

Build, manage and evaluate: information practices and personal reputations on social media platforms

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ABSTRACT:

Introduction. The broad theme of this paper is the use of information to build, manage and evaluate personal reputations. It reports the findings of a study that considered the extent to which social media users replicate in online environments the established information practices of academics when they assess their peers. The three platforms considered are Facebook, Twitter, and LinkedIn.

Method. A multi-step data collection process was implemented for this work. Forty-five UK-based social media users kept journals and took part in semi-structured interviews.

Analysis. A qualitative analysis of the journal and diary data was undertaken using NVivo10. Information practices were analysed to consider the similarities or difference between social media practices and related practices deployed by academics related to citations.

Results. The findings expose the ways in which social media users build, manage, and evaluate personal reputations online may be aligned to the citation practices of academics.

Conclusion. This work shows where the similarities and differences exist between citation practices and related information practices on social media as related to personal reputations. Broadly, the findings of this research demonstrate that social media users do replicate in informal online environments the established information practices of academics.

Introduction

The broad theme of this paper is the use of information to build, manage and evaluate personal reputations. In particular, it reports the findings of a study that used qualitative methods to consider the extent to which social media users replicate in *informal* online environments the established information practices of academics when they assess their peers. The three platforms considered are Facebook, Twitter, and LinkedIn. In this context, the term ‘personal reputation’ refers to the reputations of private individuals (as opposed to corporate branding and identity).

This work is prefaced by a literature review that considers research from a wide range of academic disciplines including traditional Information Science research and published work on the role of information in personal reputation management and evaluation, especially as it relates to online information sharing. This includes an established and focused research stream on the building of academic reputations through citation practices.

The findings show that individuals use online information to manage their reputations to at least some extent – even if they are not consciously aware of their actions – and that they deploy a range of tactics and information practices in the process.

Literature review

There are three bodies of literature of relevance to this study. The first is a seam of research in bibliometrics, including the work of Cronin and colleagues on citation practices (e.g. Cronin, 1985; Cronin & Shaw, 2002a). Earlier studies highlight, for example, that academics actively review the

citation indices of others, through both traditional and alternative metrics, for the purposes of *career benchmarking* (Cronin, 1998; Cronin, Snyder, & Atkins, 1997; Stvilia, Wu, & Lee, 2018). This body of research also tells us that citations can be used to *build* researchers' reputations and identities, and *increase their visibility* among peers (Cronin, 1985; Cronin & Atkins, 2010). Here a range of citation practices are considered. For example, the provision of "gift" of co-authorships, where a co-authorship is given without direct involvement of named co-authors (Cronin, Shaw, & La Barre, 2003, 2004; Cronin, 1998, 2001b) or similar gifts of citations that are provided as a way of forming an alignment between researchers (Cronin & Shaw, 2002b; Ding, Liu, Guo, & Cronin, 2013; Hyland, 2003; Sugimoto & Cronin, 2012b). Also investigated are self-citations (Bonzi & Snyder, 1991; Costas, van Leeuwen, & Bordons, 2010; White, 2001), citing "upwards" or citing with an anticipation or hope for reciprocity (Cronin & Shaw, 2002, p. 44), and acknowledgments (Cronin, 1998; MacRoberts & MacRoberts, 2007).

"Altmetrics", or alternative means of measuring academic reputations using information from online sources, are also relevant to this study. The increased use of social media by academics, along with interest in altmetrics, has inspired studies of the role of social media in academic citation analysis ("Altmetrics: A manifesto," n.d.; Desrochers et al., 2018; Priem & Costello, 2010; Priem & Hemminger, 2010; Priem, Hemminger, & Piwowar, 2011). It has been suggested that this alternative form of measuring academic reputations is needed because there is a "growing flood of scholarly literature" that is "exposing the weaknesses of current, citation-based methods of evaluating and filtering articles" (Priem & Hemminger, 2010). Further, it has also been shown that the rise of altmetrics has led to increase interest in the overall use of social media by academics (Desrochers et al., 2018; Didegah, Bowman, & Holmberg, 2018; Ortega, 2016; Warren, Raison, & Dasgupta, 2017).

The third (and final) body of literature of relevant to the empirical work discussed below draws on selected publications from the domains of computing, employment research, human-computer interaction, human resources management, information systems, management and organisational studies, marketing, media and communication studies, and physical and mental health. A full evaluation of this literature has previously been published elsewhere (Ryan, Cruickshank, Hall, and Lawson, 2016a).

