like *The Conversation*, conduct interviews with local radio stations, share research with people involved in discussions on social media about topical issues like climate change or the minimum wage. These activities connect researchers directly with the public and stakeholders. Using sites like these also generates metrics that offer new ways of measuring impact and engagement with a scholar's work. These metrics are called alternative metrics or altmetrics (Priem *et al.*, 2010). They include reading, viewing, and listening to scholarly material, across diverse reception channels; on-sharing through additional channels, including social media; and responding through comments attached to the original publication, or in follow-on discussion through social media and other channels. Alternative metrics are diverse and while there is a growing interest in altmetrics which look to mainstream and social media to measure the reach of scholarly content beyond formal citation data, there is little systematic research on the practices of public communication by academics – as represented by so-called 'TED talks' (influential videos from experts), podcasts, blogging and participation in social media conversations on expert topics (Marshall & Atherton, 2015).

This article forms part of a larger ARC Linkage project investigating these practices and scoping advanced impact metrics based on the different ways in which scholars engage in public communication in the pursuit of impact. Along with these metrics we are interested also in how engaging in public communication via different digital media channels and platforms affects career paths and how institutions may be better able to support scholars to engage in impactful public communication. Engagement and impact measures that accurately capture research use is not just of interest to funding bodies and those who allocate the resources. Being able to effectively measure the impact of your research is necessary for scholars in research priority settings and particularly early stage career planning.

Public communication is often necessary for research translation to take place. Policymakers and practitioners in government, industry and the third sector often do not have access to academic journals where much of the bibliometric effort is located, or the time for them. Our project team studied social media data relevant to the 2018 debate concerning Australia Day. We captured tweets that contained URLs of media objects (where the object was either an article on an amplifier platform like

The Conversation or *IndigenousX*, or a mainstream news story) that contained scholarly intellectual content. We used issue mapping techniques (Burgess & Matamoros-Fernández, 2016) to identify stakeholder groups who were discussing Australia Day, historically a contested date. Our findings suggest that articles with a strong positionality are taken up by like-minded, interest-based subcultures and communities, while those that demonstrate authority and/or provide an overview of the issues at hand may be able to reach across these different groups.

Amplifier platforms

This type of public communication by scholars is important in a public sphere reconfigured by digital media. Traditional media is heavily intermediated and space constrained. They make editorial decisions, act as gatekeepers and refuse on principle to allow final checks by sources on copy. In response to these closed systems of traditional reporting and also the tightly controlled and pay-walled structure of traditional academic publishing, scholars turned early in the digital era to the blogosphere to circulate their work. Work in progress could be presented, pre-prints published, findings discussed, and research shared. Academic blogs were an early form of 'amplifier platform'. We define this as a digital media platform the content of which is primarily written by scholars, is intended for a lay audience and is available for reuse and republishing in other media channels.

Puschmann and Mahrt (2012) found academic blogs to be an important site of debate and discussion for scholars; a place to answer questions about science, in this case, and give back to the community. They also found 'thirty-five per cent of the respondents blog because they enjoy controversies, highlighting the function of blogs as places of debate and opinion rather than neutrality and impartiality' (Puschmann & Mahrt, 2012, p. 177). However, it is a rare academic who can sustain engagement with a blog over time (notable examples are Alice Gorman and John Quiggin among others. See Appendix 1 for a full list of the blogs and amplifier platforms discussed in the article). However, those who do, demonstrated the power of digital media for engaging others with academic research and, over time, platforms emerged that started to aggregate or curate blog posts from multiple academics (e.g. *hypotheses*; *SciLogs*). Institutional support for blogging emerged and, in some instances, this came through the creation of university and department blogs (e.g. *LSE (London School of Economics) Blogs*) or professional associations (e.g. *AMS (American Mathematical Society) Blogs*) that had a cohort of expert

authors. LSE Blogs are mostly written by academics and 'while not peer reviewed in the same way as most journal publications, each LSE blog is overseen by a dedicated editor or editors, with contributions carefully selected, revised, and improved' (Arrebola, 2017). This model, similar to *The Conversation*, is somewhere 'in between an academic and a mass-media piece' and has been found to be an important platform for generating citations for academics comparable to 'the likes of *Nature*, *Scientific American* or *PLOS One*, and web platforms of publishers such as Wiley or Springer' (Arrebola, 2017). Blogs also became features of traditional publishing's digital media channels on journal sites like *PLOS One* and *Scientific American*.

While all these sites contain content for lay audiences, they are still part of the traditional academic publishing landscape. Other platforms that emerged included platforms like *Medium* that have 'expert' authors, who are not necessarily scholars and *Open Salon*, a curated blog that fed featured content into *Salon.com*. Magazine *Slate* also featured topical blogs, of which most, like *Open Salon*, have since folded, but *Future Tense*, a 'partnership of *Slate*, New America, and Arizona State University that examines emerging technologies, public policy, and society' (*Slate*, 2019) survives with a mix of articles from freelancers, staff writers and scholars.

More recent platforms that sit at the boundary of science communication and amplifier platforms include *Undark* and *Massive Science*. Both accept unsolicited articles ('pitches'), content is openly accessible and can be republished freely. Similar to these models, but with authorship limited almost exclusively to academics is *The Conversation*. A global platform, *The Conversation*'s articles are authored by scholars and edited by topic-expert journalists in an intermediated editorial model. Our research suggests that *The Conversation* is the primary amplifier used by scholars in Australia, although *Scimex*, the *Science Media Exchange* run by the Australian Science Media Centre, also featured as a platform many use to generate engagement and impact with their work. The *Science Media Exchange* and a similar amplifier platform, the *Analysis and Policy Observatory*, work with scholars and experts to provide press releases and stories that can be republished, and like *The Conversation*, provide access to a database of experts for other media opportunities.

We concentrate on *The Conversation* as it is the main amplifier platform for Australian academics (it is also one of our Linkage partners). Also emerging in the quest for impact are university blogs, containing professionally curated and mediated content in the form of an amplifier platform, but with content only from its host institution.

Examples include *Pursuit* from the University of Melbourne and the *Newsroom* at UNSW.

Amplifier platforms are sites of debate and discussion, sites of communication and sociality, and for many, sites of information and knowledge. Considering questions about the integrity of information found on digital media sites and the rise of 'fake news', it can be argued that the role of scholarly contributions in these spaces is increasingly important to counter misinformation. They operate outside the traditional academic peer-review publication system and alongside social and mainstream media to facilitate public engagement with scholarly content. It should be noted that while social media can amplify scholarly research, for example a tweet with a link to an academic journal article, social media platforms themselves are challenged in terms of establishing an authoritative voice. Social media contain many voices, and scholarly contributions are part of social media streams among everyday commentary, entertainment and news.

Andrew Hoffman (2016, p. 78) notes a shift among the types of scholars who are using these platforms as 'there is a demographic shift in play, where young scholars are seeking more impact from their work than their more senior colleagues.' Although Hoffman also realises that engagement and impact is a concern for all scholars:

...scientists have a duty to recognize the inherently political nature of their work when it impacts on people's beliefs and actions, and they have a duty to communicate that impact to those who must live with the consequences...Those of us who are privileged enough to live the life of an academic possess a privileged opportunity to contribute to the world around us (Hoffman, 2016, p. 91).

The Conversation

The Conversation's content is produced by a new type of hybrid journalism that works with scholars and other experts to co-produce value. On the one hand, it shares characteristics with traditional news organisations: it is staffed by trained journalists and its topical sections are recognisable news categories. On the other hand, *The Conversation* is a prototypical content amplifier platform: born online, drawing on a large community of contributors (26,000 scholars across four continents, contributing content pro bono), and adding value to their research outputs by amplifying their impact on public debate. *The Conversation* is a prime example of a transformational shift supporting the distribution of knowledge goods.

The Conversation describes itself as 'an independent source of news and views, sourced from the academic and

research community and delivered direct to the public' (*The Conversation*, 2018a). It publishes long form posts that respond to current events, introduce new research findings or review existing research on a topic. The site is organised like an online news site with sections like Science & Technology, Arts & Culture, and Business & Economy. Zardo *et al.* (2018, p. 7) found 15 per cent of readers used *The Conversation* articles to inform development of strategy, policy and programs: 'This is an important finding that demonstrates that politicians and policy officers are actively seeking out research evidence and academic expertise on *The Conversation* and using it to inform policy and program development' (Zardo *et al.*, 2018, p. 13).

The Conversation has been increasingly establishing itself in the Australian media by way of its open and Creative Commons-licensed model that enables the site via republication to integrate well with other major mainstream news platforms – a key feature of amplifier platforms. In doing this, it has become an effective outlet for scholars to publish their findings, in a format that is freely accessible for the public, practitioners and key decision-makers. *The Conversation* has a non-academic readership of 82 per cent, and of the total readership, 13 per cent of users come from the government and policy sectors (*The Conversation*, 2018b). 'Across the global network, our audience is 11.8 million on theconversation.com and 38 million through republication. For TCAustralia, our audience is 3.8 million onsite, and 12 million through creative commons republication' (*The Conversation*, 2018b, p. 8).

The Conversation's 2018 Stakeholder Report has cases where authors have been contacted by an Australian Senate Committee and one author was contracted directly by then Australian Labor Party leader, Bill Shorten. Articles written by academics are republished on over 22,000 different sites (*The Conversation*, 2018b) and authors are reporting high rates of readership of their articles. With this level of impact being achieved by academics, it makes sense for institutions to support academics contributing to amplifier platforms.

Why is publishing on amplifier platforms important?

Amplifier platforms are important in the impact and engagement landscape because they connect with a variety of audiences and the public and tie into the social media ecosystem where debates are happening. Including hyperlinks to scholarly content on the digital

media platforms people use everyday can increase scholars' traditional citation rates and altmetrics scores. And while this can help scholars' careers, participating in these sites can often be an extra layer of work that needs institutional support and recognition.

Audiences and the public

Levels of engagement with the public therefore need to be negotiated by scholars who are using these new amplifier platforms as it is 'the case that up until the last decade or so, the only outlets that could report on research in lay terms were the mainstream media' (Arrebola & Mollett, 2017). As amplifier platforms open up new channels of engagement, academics now have to decide how they use different platforms and how much they engage. As Zardo *et al.* found on analysing responses in *The Conversation's* annual survey, 'increased engagement can support increased research impact, but also highlight that not all engagement actions have the same effect' (Zardo *et al.*, 2018, p. 12). So, responding to a reader's comment at the bottom of an article on an amplifier platform (that may prompt a change in attitude or behaviour) may not have the same level of impact as replying to contact from a public servant that results in policy change.

However, scholars' involvement in these debates is important as it contributes to public engagement with research, and the debates form a significant part of the overall information landscape about a given topic. As Lörcher and Taddicken found when researching climate change communications, 'Overall, user-generated content constitutes a crucial part of the climate change communication online' (Lörcher & Taddicken, 2017, p. 3). When user-generated content does not align with the latest scientific research or is not evidence-based, the scholars we interviewed for the project felt an ethical imperative to engage in public communication.

With this in mind, scholars are engaging with people outside academia, and they do this in a variety of ways on amplifier platforms like *The Conversation*, *Medium*, Wikipedia and social media like Twitter and Facebook. Amplifier platforms are important in this landscape for two main reasons. First, these sites are free and openly accessible, unlike paywalled journals. Second, they link to sites where people are engaging in everyday activities like socialising, reading news, information and topical stories and sharing things they find interesting (for example *The Conversation* has widgets to enable easy sharing of articles to platforms like *LinkedIn* and *Facebook*).

The content on them is pitched at a different register to academic journals. It's therefore interesting to see how users of these platforms engage with scientific information and academic research via altmetrics, as to date there is very little research on this type of engagement. As Hargittai, Füchslin and Schäfer (2018) note, 'The lack of focus on how people engage with scientific topics on social media is surprising ...[as]... a wide range of issues that were traditionally the purview of scientists such as climate change and vaccination have become popular topics in the 21st century' (Hargittai *et al.*, 2018, p.1). While we acknowledge there has been a rich tradition of research on the public understanding and public awareness of science, research 'has not yet focused strongly on public engagement through social media' (Hargittai *et al.*, 2018, p. 1). This is despite many academics being active on Twitter and other social media, as they engage with other academics, and the general public by sharing research and participating in discussions. Amplifier platforms also work like a broker in this space, connecting academics with journalists and everyday readers alike via the content on the platform itself and the outlets and social media channels on which it is republished.

It is also not just academics who are sharing research on social media, many social media accounts like *IFL Science* and *ScienceDump* share research through their social media channels. Although sites like these contain more news and advertisements than scientific discoveries (Hitlin & Olmstead, 2018) they are still a site of public engagement with research via comments, likes and shares. Hargittai *et al.* (2018, p. 7) found 'Sharing science and research content on social media also rivals sharing content about health and fitness as well as entertainment and celebrity news'. Platforms like Facebook and Twitter offer scholars the chance to directly share research with a non-scholarly audience. Communicating like this (a Facebook post, or a tweet) means anyone can comment on the scholarly content shared, and scholars themselves can engage in a conversation with others via social media. While this is surely an example of an engaged scholar, David Morin (2018, p. 2) cautions: 'Scholars have found that although scientists are observed to be credible and may use that integrity to increase scientific understanding, outside actors can create a sense of skepticism and doubt surrounding settled issues by politicising neutral scientific findings into manufactured controversies'.

The nature of social media commenting can mean that scholars find themselves having to correct misinformation and to engage with hostile members

of the community (an additional layer of labour). Morin also found that 'scientists should be willing to debate both scientists and non-scientists in the public arena without necessarily having to worry about their opponent's credentials' (2018, p. 12). This raises issues of risk and risk mitigation that these platforms provide. Participating in the public sphere opens scholars up to engagement which can include harassment, and often these activities travel across platforms like news media and different social media sites (for example the comments section on mainstream press articles and Twitter discussions around a central hashtag). Hodson *et al.* note that there is now an expectation that scholars will engage online, and 'for women scholars in particular, sharing one's work online comes with the risk of online abuse or harassment' (Hodson *et al.*, 2018, n.p.).

As the logic of social media platforms demands sharing and connection (van Dijck & Poell, 2013), this broadens not only the potential for awareness of issues and the relevant research, but also the potential of risk to scholars themselves as their voices are amplified in these disintermediated spaces. A benefit of amplifier platforms like *The Conversation* is its active comment moderation. Scholars can choose to engage with readers in the comments section, however all comments (by readers and authors) are independently moderated in the interests of progressing the discussion constructively.

Amplifier platforms and career progression

Navigating the impact of engagement can be tricky for scholars. 'The academic of today has many options for communicating the findings of their research: whether to discuss ideas and results in a blog post, upload a working paper before submitting it to a journal, or to use social media to share their findings on the big story of the day' (Arrebola & Mollet, 2017). Lupton, Mewburn and Thomson (2017, p. 2) state there is 'some degree of controversy among academics about which media should be employed and in what ways'. Amplifier platforms like *The Conversation* address this challenge for scholars by providing a platform for their research that can be easily shared across social media and republished in traditional media. Bridging these different parts of the public sphere is important as different stakeholder groups are more active across different media. For example, in the comments section of online British and Dutch newspapers user comments are 'found to be mostly climate change sceptical' (Lörcher & Taddicken, 2017, p. 3). On the other hand, 'Twitter communication is less

climate sceptical than mass media coverage in the UK and the US, contains more emphasis on the broad expert consensus, and highlights the need for action' (Lörcher & Taddicken, 2017, pp. 3-4).

If universities are serious about engagement and impact they should be enabling academics to write for amplifier platforms. Biswas and Kirchherr (2015) found 'impacts of most peer-reviewed publications even within the scientific community are miniscule' and 'it is widely acknowledged practitioners rarely read articles published in peer-reviewed journals.' The inability of decision-makers, professionals and the public to access expensive, pay-walled publications can mean key people are not able access the latest research and the information they need. This has given rise to the open access movement and the creation of open platforms like *arxiv.org* and *PLOS One*, along with institutional open access repositories. Melissa Terras found a positive correlation between uploading Open Access versions of her work to her institutional repository and the subsequent blogging and tweeting she did about her work (Terras, 2012). Similarly, *The Conversation* uses a Creative Commons licence and encourages the republication of its content on other popular media and news sites that facilitate engagement and impact with many members of the public. Biswas and Kirchherr (2015) note that 'If academics want to have impact on policy makers and practitioners, they must consider popular media, which has never been easy for scholars.'

Booluck (2017) found LSE blogs have impact with scholars' research being accessed by policy makers and scholars being invited to input into national strategy and policy. The advantage of amplifier platforms like *The Conversation* and LSE blogs is that 'unlike the majority of academic research and a number of established news outlets - the shorter, distilled format holds obvious appeal to many people' (Booluck, 2017). Research on individual amplifier platforms has found that they are effective at getting research to key decision-makers and a variety of audiences, where the information can be used in anything from popular entertaining content to strategic policy advice (Booluck, 2017; Zardo *et al.*, 2018). Scholar Pam Oliver wrote about the potential of open models like *The Conversation* and *PLOS One* and advocates:

...moving from our current model to the open model. I think the academic field as a whole wins when the work is made public and accessible as soon as possible: the author wins from getting their work noticed, and knowledge wins from everybody knowing about it. This is also the best model for influencing public debate outside the academy (Oliver, 2018).

Discussion and Conclusion

The growing need for scholars to engage outside the academy puts questions of popular prejudice about academic relevance, institutional support for, and guidance on, such activity, and alignment with professional personae and career goals on the agenda. Biswas and Kirchherr (2015) note that for some scholars contributing to public debate runs into advocacy, and that scholarship containing policy advice has decreased since the 1930s and 1940s. Similarly, Hoffman (2013) notes that scholars are not trained to do this kind of communicative work. The lack of scholars in public arenas has led to *The New York Times* writer Nicholas Kristof to observe, 'The most stinging dismissal of a point is to say: "That's academic." In other words, to be a scholar is, often, to be irrelevant' (Kristof, 2014). Amplifier platforms, then, offer scholars a chance to be present in public debates and to share research and expertise with others. And indeed, this kind of activity, even in controversial areas of debate like climate change, can help scholars to impact public opinion. Kotcher *et al.* (2017, p. 423) note, 'Our results suggest that scientists who wish to engage in certain forms of advocacy may be able to do so without directly harming their credibility, or the credibility of the scientific community.'

In a time when misinformation can be spread relatively easily, and experts and amateurs are contributing in the same social spaces, scholarly contributions can improve the quality of public debate and provide evidence-based information to those who need it. Marshall and Atherton (2015) observe how popular platforms that replicate social media are presenting new opportunities for scholars to engage. Our issue mapping case study, outlined above, supports Marshall and Atherton: 'the public intellectual must be able to communicate their views on a range of public issues, not just issues that connect with their narrow specialisation' (2015, p. 71). Digital and social media have grown exponentially to become highly influential spheres of the public communication: increasingly crowded, contested, and corrupted, and increasingly in need of scholarly engagement.

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Appendix 1: Blogs & amplifier platforms

https://apo.org.au	https://blogs.ams.org/blogonmathblogs
https://blogs.lse.ac.uk	https://blogs.plos.org
https://blogs.scientificamerican.com	https://hypotheses.org
https://www.iflscience.com	https://johnquiggin.com
https://massivesci.com	https://medium.com
https://www.sciencedump.com	https://scilogs.spektrum.de
https://www.scimex.org	https://slate.com/technology/future-tense
https://theconversation.com/au	https://undark.org
https://zoharesque.blogspot.com	