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

Mark Carrigan
The University of Manchester
Manchester Institute of Education
Manchester, UK
mark.carrigan@manchester.ac.uk
https://orcid.org/0000-0002-1723-5100

Katy Jordan
Lancaster University
Department of Educational Research
Lancaster, UK
k.jordan@lancaster.ac.uk
https://orcid.org/0000-0003-0910-0078

Ignacio Wyman[1]
The University of Manchester
Manchester Institute of Education
Manchester, UK
ignacio.wyman@manchester.ac.uk
https://orcid.org/0000-0002-9905-7685
[1] Corresponding author

Abstract

The Research Excellence Framework (REF) is a national auditing exercise within UK higher education which periodically evaluates the research outputs of universities within the system. In the last two cycles, this has included case studies which aim to document the societal impact of research taking place within universities. In a previous paper, we analysed the role attributed to social media in the REF 2014 in these case studies, finding a significant tendency to draw on social media in claiming and documenting research impact. In this paper, we return to the REF in 2021 to explore how these trends have developed since our initial study. We find a substantial increase in references to social media within impact case studies, distributed unevenly across disciplinary groupings in a manner which highlights broader transformations in the landscape of our analysis. Our analysis draws attention to the broader interface between higher education and social platforms in which these practices of research evaluation (identifying, reporting, comparing, etc.) are embedded. We suggest that metrics in particular constitute a nexus through which this interface can be explored, enabling us to highlight political and practical challenges in a way that is empirically grounded yet conceptually rich.

Keywords: Higher education, research evaluation, research impact, social media, platforms.

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. These platforms are positioned as a dissemination mechanism which enables previously insular academic professionals to easily make contact with diverse audiences (Carrigan & Fatsis, 2021). 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 narrative format (Bandola-Gill & Smith, 2022; Hill, 2016). The REF defined impact as 'an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia' (REF, 2020, p. 68). Defined as such, it remains a controversial component of the REF (O'Siochru et al., 2023), attracting criticism within the academic community regarding its legitimacy and validity (Watermeyer, 2016), as well as divergent interpretations of what impact entails by academics and universities (O'Connell, 2019) and REF panellists (Watermeyer & Chubb, 2019).

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: i) using social media to generate bibliometric data about academic publications, ii) mainstream media (e.g. TV feature) amplified by sharing through social media, iii) third-party organisations referring to the research through their social media, iv) use of academics' social media accounts to disseminate research, v) social media as a way of involving participants in research, vi) social media as an application of research, such as through new technical developments, and vii) use of social media metrics, such as numbers of comments, followers, and 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. The results of the REF 2014 were published in December of that year, with a submission deadline for impact case studies of 29 November 2013. The officially stated period for preparation was 2011-2012, which means projects were being reported on which took place prior to this. While platforms such as LinkedIn (2002), Facebook (2004), YouTube (2005) and Twitter (2006) were established in the previous decade, their use was initially a fringe pursuit relative to their current popularity. The explosive growth underpinning their current social influence took place during a period which was roughly concurrent with the reporting window for the REF 2014.

This was a period in which the use of social media became a mainstream pursuit within highly connected societies, rather than being a practice which could be regarded as youth and/or subcultural. This does not mean that even a majority of UK citizens were using social media at this stage, or that their influence had been accepted as part of social and political life. Margetts (2017) suggests we were still far from this point in the second half of that decade, even if the challenges involved had come to feature prominently on the political agenda, through concerns about propaganda and post-truth (Carrigan & Fatsis, 2021: ch. 7). In the time that elapsed between the submission date for REF 2014 (29th November 2013) and REF 2021 (31st March 2021), Facebook grew from 1.228 billion monthly active users to 2.853 billion monthly active users (Statista, 2024). TikTok did not exist until two years after the REF 2014, yet by the time of REF 2021, it had 655 million users (Statista, 2022).

Even if social media now feels like a familiar feature of social life, it continues to shift and evolve, as can be seen by Elon Musk's transformation of Twitter into X and the subsequent

changes in the platform landscape (Jordan & Carrigan, 2024a). The implications of Large Language Models (LLMs) for social media, for instance, through the automated production of content, will inevitably bring about further changes in the operation of these platforms (Carrigan, 2024: ch. 7). This suggests there will be continuous challenges to legislative agendas and normative frameworks which attempt to steer these developments to realise social goods and mitigate the harms involved. Gillespie (2018, p. 42) cautions that "It takes a while – years, decades – for a culture to adjust itself to the subtle workings of a new information system, and to stop expecting from it what traditional systems provided". This suggests we should see the development of social media on a timescale of decades rather than years, focusing on the intersection between this new media system and the organisations which are coming to depend upon it (Couldry, 2024). Furthermore, we should see these infrastructural shifts in terms of a broader trajectory of platformisation as a pervasive social process, in Van Dijck et al. (2018) sense, rather than a purely technical shift taking place within specific institutions. Platformisation theory offers sophisticated conceptual tools for mapping these transformations, but it can underplay the role of agency, particularly beyond the platform itself (Carrigan, 2025). By attending closely to the platform as an interface site over time, our analysis recovers the dynamic character of platformisation as a social-structural process that transcends the purely technological.

This framing highlights the expectations which those organisations have of the media system, as well as how they can be out of synch with its actual modus operandi. We argued in Carrigan and Jordan (2021) that the impact agenda in the higher education sector in the UK represented a convergence of two elements: *a new requirement to demonstrate the impact of research on wider society* and *social platforms, which seemingly afforded this undertaking*. The continued evolution of the platform landscape means that we urgently need to understand the formalised points of coupling between higher education and the social platforms which have been integrated into their operations. The role of social media in research evaluation, and particularly in this case the claim to and evaluation of *impact*, represents a particularly well-developed instance of this coupling within UK higher education. Through a return to our original methodology for the subsequent REF, we will analyse how this coupling between social media and research evaluation has continued to develop, reflecting on our previous predictions and identifying new developments which could inform further research in this area.

Purpose of the study

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:

1. Has the prevalence of social media changed between the REF 2014 and 2021 case studies?
2. How is social media being referred to in REF 2021 impact case studies?
3. Were there any changes in disciplinary differences observed in relation to the use of social media in impact case studies?

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. This was a time of significant change within social media, with the enforced isolation of the COVID-19 pandemic leading to a reliance upon digital platforms for the core operations of the university (Carrigan, 2021; Carrigan et al., 2023). The trajectory since the pandemic suggests the pivot to digital scholarship, much like the temporary online pivot in teaching (Nordmann et al., 2020), will not establish a 'new normal' for academic practice (Carrigan, 2024: ch. 3). Even so, the suspension of face-to-face meetings and events for a sustained period of time means that social media, particularly if we construe it broadly to include platforms like Zoom and Teams, constitutes something intimately familiar to the overwhelming majority of working academics. In the next section, we consider how this has influenced the case studies we examined, as well as what this means for the future development of social media within higher education. However, it is such a significant feature of the context that we felt it was important to emphasise this in advance of the discussion.

Methods

To address the research questions, we used 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 our 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 web searches (consulting different online sources, including ChatGPT), identifying novel platforms that became popular in the 2015-2021 period at different scales (UK, the global north, and worldwide). As a result, we developed a 64-keyword string for retrieving and analysing the presence of social media platforms in the REF 2021. Keywords (i.e., platforms) are presented in Table 1 below.

Our dataset comprised all case studies submitted to the REF 2021 that mentioned any of these terms. The first part of the data analysis 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 were 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 2,936 cases in total mentioning social media, a subsample of 100 cases was selected for analysis. Eighty case studies were selected randomly, and 20 were purposefully selected among those mentioning *social audio* (such as podcasts) and *video and collaboration* (e.g., videoconferencing) platforms, hypothesising these had become particularly popular in the context of the pandemic. A deductive thematic analysis approach was adopted (Braun et al., 2019; Cohen, 2017; Joffie, 2011), applying the coding scheme developed in the previous analysis of the database from the 2014 REF (Carrigan & Jordan, 2021). However, from the outset of the analysis, we were mindful that changes over time might mean that some cases would not fit this typology, and so we allowed ourselves the flexibility to modify and add codes and themes as needed.

Findings

The findings are presented here addressing each of the first two research questions in turn. The third question – of disciplinary differences – is not discussed separately, but rather disciplinary differences are discussed in relation to each of the first two questions.

Has the prevalence of social media changed between the REF 2014 and 2021 case studies?

Firstly, 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, as shown in Figure 1, 25% (1,675 from a total of 6,679) mentioned some form of social media; in 2021, this had risen to 46% (2,936 from a total of 6,361). This represents a substantial increase between the two evaluated periods.

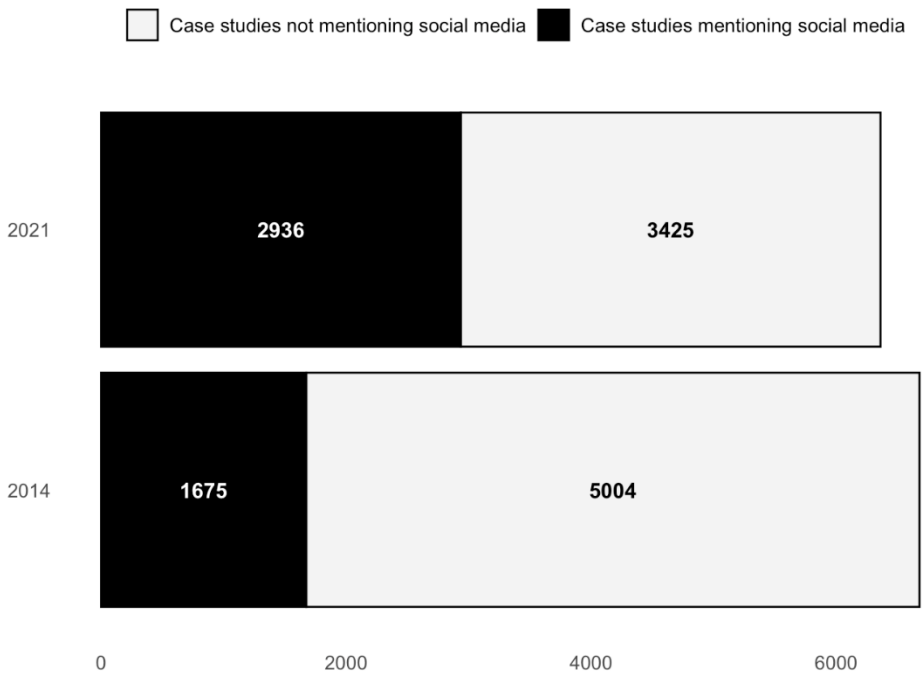

Figure 1. Number of case studies submitted to REF 2014 and 2021 that mention social media

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. 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%). Indeed, the vast majority of platforms present in both cycles saw an increase in the number of mentions. Google Scholar, which had previously been the second most frequently mentioned platform in 2014, is one of the few that decreased slightly from 5.3% to 3.9%. While Table 1

offers a detailed examination of social media key terms in the 2014 and 2021 REF, Figure 2 presents the variation of the most popular platforms and services in 2014 and 2021.

Table 1. Key terms and number of case studies retrieved in the 2014 and 2021 REF

Search term	2014		2021		Search term	2014		2021	
	n	%	n	%		n	%	n	%
Social media	278	4.16	778	12.23	Pinterest	2	0.03	2	0.03
Academia.edu	13	0.19	27	0.42	Podcast*	214	3.20	382	6.01
Amazon Music			2	0.03	Quora			2	0.03
Apple Podcasts			7	0.11	QZone			0	0.00
Baidu Tieba			0	0.00	Reddit	3	0.04	20	0.31
Bebo	1	0.01	1	0.02	ResearchGate	2	0.03	93	1.46
Biomedexperts	0	0.00	0	0.00	Second life	9	0.13		
blog*	678	10.15	1,023	16.08	Sina Weibo			1	0.02
Deezer			1	0.02	Skype	23	0.34	23	0.36
del.icio.us	0	0.00			Slack	0	0.00	10	0.16
Diigo	0	0.00	0	0.00	Slideshare	2	0.03	8	0.13
Discord			7	0.11	Snapchat	0	0.00	1	0.02
Douyin			0	0.00	SoundCloud	7	0.10	34	0.53
Facebook	227	3.40	462	7.26	Spotify			36	0.57
Facebook Messenger			9	0.14	TikTok or Tik Tok			2	0.03

Figshare	0	0.00	24	0.38	Telegram			2	0.03
Flickr	13	0.19	5	0.08	Tinder	0	0.00		
Foursquare	2	0.03	0	0.00	Tumblr	4	0.06	3	0.05
Google Hangouts	0	0.00	0	0.00	Twitch			5	0.08
Google Meet			2	0.03	Twitter	233	3.49	522	8.21
Google Podcasts			0	0.00	Viber			0	0.00
Google Scholar	352	5.27	247	3.88	Vimeo	23	0.34	149	2.34
Instagram	1	0.01	76	1.19	Vine	0	0.00		
KakaoTalk			0	0.00	Vkontakte			0	0.00
LinkedIn	14	0.21	33	0.52	Webinar*	26	0.39	303	4.76
Medium.com			17	0.27	WhatsApp	1	0.01	33	0.52
Mendeley	1	0.01	4	0.06	WeChat			5	0.08
Microsoft Academic	4	0.06	4	0.06	Wikipedia	61	0.91	57	0.90
Microsoft Teams			5	0.08	WordPress	32	0.48	171	2.69
MySpace	4	0.06	0	0.00	yik yak	0	0.00	0	0.00
Odnoklassniki			0	0.00	YouTube	348	5.21	862	13.55
ORCID	0	0.00	4	0.06	Zoom			53	0.83
Periscope	0	0.00	1	0.02	Zotero	0	0.00	0	0.00

Note: blank spaces denote terms that were not included in the search for any year

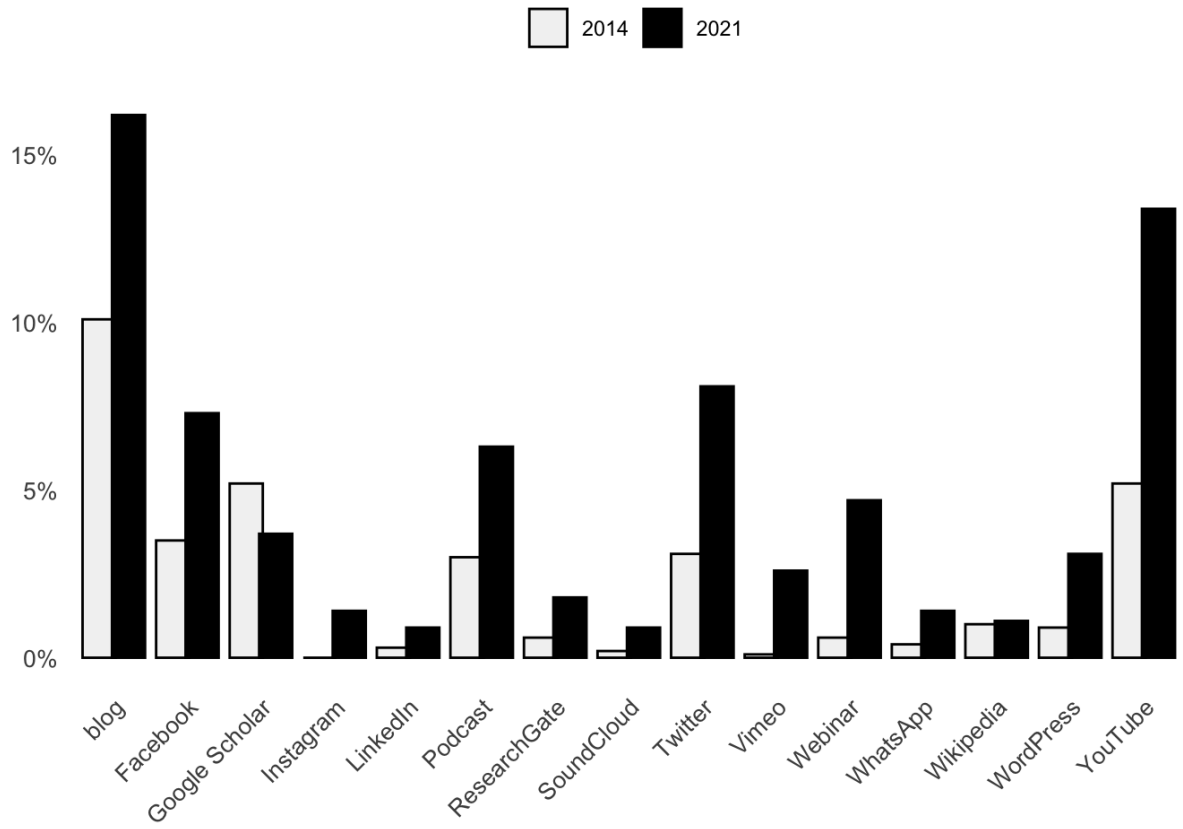

Figure 2. Percentage of mentions among all REF case studies. Only those with >0.5% in either year are shown

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 (RQ3). 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. As illustrated in Figure 3, all panels saw marked increases while 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%.