Together, the findings from the analysis of the three bodies of literature noted above prompted the overarching research question that is discussed in further detail below: "*How do information behaviours related to **personal reputation** building, management, and evaluation on social media reflect citation practices related to the building, management, and evaluation of **academic reputation**?*"

Prior to the execution of the empirical study, similarities between citation practices and related social media practices were proposed, as summarised in Table 1. This summary takes into account existing research on altmetrics that has shown that there is at least some level to which academic citation practices can be aligned to aspects of social media use and practice (Priem & Hemminger, 2010), and is a progression from earlier works by Ryan, Cruickshank, Hall, and Lawson (2016a). Further, previous studies have shown that academics use a range of social networking platforms, including Facebook, Twitter, and LinkedIn, for scholarly purposes to disseminate research, share information about research activities, follow and participate in online discussions about relevant research, and to network and connect with other researchers (Stvilia et al., 2018).

Theme	Practices discussed in the citation analysis literature	Possible similar practices in social media
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<p>Linking or connecting with other individuals as a means of showing agreement or similarity</p>	<p>Citing well-respected authors</p> <p>Citing an someone within the main content of a paper</p> <p>Making note of someone in acknowledgements or footnotes of a paper</p> <p>Co-authoring papers with well-respected academics</p> <p>Following academics on networking platforms</p>	<p>Interacting with online content created by others</p> <p>Re-posting content created by others</p> <p>Linking self-created content to content created by others</p> <p>Linking to well-respected bloggers</p> <p>Tagging others in online content</p> <p>Hosting or providing guest blogs</p>
<p>Self-promotion</p>	<p>Self-citation or referencing previous works by one’s self</p> <p>Sharing details of work on professional networking sites or other online platforms</p> <p>Sharing on social media platforms</p>	<p>Linking to or posting self-created content to the social media profiles of others</p> <p>Cross-linking or cross-posting self-created content across several platforms</p>
<p>Strategic placement of content in favourable locations</p>	<p>Agreeing to coerced citations</p> <p>Citing well-known authors in specific fields of study</p> <p>Sharing through social media platforms</p>	<p>Participation in blogs and online communities</p> <p>Tagging well-known individuals in online content via user names to form an alignment</p> <p>Sharing information on social media platforms</p>
<p>Connecting with individuals to boost own reputation</p>	<p>Citing well-respected authors</p> <p>Following academics on networking platforms</p> <p>Co-authoring papers, or providing “gift” co-authorships</p>	<p>Friending, following, or otherwise connecting with individuals online</p>
<p>Fraudulent practices or identity masking</p>	<p>Coercive self-citations or other citations added at the request of a publisher or editor</p>	<p>Sharing information online under a pseudonym or via an anonymous account</p>
<p>Evaluating the connections of others to determine their reputation</p>	<p>Reviewing list of contacts on networking platforms</p>	<p>Reviewing social media activities of connections</p>

	Reviewing reference lists in articles	Reviewing lists of online connections
Evaluating individuals based on their overall visibility	Reviewing citation indexes	Reviewing online footprints of others

Table 1: Similarities between practices discussed in the citation analysis literature and possible related practices found on social media platforms

Methods

Data were collected for the empirical study in a qualitative, multi-step process using participant journals and semi-structured interviews. Forty-five UK-based social media users were recruited for this study. Most of the participants (43) were recruited through social networking channels including Facebook, Twitter, and LinkedIn, and two were referred to the study through word-of-mouth. Prior to beginning their journals, the participants completed a short background questionnaire on their education levels, employment, and Internet use. The latter covered social media platforms used and frequency of use. This provided (1) understanding of participants' backgrounds to inform the interviews and (2) context for the later data analysis. At the time of data collection, the participants were employed in professional or managerial roles, or were recently retired. The participants also held higher than average education levels, with nearly 90 percent of the group (40 of 45) holding a bachelor's degree or higher qualification, as compared to a UK average of 34 percent for those aged 25-64 (OECD, 2016). Each was assigned a pseudonym to be used in the reporting of the project findings.

In their journals (which were either hand-written or typed), the participants were invited to record their interactions on social media over the course of a week to include, for example: their activities; motivations for these activities; choice of platform for information sharing; and instances when they decided not to share particular types of information. Participants were also asked to record their thoughts related to the reputational evaluations of others, as determined by information shared online.

The journals varied in length from 173 to 4,050 words, with an average count of 1,380, and resulted in a word-processed data set of 219 pages. The journal content ranged from basic activity logs to detailed personal commentaries with opinion, insight, and high levels of reflective thought. All 45 participants provided at least some activity log type details and the majority included more reflective insights and opinions. All 45 diaries were formatted to ensure consistency for coding purposes. This included eliminating abbreviations and spacing in platform names (for example: "FB" became Facebook and "Linked In" became LinkedIn) to ensure that word-search queries during data analysis captured all relevant terms. Diaries were also amended to anonymise instances where participants referred to themselves, their connections, or their places of employment or other places by name.

After completing their journals, the participants took part in individually-tailored semi-structured interviews which took place approximately one week after journal completion. Thirty-four interviews were conducted via Skype, and the remainder in person. These varied in length from 33 minutes to 1 hour and 20 minutes. The core interview schedule was developed based on themes and concepts that emerged from the literature review. Additional follow-up questions were also included where further context or clarification was required from the participants' journal entries. The semi-

structured nature of the interviews meant that participants covered the topics from the interview schedule organically and in a conversational manner. Follow-up prompts were used when participant did not cover a topic in the natural course of the interviews. The 43 hours of interview recordings resulted in 598 pages of interview transcripts.

Data from the diaries and interviews were treated in the same manner for both coding and analysis. They were coded using qualitative data analysis software (NVivo10). The initial coding structure was determined by the themes that arose from the literature review, with subsequent codes added as new themes emerged from the participant data. Data for this study were analysed using NVivo. This was done by running queries and creating reports to determine relationships between the coded data, based on both themes from the literature and the themes that emerged from the data.

Findings

The findings of this study expose the ways in which social media users build, manage, and evaluate personal reputations online and that they may be aligned to the citation practices of academics as noted in Table 1. These relate to (1) using social media content for self-promotion; (2) using social media to form connections; (3) using social media to strengthen connections; and (4) censoring social media content.

Fourteen of the participants in this study spoke about sharing information on their social media platforms specifically for the purposes of building their professional reputation through “self-promotion” activities or by “creating a brand”. For example, Yvonne stated that it is “important that my [work] is visible, so promoting [it] is kind of important”. For Wendy and Sharon, self-promotion tactics are viewed as an “intentional” way of “branding” their professional selves.

Connecting with others online signals relationships or links between individuals. Decisions to connect with others are often made based on the social media platform, and it is common for participants to use different criteria for *private* platforms and *professional* platforms. For example, LinkedIn is predominately reserved for connecting with professional contacts, Facebook is largely used for private connections, and Twitter is a mix of both private and professional connections.

Twenty of the participants connect with others to create alignments beneficial to professional advancement, reputational gain, and job seeking. For example, Kevin views his LinkedIn connections as possible future employers, and Joanne connects with people on Twitter who “are leaders in their fields” with the hope that she “might actually have a conversation with them”.

However, not all connections are made willingly, as indicated by 11 participants who discussed forming online connections out of obligation or to be “polite”. These obligatory connections are generally formed as a way of sparing awkward conversations in an offline environment. For example, Gillian accepted a request to connect with someone from her running group because it would be “socially awkward and rude” not to, and Joanne connected with a family member only because she worried she would “look like a not very nice person” if she did not accept the request.

The findings also reveal that social media users strengthen connections with one another by re-posting content created by others in a manner that is analogous to the citing of prior work by academics. Twenty-two participants do this deliberately to build professional reputations. For example, Jennifer re-posts content as a way to “curate” information that is “relevant”. Seven of these participants also re-post content as a way of intentionally aligning themselves with the original poster: Gillian admitted re-posting content that she believes will be “interesting to [her] network” whilst also signalling to the original poster that she is “reading” and “enjoying” their content.

Equally important to *sharing* content is *interacting* with content that has been shared by others, for example by “liking” or commenting, or tagging individuals. All 45 participants understand that liking or commenting on content *may* impact their reputation. However, these interactions are only undertaken as an intentional reputation management practice by a small number of participants. Only seven participants interact with content through “likes” as an intentional form of reputation building. This is viewed as a way to signal to their connections that they have either viewed or felt positively towards the content. For example, Karen likes content when it is “the kind of posts” that she would like “to be seen reading”, and Alison likes content out of obligation if “everybody” at work as also interacting with the content. Even fewer social media users comment on content as an intentional reputation-building practice, with only four participants discussing this practice. Here, Diane discussed commenting on content to be “polite”, signalling to her connections that she is aware of proper “etiquette”. Meanwhile Wendy spoke about replying to tweets so that she can build her professional reputation by forging alliances with others online. Fifteen participants viewed the use of tags as a way to build or manage their reputations. The most common reason for this (13 participants) is to ensure information is being viewed by the tagged individuals. At the same time this creates an alignment between the tagger and the tagged. For example, Amanda tags potential collaborators on Twitter who are “influential people” so that they know she is interested in their work.

The issue of censorship also emerged as a key practice amongst the participants in this study, especially in respect of protecting their *professional* reputations when interacting on platforms that may be used for both professional and personal purposes, e.g. Facebook. The most apparent form of censorship is to refrain from sharing certain types of information in any form online, identified by 40 of the 45 participants. For example, Kevin avoids sharing certain forms of information so that his connections do not think he is an “offensive person”. Meanwhile Andrew feels that it is “important to be aware” that content is ultimately accessible to a wider audience than you might intend. Seven participants also avoid re-posting content due to a reluctance to be associated with it. These censorship tactics also relate to interactions with online content. Whilst interactions are not generally an *intentional* reputation-building practice for the majority of the participants in this study the *censorship* of interactions is, as discussed by 36 participants. Here, participants will censor the ways in which they interact with online content, if they interact at all. For example, 29 participants avoid interactions with others on contentious topics.

In some respects, the findings of this study demonstrate aspects of social media use that do *not* align with citation practices as related to personal reputations. For example, the participants in this study rarely review the online footprints of others in an *intentional* way. However, when they do, it is generally to ensure that they maintain professional accounts in the way that the participant considers positive. For example, Yvonne reviews the LinkedIn accounts of potential collaborators to see if they are “appropriately” promoting themselves and their work. Further, the participants in this study do not deliberately co-author content (such as blog posts) as a means of creating an alignment to another person who could bestow a reputational advantage on them (for example, due to a higher social status) in the same way that junior researchers may seek publishing opportunities with established academics.

Discussion

Table 2 summarises similarities between information practices reported in the citation analysis literature related to personal reputations, and the findings summarised above.

Theme	Practices discussed in the citation analysis literature	Confirmed similarities in social media practice
Linking or connecting with other individuals as a means of showing agreement or similarity	Citing an someone within the main content of a paper Making note of someone in acknowledgements or footnotes of a paper Citing well-respected authors Following academics on networking platforms	Liking online content created by others Re-posting content created by others Tagging individuals in online content
Self-promotion	Self-citation or otherwise referencing previous works by one's self Sharing details of work on social or professional networking platforms	Linking to or posting self-created content to the social media profiles of others Cross-linking or cross-posting self-created content across several platforms
Strategic placement of content in favourable locations	Agreeing to coerced citations Citing well-known authors in specific fields of study Sharing through social media platforms	Tagging well-known individuals in online content via user names to form an alignment Sharing information on social media platforms
Connecting with individuals to boost own reputation	Citing well-respected authors Following academics on networking platforms	Friending, following, or otherwise connecting with individuals online

Table 2: Confirmed similarities between citation practices and related practices on social media

Much of the citation analysis literature that discusses academic reputation investigates the ways in which academics create alignments between themselves and other academics. In the simplest of terms, this is done by citing the work of others. When considered in relation to social media, it was anticipated that similar practices in social media would be those of liking or re-posting content that has been created by others, or by tagging individuals in self-created content.

When an academic cites the research of another academic in their own work, they are creating a link or an alignment between that paper's author(s) and themselves (Cronin & Shaw, 2002b; Ding et al., 2013; Hyland, 2003). This is also true when academics mention another researcher in the acknowledgements or footnotes of their own work (Cronin, 1998; McCain, 2018). These pieces of information can convey a similarity or an agreement between the academic and the paper's author(s), which helps to build the citing author's identity and reputation (White, 2001). The findings presented in this paper confirm that social media practices of re-posting, liking, and tagging

online information can also be undertaken to create links or alignments between individuals in a similar manner. The most significant of these practices of alignments creation through the giving of citations is that of re-posting of content created by other social media users. The empirical work reported here has shown that social media users actively build their reputations by sharing content that is relevant to their connections, especially in a professional context. By doing this, they send signals that they have similar interests to original content creators. At the same time, this practice signals to the content creators that the social media user is aware of them and their online activities.

Social media users interact with online content through liking as a way of signalling that they are engaged with another individual's social media content. Through this practice, they anticipate that their personal reputations will be viewed favourably by the content's creator. This is similar to citation practices when an academic cites a paper with the express desire of the cited author being made aware of the citer's work. Creating a favourable impression through likes on social media is especially important when the content is created by someone in a more senior professional position. This is analogous to a junior academic "citing upwards" in their own work, or citing well-respected and well-known authors.

Tagging individuals in online content is another social media practice that is confirmed as similar to citation practice, i.e. providing another academic a citation. Here, tags are used as a way of signalling to the person being tagged, and to the online connections of both parties, that there either is, or should be, an alignment between the individuals. The practice of tagging content is a way of ensuring that it is not missed by its intended audience (generally, the tagged individual) is also relevant here. This is especially true when the tags are used to create professional alignments. This work has shown that the practice of tagging adds to the strength of any alignment that is created by the tag, similar to the act of citing other authors in academic research.

Alliances are also formed by connecting with others on professional or social networking platforms. In academia, connections are formed through citations that create a link between the citer and citee, but they do not necessarily create a relationship between the two. Because of this, the most direct link between citation and social media practices in relationship to creating connections are that of "friending" or "following" people on social or professional networking platforms in an environment that encourages interactions. Social media users do this by requesting or accepting connections with others. Similarly, academics are increasingly using social networking platforms to connect with other academics where they are able to interact in an informal environment.

In addition to similarities related to building and managing reputation, this work has found that there are similarities between citation practices and social media practices that relate to the evaluation of the reputations of others. This includes evaluations based on an individual's overall visibility on social networking platforms. In the citation practice, visibility is intentionally measured by reviewing another academic's citation indexes including traditional indexes and altmetrics measuring tools. However, in general, social media users do not intentionally review the online footprints or social media activities of other people, although a review of the social media practices of potential collaborators, especially in relation to professional profiles, is not uncommon. This is because a lack of an online presence can lead to a questionable reputational evaluation: no available information raises questions about someone's dedication and professionalism in relationship to their work.

Whilst most the proposed similarities between citation practices and social media practices shown in Table 1 have been proven to show strong similarities, this is not the case for all practices. There are two areas of practice that do not appear to confirm the proposed model: the ways in which co-

authorships and blogging practice might be similar, and the ways in which intentional reputational evaluations are sought.

At the beginning of this study it was proposed that social media users might host or provide guest blogs to others as a way of creating an alignment or a connection with them in a similar way to academics co-authoring publications with others. It was also believed that the social media practice of cross-linking to bloggers or referencing a blogger's online content would be similar to the practice of one academic citing another paper or mentioning another academic in the acknowledgements or footnotes of a paper. However, the findings presented here do not confirm these practices. Further, no other social media practices were revealed in this research that appeared to be the same or similar practice to the citation practice of co-authorship.

Further, only limited parallels have been found related to the evaluation of reputations. In the citation analysis literature, it has been shown that academics evaluate the reputations of their peers to determine their reputations. This is traditionally done by reviewing the reference list in a published article to determine who the author has cited. A similar practice has been discussed in relation to altmetrics, whereby academics will review another academic's lists of connections on social networking platforms. In Table 1, it was suggested that the related practices undertaken by social media users would be reviewing someone's list of online connections and reviewing the social media activities of those connections. However, these practices are not generally undertaken and thus are not used as a basis for evaluation. It is possible that this is because social media users connect with people online after an offline relationship as already been determined, meaning that an initial reputational evaluation has already been made.

Conclusions and further work

Through this work, it has been shown where the similarities and differences exist between citation practices and related information practices on social media as related to personal reputations. Broadly, the findings of this research demonstrate that social media users do replicate in informal online environments the established information practices of academics when they assess their peers, even if this is done unintentionally. This conclusion, however, is drawn on the basis of the analysis of a set of data gathered from a particular demographic, and considers just three platforms. In addition, in some respects, practices differ. Further questions, which merit may additional scrutiny with reference to formal personal reputation management through citations, have arisen over the course of conducting this study. These relate to censorship and the ways in which academics might attempt to break alignments after they have been created.

References

- Altmetrics: A manifesto. (n.d.). Retrieved June 10, 2015, from <http://altmetrics.org/manifesto/>
- Bonzi, S., & Snyder, H. W. (1991). Motivations for citation: A comparison of self citation and citation to others. *Scientometrics*. <https://doi.org/10.1007/BF02017571>
- Costas, R., van Leeuwen, T. N., & Bordons, M. (2010). Self-citations at the meso and individual levels: Effects of different calculation methods. *Scientometrics*, *82*(3), 517–537. <https://doi.org/10.1007/s11192-010-0187-7>
- