The changing nature of social media and research impact: A comparative analysis of impact case studies in UK Higher Education, 2014-2021

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ABSTRACT

The use of social media has now become embedded in higher education and the work of academics. As social media potentially allows academics to engage with a wider range of audiences outside the academy, the opportunity to enhance the impact of research is often cited as a key part of the rationale for engaging with social media in this context. In this paper, we draw upon an online database of 'impact case studies' produced for the most recent national research audit in the UK – the 'Research Excellence Framework' – in 2021. We examine how and why social media is being referred to in this context, and the extent to which this has changed over time, by drawing comparisons with the previous exercise in 2014. Social media is mentioned to a much greater extent, featuring in 46% of case studies in 2021 compared to 25% in 2014. We also examine the database in terms of the particular platforms referred to, disciplinary differences, and 'types' of impact associated with social media. To conclude, we discuss the implications of the findings and areas for future research.

CCS CONCEPTS

• Human-centered computing → Collaborative and social computing → Collaborative and social computing theory, concepts and paradigms → Social media

KEYWORDS

Social media, higher education, research impact

1 Introduction

Social media use is now commonly expected to be part of academic work. Often, this hinges upon its perceived role as a mediating force between the academy and the public, broadly conceived. As such, it is not surprising that social media is being actively invoked in the context of facilitating, demonstrating and measuring the impact of research. This was shown empirically in a previous study, which examined how

social media was referred to in impact case studies submitted to the 2014 Research Excellence Framework (REF) (Carrigan & Jordan, 2021).

The REF is a national auditing exercise undertaken periodically in the UK Higher Education sector; while prior to 2014, such exercises used different models, similar processes have been used since 1986 and influence the allocation of funding (Jump, 2013). A key distinction between the REF and previous models was the introduction of 'impact case studies' as a means to document perceived 'real world' impact of research in a structured format (Hill, 2016). In 2014, a total of 6,975 impact case studies were submitted to the inaugural 2014 REF, and 6,679 were subsequently made publicly available via an online database (REF, 2014).

The database provided an opportunity to examine the relationship between social media and perceived research impact empirically, at a national scale. In an initial study, we examined the frequency with which a wide range of social media platforms were referred to, and for what purposes, in the context of impact case studies (Carrigan & Jordan, 2021). The study showed that approximately one in four impact case studies mentioned social media, with the most frequent platforms being blogs, Google Scholar, YouTube, Twitter, Facebook and podcasts, with substantial differences according to academic discipline (ibid.). Analysis of a sample of case studies focused upon how social media was being referred to, which revealed a number of themes, including:

- Using social media to generate bibliometric data about academic publications.
- Mainstream media (e.g. TV feature) amplified by sharing through social media.
- Third-party organisations referring to the research through their social media.
- Use of academics' social media accounts to disseminate research.
- Social media as a way of involving participants in research.
- Social media as an application of research, such as through new technical developments.
- Use of social media metrics, such as numbers of comments, followers, views, to quantify impact.

The second iteration of the REF was undertaken in 2021, and the case studies have also been made available online (REF, 2021), which presents an opportunity for comparative analysis between 2014 and 2021.

2 Objectives and research questions

The overall objective of the study was to examine to what extent social media platforms featured in impact case studies submitted to the 2021 Research Excellence Framework (REF) assessment exercise. It replicates the original study undertaken using the impact case studies from the 2014 REF (Carrigan & Jordan, 2021). As such, it builds upon the previous study by providing a more up-to-date view of the use of social media in academia, and also allows for a comparative view. The study was guided by the following research questions:

- Compared to the 2014 REF, did the prevalence of mentioning social media in case studies change in the 2021 REF? If so, which platforms increased or decreased in use?
- Were there any changes in disciplinary differences observed in relation to the use of social media in impact case studies?
- Were there any changes in the ways in the purposes for which social media is referred to in the context of impact case studies?
- To what extent are social audio platforms in particular being used in this context?

Note that the fourth research question was not a specific focus of the original study. It was added as an additional avenue for inquiry as a way to test the anecdotal perceived increase in the use of social audio platforms, due in part to the shift to online and remote working prompted by the Covid-19 pandemic (Carrigan, 2021). Platforms categorised as social audio platforms for the purposes of the study were Amazon Music, Apple Podcasts, Deezer, Google Podcasts, Soundcloud, and Spotify. The deadline for submission of impact case studies was the end of September 2020, and institutions typically prepare cases years in advance,

so it was considered unlikely that the effects pandemic would be registered within this REF cycle. Nonetheless, it could easily be incorporated into the database search and analysis.

In our previous work we have argued that impact assessment is a crucial mechanism through which the higher education sector in the UK is undergoing platformisation: the evaluative categories provided by social platforms are being incorporated into decision making within research evaluation (Carrigan & Jordan 2021). By comparing our two datasets we consider how platformisation has expanded in its scope during this time, connecting shifts in the sector to changes in the platform landscape.

3 Methods

To address the research questions, we use the online database of research impact case studies published following the 2021 REF as a source of data (REF, 2021). A search string was constructed in order to query the database, and the collection of impact case studies returned formed the data for analysis. The search string comprised a series of social media types and platform names, and was intended to be as comprehensive as reasonably possible. As a starting point, the search string from the previous study (Carrigan & Jordan, 2021) was initially used. However, cognisant that social media platforms are subject to rapid change and development, the search terms were augmented through an iterative process of identifying novel platforms through web searches, and testing the database. The following expanded search string was used:

> "social media" OR "Academia.edu" OR "Baidu Tieba" OR "Bebo" OR "Biomedexperts" OR "blog*" OR "Diigo" OR "Discord" OR "Douyin" OR "Facebook" OR "Facebook Messenger" OR "Figshare" OR "Flickr" OR "Foursquare" OR "Google Hangouts" OR "Google Meet" OR "Google Scholar" OR "Instagram" OR "Kakao Talk" OR "LinkedIn" OR "Medium.com" OR "Mendeley" OR "Microsoft Academic" OR "Microsoft Teams" OR "Myspace" OR "Odnoklassniki" OR "ORCID" OR "Periscope" OR "Pinterest" OR "podcast*" OR "Quora" OR "QZone" OR "Reddit" OR "ResearchGate" OR "Sina Weibo" OR "Skype" OR "Slack" OR "Slideshare" OR "Snapchat" OR "Soundcloud" OR ("TikTok" OR "Tik Tok") OR "Telegram" OR "Tumblr" OR "Twitch" OR "Twitter" OR "Viber" OR "Vimeo" OR "Vkontakte" OR "webinar*" OR "WeChat" OR "WhatsApp" OR "Wikipedia" OR "WordPress" OR "yik yak" OR "YouTube" OR "Zoom" OR "Zotero" OR "Amazon Music" OR "Apple Podcasts" OR "Deezer" OR "Google Podcasts" OR "Spotify"

The first part of the study used descriptive statistics (Hand, 2008). The number of search results in response to the combined search string were logged, both overall and by applying filters of interest to the research questions (e.g. subject area, impact type, institution). Individual searches for particular platforms were then carried out, and similar figures recorded.

The second part of the study applied a qualitative approach, to look beyond frequencies and consider why and how social media was being referred to in this context. From the 2936 cases in total mentioning social media, a subsample of 100 cases were randomly selected for analysis. A deductive thematic analysis approach was used, applying an a priori coding scheme (Cohen et al., 2017). Cases were categorised according to the coding scheme developed in the previous analysis of the database from the 2014 REF (Carrigan & Jordan, 2021). From the outset of the analysis process we were mindful that changes over time may mean that some cases may not fit this typology, and so we gave ourselves the flexibility to change or modify codes.

4 Results and discussion

The analysis shows that there has been a notable increase in the frequency of social media being referred to in impact case studies, between the 2014 and 2021 REF exercises (RQ1). In 2014, 25% (1675 from a total of 6679) mentioned some form of social media; in 2021, this had risen to 46% (2936 from a total of 6361). In terms of particular platforms or services, 'blog(s)' remain the most frequently mentioned, with frequency increasing from 10.2% to 16.1% of impact case studies. Google Scholar had previously been the second most frequently mentioned platform in 2014, but its relative popularity decreased slightly (from 5.3% to 3.9%).

Other platforms which were highly ranked in 2014 and increased in 2021 included Facebook (3.4%, increased to 7.3%), Twitter (3.5%, increased to 8.2%), and YouTube (5.2%, increased to 13.6%).

We also examined whether the disciplinary differences observed in 2014 in terms of using particular forms of social media persisted, or had changed over time (RQ2). To do so, we looked at the number of case studies mentioning social media in each of the broad subject categories (or 'panels') used in the REF. As the total number of case studies per panel varies, we calculated the percentage per panel. All panels saw marked increases and the overall ranking remained similar. Arts and Humanities remained the most likely to mention social media, and increased from 46.3% to 70.5%. Social Sciences increased from 23.4% to 42.6%, Physical and Mathematical Sciences from 17.6% to 33.8%, and Biological and Medical Sciences from 13.1% to 36.4%.

To look at how social media is being referred to in impact case studies (RQ3), we drew upon two forms of data: the typology of impacts used in the case studies database, and qualitative analysis of a sub-sample of cases. The leading impact types in the database were Cultural (74.0%) and Societal (53.4%). Others included Environmental (36.4%), Legal (35.7%), Health (32.1%), Economic (29.6%) and Technological (27.7%). The qualitative analysis showed that the themes identified previously in the 2014 remained valid, with the most common theme being 'Academic-led dissemination strategies', which encompasses all the ways in which individual academics and research teams make research available to the general public via social media platforms. One additional theme was identified; the use of social media platforms as COVID-19 contingency measures. It is possible that this will also be reported in the next REF, as the final point for submissions was March 2021, while disruption continued.

Extending the previous analysis we also sought to look at whether social audio platforms were being reported in the context of impact case studies (RQ4). These included Amazon Music, Apple Podcasts, Deezer, Google Podcasts, Soundcloud, and Spotify. While the use of social audio platforms is still relatively small-scale compared to other forms of social media in this context, it is skewed toward the Arts and Humanities.

5 Future work

The study shows that the use of social media mentions as a way to support and evidence 'impact' in the context of UK Higher Education research auditing has increased substantially between 2014 and 2021. The increase is both a doubling of the previous level of frequency, and shows that approximately one in two case studies referred to social media in 2021. This is a clear indication that the normalization and institutionalization of social media platform usage in impact evaluation practices is taking place. The REF is a high-stakes and resource-intensive exercise within UK Higher Education, and the extent to which social media platforms are mentioned shines a light on how commercial online infrastructure is being relied upon in this context. The recent changes at Twitter, for example, have highlighted how users practices can be disrupted by sudden changes in direction. While Twitter featured prominently in the 2021 case studies, its reach already seems to be waning (Swogger, 2023; Williams, 2023). The findings point to a broader issue for future work, in relation to critically re-examining the integration of commercial platforms into academic work. Issues around data privacy, platform power, and commercial interests remain largely unexamined, representing an area needing further critical analysis.

In terms of how social media is being used in the context of impact case studies, new affordances and uses of platforms are emerging, for example for remote coordination during COVID-19 disruptions. However, the core dissemination and engagement functions still dominate, in particular 'academic-led strategies'. In this theme, it is the activities of individual academics – typically through personal accounts – that serve to connect research and engagement. While it is the institutions which benefit from impact case studies, reliance on individual academics' personal identities online places them at risk of trolling and the negative aspects of visibility online (Gosse et al., 2021; Moriarty, 2018; Veletsianos et al., 2018). For future work, this points to a need to critically assess the duty of care provided by UK Higher Education institutions with respect to academics' use of social media as part of their professional role, and the extent to which institutional policies mitigate risks for individuals or only mitigate risks for institutions. The significant changes in the landscape of social media initiated by Elon Musk's controversial takeover of Twitter constitute a profound challenge

to digital engagement strategy within higher education. If our empirical account of platformisation is correct, this gives reason to be fear that the sector will not be able to address these changes in an adequate or timely way, given its reliance upon crude user-facing platforms to assess reach and impact.

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