Most of the key terms from Table 1 are similarly distributed across disciplines, being more prevalent in the Arts and Humanities and Social Sciences, and consequently less frequent among the Physical and Mathematical Sciences, as well as in the Biological and Medical Sciences. The only exceptions are Google Scholar and ResearchGate, whose distributions are even across the four disciplines. As we will expand on later, these platforms are referred to as depositories for academic references, where disciplinary distinctions seem to be irrelevant.

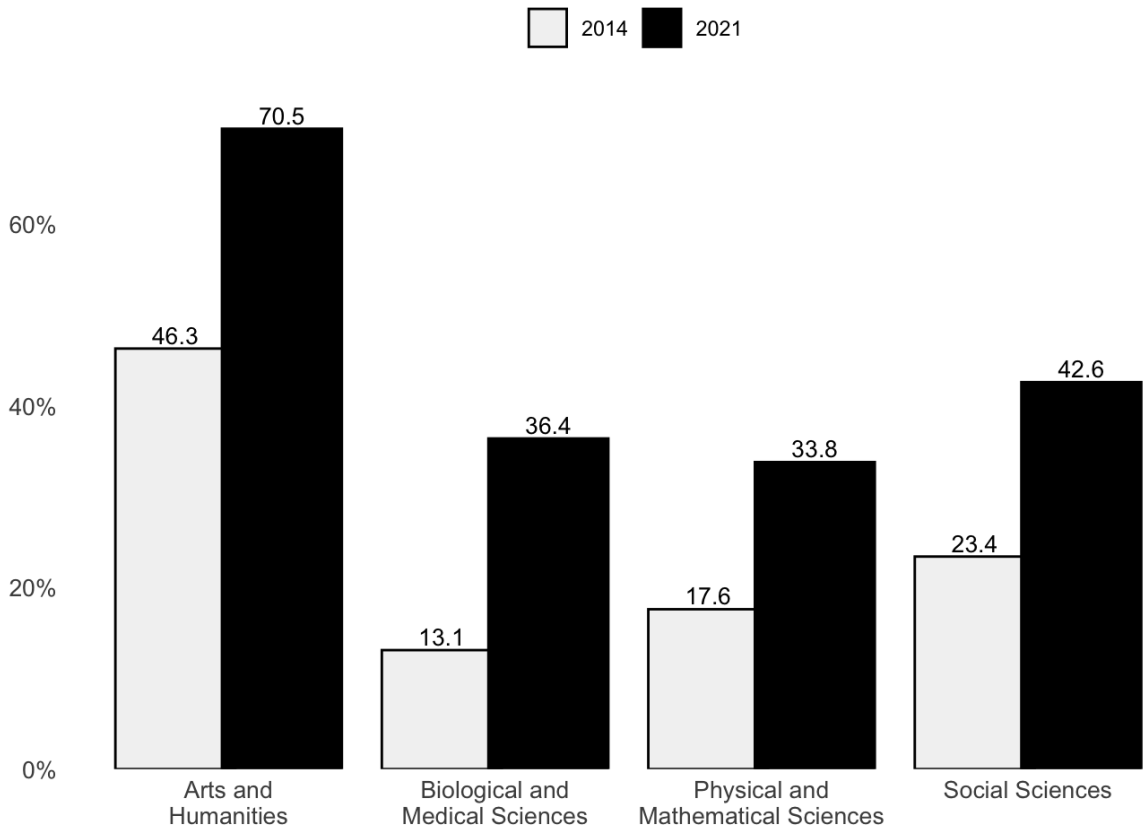

Figure 3. Percentage of case studies that mention social media platforms or services by disciplines

How is social media being referred to in REF 2021 impact case studies?

To look at how social media is being referred to in impact case studies (RQ2), we drew upon two forms of data: the summary impact type used in the case studies database, and qualitative analysis of a sub-sample of cases.

The summary impact type is part of the metadata from the REF database. It is a classification to 'aid text searching' (REF, 2021) that is based on text analysis of some sections of the impact case studies. This classification provides a general idea of the area of impact of case studies. As shown in Figure 4, 45% of case studies that mention social media are classified as generating a societal impact, followed by those that generate a cultural impact (24%). Conversely, case studies with technological, health, environmental, legal, economic, and political impacts are significantly less represented. Interestingly, among all the case studies submitted and classified as generating a cultural impact, 74% mention social media. This

figure reaches 53% for those classified as societal. Other impacts included environmental (36.4%), legal (35.7%), health (32.1%), economic (29.6%), and technological (27.7%).

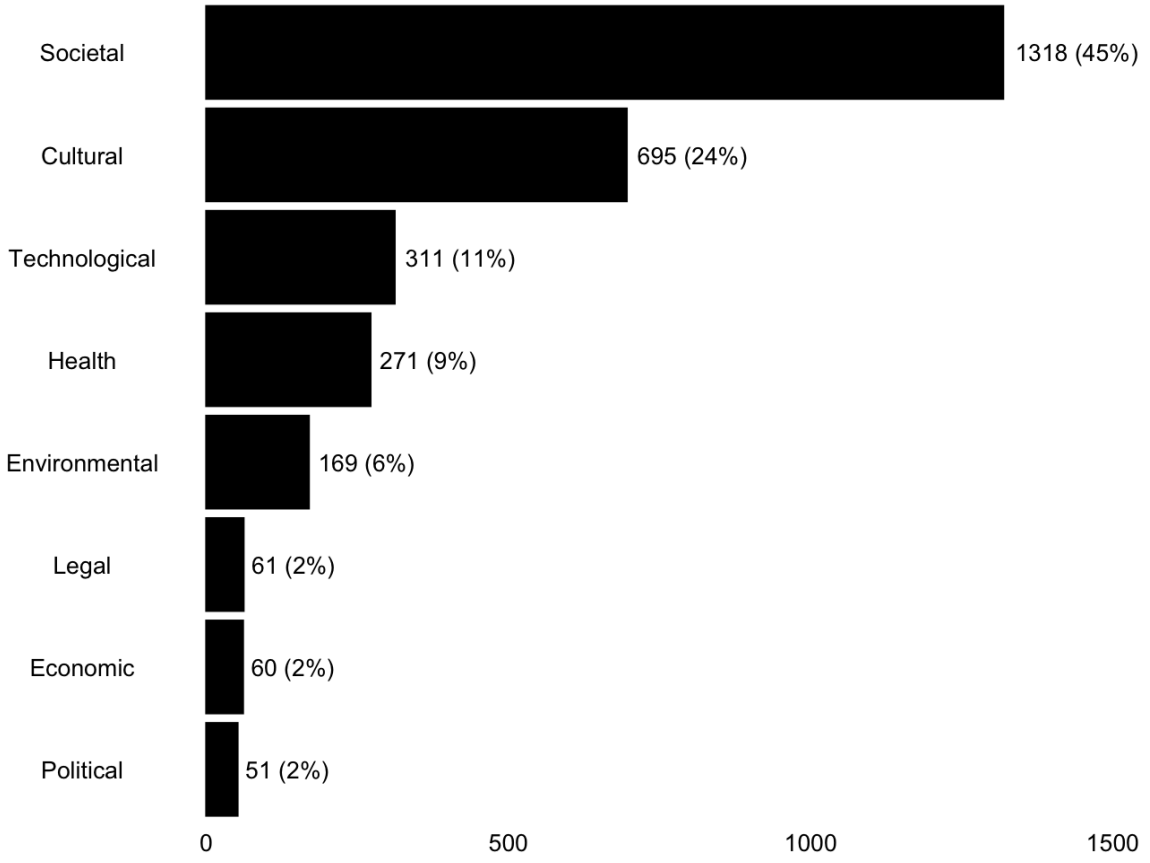

Figure 4. Area of impact of case studies with mentions to social media

In order to understand the purposes and ways social media is included in the REF 2021, a subsample of 100 cases was qualitatively analysed. The subsample was randomly selected from the 2,936 cases that mentioned social media. For the first 80 selected cases, the entire subsample was considered, whilst for the rest of the 20, only cases mentioning *social audio* and *video and collaboration* platforms were taken into account, as a way to provide a deeper understanding of these two types of platforms which use has notoriously increased in recent years. In what follows, we describe and provide examples of the themes derived from the analysis.

Social Media as the Research Focus:

Although not widely present in the analysed subsample, it is relevant to acknowledge the few case studies whose primary focus is social media. This theme encompasses two subthemes:

the first, where *social media is the topic of research,* as identified in one project concerned with the development of digital skills, and the second, focused on the development of a digital platform. The second subtheme, *social media as an application of research*, comes from the previous study and refers to platforms benefiting from the reported research, as the quote below denotes:

"The significance of Ocean Rift to the VR industry is demonstrated by the inclusion of the app as a launch title for most major VR platforms since the Gear VR, including the HTC Vive (2016), Google Daydream (2016), Oculus Rift (2016), Oculus Touch (2018), Xiaomi Mi VR (China, 2018), Oculus Go by Facebook (2018) and Oculus Quest by Facebook (2019)" (Case Study N119)

Social Media Facilitating Research:

The second theme encompasses all cases where social media is mentioned, as it played a crucial role in facilitating the research process. It encompasses three subthemes. First, although rarely encountered, when *social media content is used as a source of primary data*:

"Via pedagogical pilots using Twitter commencing 2012, Barnard provided evidence demonstrating both that the notion of 'digital natives' is a myth and that the myth can actively inhibit learning [3.1]." (Case Study N1154)

Second, more widely found, when social media is essential to *provide technical and logistic support*, for example, by facilitating the encounter of research team members, and researchers with stakeholders and third parties. This is a frequent reason social media is mentioned in the analysed case studies:

"International implementation has been spearheaded by feasibility studies and trials in Australia, Denmark, Netherlands, Austria/Germany, Canada to date (Sweden and Portugal setting up); supported by the research team via e-mail, Skype/ Zoom meetings […]" (Case Study N25)

And third, as *a way of involving participants in research*, a theme that was part of the 2014 REF analysis, and that encompasses the use of platforms to either gather participants or to subsequently support their participation in research:

"In 2015 there was a World-Wide-Webinar with patients and families from Lower and Middle-Income Countries describing their own case studies. By World Encephalitis Day 2020, 186,000,000 people world-wide (22,600,000 in the UK) had been reached (5.2)" (Case Study N1352)

Use of Social Media Platforms as a COVID-19 Contingency Measure:

The REF database covers research carried out between 2014 and March 2021. As such, only a portion of reported studies were carried out during the outbreak of the COVID-19 pandemic in the early months of 2020 and were eventually affected by it. The limited number of impacted cases was corroborated during the in-depth analysis of 100 case studies. Nevertheless, among those that acknowledged the pandemic, the use of social media platforms was often mentioned as part of contingency measures taken to cope with sanitary restrictions and other hurdles that the pandemic imposed. In particular, these are mentions stressing changes in the way projects were originally planned, the mediums to bring teams together, engagement with participants, and dissemination; being the use of videoconferencing platforms – such as Zoom and Skype – the most commonly used:

"Restrictions imposed due to Covid-19 have driven Lyons to investigate new methods of inclusive music-making in real time using communication platforms such as Zoom through weekly online rehearsals with disabled musicians in the period May to December 2020." (Case Study N1120)

Academic-led Dissemination Strategies:

This is a theme that was part of the 2014 REF analysis. It encompasses all the ways in which research teams make research available to the general public via social media platforms. It is the most common way social media platforms are addressed in the analysed case studies, present in nearly half of them, and include blog entries, webinars, workshops, and other dissemination events made public on YouTube, and podcasts on audio format platforms, with Spotify being the most commonly used:

"Dr Harrisson has researched ancient ghost stories and disseminated key similarities and differences between these and modern ghost folklore through two key means; the 'Creepy

Classics' podcast, which has produced monthly episodes since 31 October 2019" (Case Study N542)

Other Social Media Channels (Featuring Research):

This theme was part of the analysis of the REF 2014 case studies subsample. It comprises social media entries that echo and feature case studies' outcomes, benefits, and implications. As described in the previous analysis, these references are made by third parties not directly involved but concerned with the topic of the case studies. It is a common theme addressed in a significant number of the reviewed case studies, and it is mostly represented by blog entries, followed by podcasts and YouTube content:

"Lisa Rodrigues, former Chief Executive of Sussex Partnership NHS Foundation Trust, one of the invited keynotes, reflected on the conference both in her blog and in her book Being an NHS Chief Executive." (Case study N98)

Platforms for Evidence of Impact and Public Engagement:

This theme encompasses mentions of social media as platforms where the impact of research on the general public can be corroborated. It is composed of two sub-themes: *Quantifying Impact*, one of the themes that was part of the REF 2014 analysis, and highly present in this evaluation. Using social media to quantify impact refers to metrics, such as views, streams, followers, posts, and comments on social media platforms, which provide quantitative evidence of the reach of case studies' outcomes:

"An article he wrote about his research for The Conversation was subsequently published for a wider mainstream audience by The Independent (attracting more than 10,000 reads, and 130 Facebook shares)." (Case Study N1154)

Secondly, *Testimonies* on social media from users, visitors, beneficiaries, and stakeholders – in the form of posts and comments – are also provided to corroborate the impact generated by case studies. In this case, it is not about the scope of the impact but rather to provide a comprehensive understanding of *how* the impact took place.

"Reviews show that the exhibition corrected triumphalism ('a timely reminder of what used to be normal … and how dangerous the anti-vax movement can be' – blog-guide to London, 5.8.iii)." (Case Study N823)

Mainstream Media Reflected Through Social Media:

An original theme from the REF 2014 analysis, although only marginally referenced on this occasion, groups mentions of television content that is highlighted on social media platforms, such as YouTube.

"The lecture was broadcast on BBC Four in December 2019 and streamed on BBC iPlayer for seven days. The broadcast was watched by 1.8 million people and was "one of the most watched factual programmes on BBC Four for the entire year" [5.9], and has since been viewed 44,329 times on the Royal Institution's YouTube channel [5.10]" (Case Study 154)

Tracking of Traditional Scholarly Publishing:

The last theme includes academic depositories and platforms where cited work is allocated (ResearchGate and Academia.edu) or from where metrics are provided (e.g., Google Scholar citations).

"The article published in Critical Social Policy [2] is among the highest cited articles in the field of urban ageing, with 431 citations in Google Scholar, including citations by the UK government, Organisation for Economic Co-operation and Development (OECD) and WHO" (Case Study 149)

Discussion

The naturalisation of platformisation

In our previous study (Carrigan & Jordan, 2021), we argued that understanding the role of social media was crucial because its presence was only expected to grow over time. The present 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 virtually doubles the previous frequency, showing that about one in two case studies mentioned social media in 2021. This suggests that the

normalisation and institutionalisation of social media platform usage in impact evaluation practices, which we introduced in our preceding work, continue to take place.

Similarly, the most frequent strategies of use of social media continue to be those labelled as *academic-led dissemination strategies*. These are 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 online visibility (Gosse et al., 2021; Moriarty, 2018; Veletsianos et al., 2018). Future work should critically assess the duty of care from UK higher education institutions regarding academics' social media use in their professional roles and whether policies mitigate risks for individuals or just for institutions. Changes in the social media landscape 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 fear that the sector will not be able to address these changes in an adequate or timely way.

In addition, the extent to which social media platforms are mentioned shines a light on how commercial online infrastructure is being relied upon in the context of the REF. Recent changes at Twitter have shown how sudden shifts can disrupt user practices, which may also render institutional consequences that individualists' assumptions may overlook. While Twitter was significant in 2021 case studies, its influence appears to be diminishing (Swogger, 2023; Williams, 2023). Another element to consider in this regard is the accelerated growth and development of such firms (Mallaby, 2022), which brings a dynamism to the field that is as much about the *economics* of the platform sector as it is about the technology itself. The 'animal spirits' of the platform economy are hyperactive and restless, which makes their coupling, even if loosely, to the evaluative infrastructure of higher education a strange and unwieldy combination.

Metrics as a measure of impact

One of the most visible aspects of this structural coupling between social media platforms and evaluation systems in UK higher education is the incorporation of metrics from the former into ranking exercises from the latter. We were concerned about a social media model at this interface that prioritised social platforms' abilities for large audience dissemination

while obscuring their limitations in realising those potentials in practice (Carrigan & Jordan, 2021). Even if impact practitioners recognised that dissemination was insufficient for impact, the evidence from the 2014 and 2021 case studies widely shows the use of platform metrics, such as views, downloads, likes and mentions, as if these (flawed) measures of dissemination could in themselves provide evidence of impact. But what does it mean to claim that someone has watched a YouTube video? Or that someone has shared an article? There is an implied commensurability which should be treated with extreme caution. For example, if one case study reports on 10,000 views of a YouTube video while another reports on 1,000, it is easy to imagine the former as inherently superior to the latter. However, the fact that people are doing the same thing does not mean they are doing it for the same reasons. This is what Archer (1988) describes as the myth of cultural integration: the assumption that actions and meanings are tightly interconnected. To persist with the video example, in one case, this might be the outcome of a detailed search undertaken by an end user for whom access to a research lecture could have an immediate impact on their practice. In another case, this might be something which they had on as background noise. There is nothing in the unit of 'play' which implies meaningful engagement, yet there is a tendency to treat such a unit as if this were not the case.

In addition, the metrics themselves are not stable across the platforms' lifecycle. Once again, YouTube provides a well-documented example of this, in which the meaning of the play has undergone significant changes. The introduction of the 30-second standard was intended to prevent users or bots from deliberately inflating play counts, reflecting the platform's concern to ensure some relationship between play counts and engagement. Within the multiyear window that the impact case studies report on, we could plausibly be dealing with platform metrics that mean different things at different points in time. That is to say, what it means for a YouTube video to have a reported play count might be non-trivially different in different periods during the reporting window. Furthermore, the documented cases of social platforms defrauding advertisers in ways which involve their metrics suggest reasons for scepticism beyond this ontological uncertainty (Doctorow, 2023). There is an uncertainty at the heart of the platform economy concerning what can be meaningfully inferred from the metrics upon which it depends (Hwang, 2020). It is not simply that engagement metrics risk inflating the influence of academics' social media content, as if these are a weak measure of impact which needs to be supplemented by stronger measures. It is rather that a naive approach to platform metrics risks obscuring the unfortunate fact that numbers themselves might often indicate

nothing about an effect or change within the social world whatsoever. Their epistemic status could be considered weak to non-existent in this respect. The problem is, paraphrasing the old adage about advertising, that academics have no way of knowing for certain which portion of their time spent on these activities is wasted (Hwang, 2020). This uncertainty is compounded by the commercial logic underpinning platform governance, through which visibility and circulation are shaped by opaque algorithmic processes oriented towards imperatives external to higher education, which may not align with the evaluative goals of public research systems.

The case we are making here could easily be overstated. As we have illustrated, there is a wide range of ways in which social media is invoked within the impact case studies. However, compared to Carrigan and Jordan (2021), we observe a clear increase in the dependence of impact evaluation on social media. To the extent platforms are drawn upon in the case studies, metrics will potentially come to figure as the means through which platformised activity can be quantitatively reported. In this sense, we argue that platform metrics are an important issue in their own right while also operating as a nexus through which we can explore the wider interface. This interface between higher education and the platform ecosystem became newly central to the sector during the COVID-19 pandemic (Carrigan et al., 2023). Even if the radical dependence entailed by social distancing has been unravelled in subsequent years, we now inhabit a sector in which institutions are fundamentally platformised.

Diverging times of higher education institutions, impact evaluation, and platforms

In addition to the ontological uncertainty we have argued lies at the heart of platform metrics, there is a further problem stemming from the vastly different time horizons of social media, higher education, and impact evaluation. The structure of incentives within the platform economy and the possibility for scaling built into them mean that it will reliably change at a faster rate than higher education, even if the stereotypical image of universities as frozen in amber has been challenged by the pace of adaptation to the conditions of the pandemic (Carrigan et al., 2023). This study sheds light on this regard, highlighting the affordances and uses of new platforms resulting from COVID-19 disruptions, a phenomenon we believe will be even more prevalent in the following impact evaluation exercise. The rapidly accumulating impact of large language models (LLMs) constitutes a further vector of

disruption which interacts with social media practice in complex and non-linear ways likely to exacerbate the temporal disjuncture (Carrigan 2024: ch 7).

But, how do these different temporalities affect and inform social media policy and practices in higher education? The reliance on social platforms for undertaking (*Social media facilitating research*), measuring (*Platforms for evidence of impact and public engagement*), and narrating research impact (*Academic-led dissemination strategies, Social media channels featuring research, and Mainstream media reflected through social media*) necessarily relies upon knowledge and assumptions about how those platforms work. However, knowledge about social media in higher education develops slowly and unpredictably, often shaped by perceived authority and common sense rather than accurate assessments, which, among other things, imposes challenges to the creation of effective institutional guidance for staff.

The lifecycle of peer-reviewed publications may also help illustrate the difficulties of including codified knowledge into an institutionalised use of social media. However, this point is entirely academic because university policy and practice rarely have any foundation in peer-reviewed research. To the best of our knowledge, as researchers who have worked in this space for over a decade, university policy or training programmes rarely claim to be developed through engagement with these forms of knowledge. This does not mean that there is *never* engagement with peer-reviewed literature in the development of these policies and activities, only that this takes place in an ad hoc way, reflecting the interests and experiences of those involved, rather than being regarded as an expectation of the task at hand.

Given the divergent temporalities of higher education and social media, there would be reason to assume that even a carefully planned and executed process would be insufficient to address the practical complexity of this interface. In a related piece of work, we have considered the parallel issue of social media policies which govern the conduct of individual academics within universities (Jordan & Carrigan, 2025). These are just two of the domains in which social media can be seen as part of the research infrastructure rather than a peripheral element within the sector. The disciplinary differences highlighted here underscore the need for guidance and support to be more nuanced and specific to platforms and contexts, rather than the umbrella of ‘social media’.

The REF operates on seven-year cycles with a vast and costly exercise of external review now typically preceded by an internal review. It is a slow and time-consuming exercise

within a sector which has historically regarded speed with suspicion (Rosenberg, 2023). Recent calls to use Large Language Models (LLMs) to automate aspects of the REF suggest another path forward, which could have complex implications for the coupling between social platforms and research evaluation we have discussed in this section. Watermeyer and Phipps (2025) raise the possibility that LLMs might already be used in the administrative processes which precede the REF within many institutions. Under certain conditions, this might lead to an acceleration of research evaluation, for instance, if the affordances of LLMs were framed as a mechanism for real-time evaluation. But it would perhaps be more likely to bring about a muddle through in which the existing system continues with a declining administrative load managed in a chaotic and ad hoc way through not always acknowledged use of models. Even if research evaluation were to be significantly accelerated, it would still leave us with a higher education system which operates with a strikingly different temporality to the platform economy.

Limitations and future work

The analysis presented here sheds light upon the relationship between social media, research impact, and the ways in which the UK higher education sector demonstrates this. In particular, it is a first step in exploring how this relationship is changing over time. However, while the analysis presented here seeks to identify trends in the data, the scope of the present study does not allow for understanding the how or why behind these trends, and this would be an important area for future research. The approach used here - using the case studies themselves as data - can only go so far, in that it reflects the finished product of a case study, but cannot infer how social media is drawn into the case studies through institutional templates or practices leading to the construction of case studies. The processes involved in preparation of impact case studies for the REF can be time and resource consuming, and vary considerably across the sector (Manville et al., 2015). Blakeley and Tazzyman (2025) highlight the importance of a supportive institutional culture and training; whether social media has begun to be explicitly included in such training and processes is unknown at present and would be a valuable area for future research.

Similarly, we don't know what value is given to social media evidence in the subsequent impact evaluation process. In a later exploratory analysis utilising the REF 2021 results dataset, we found no differences in the percentages of submissions by disciplinary area that achieved high or low scores (as operationalised by Reichard et al., 2020) when comparing

total submissions with the subgroup that includes mentions of social media. Although the data itself is limited, as results are reported for submissions made by an HEI to a disciplinary area, rather than for individual case studies, there seems to be no association between social media references and stronger or weaker submissions to the REF. Interestingly, Zhou et al. (2025) found that top-scoring submissions are less common in Arts and Humanities - where we observed the highest proportion of social media mentions - compared to Physical and Mathematical Sciences submissions - where we observed the lowest proportion of mentions. Still, understanding whether social media is used as a response to more difficult ways of demonstrating impact in certain disciplines than in others, and determining whether social media evidence is considered an equally valued medium for showing impact, would require further research.

Conclusions

In this paper, we have used a case study of the role of social media in research evaluation to illustrate the complexity of the interface between social media and higher education. The proportion of REF impact case studies mentioning social media has nearly doubled, from 25% in 2014 to 46% in 2021. Blogs remain the most frequently mentioned form of social media; all of the most frequently mentioned platforms increased their share of mentions, apart from Google Scholar. Considering disciplinary differences, social media mentions increased across all REF panels, with Arts and Humanities remaining the most likely to do so. Considering how social media is being used, 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.

Social media platforms are not simply tools that individuals choose to use, with reports of their use then factored into research evaluations on an ad hoc basis. They are rather platforms that are integrated into organisational processes within higher education in a loosely coupled manner; they are not part of university systems, but neither are they entirely separate from them, with the metrics operating as cultural entities that map the interface in meaningful, if ultimately uncertain, ways. Recognising these dynamics requires recovering a sense of the

agents operating within and beyond platforms, in contrast to the structuralist tendency found in parts of the platformisation literature (Carrigan & Fatsis, 2021: ch. 3). This entails identifying how platformisation is negotiated between actors, such as managers and academics, who occupy asymmetrical power positions and act under deep contextual constraints, in institutions which are themselves subject to contextual shocks and shifting external pressures (Carrigan et al., 2023). This entails taking platform power seriously as a question of institutional governance, ensuring it has a place on the agenda of professional associations, learned societies and trade unions. In one sense, this means recognising the limits on institutional control. In another, it involves prioritising forms of influence and organisation that might mitigate these constraints. This is the platformised reality which higher education systems need to confront if we are to manage and steer this interface in equitable and effective ways. To end, these findings highlight a broader issue for future research regarding the integration of commercial platforms into academia. For instance, issues around data privacy, platform power, and commercial interests remain largely unexamined, representing an area needing further critical analysis.

Statements and Declarations

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Competing Interest

The authors have no competing interests to declare that are relevant to the content of this article.

Biographical notes

Dr Mark Carrigan FRSA FHEA is a Senior Lecturer in Education at the University of Manchester, where he is co-lead of the Digital Education Manchester group. Trained as a philosopher and sociologist, his research aims to bridge fundamental questions of social ontology with practical and policy interventions to support the effective use of emerging technologies within education.

Dr Katy Jordan is a Lecturer in the Department of Educational Research at Lancaster University, and Director of the Centre for Technology-Enhanced Learning. She holds a PhD from the Institute of Educational Technology at the Open University, UK. As a postdoctoral researcher, she worked with the Open Education Research Hub at the Open University, and the EdTech Hub at the Faculty of Education, University of Cambridge. Her research interests include digital scholarship, open education, educational technology and equity, and social media in higher education.

Dr Ignacio Wyman is a Researcher and Senior Tutor at the Manchester Institute of Education (MIE), University of Manchester. His interests include the sociology of education, the study of educational organisations such as schools and universities, and the study of social networks in educational settings.

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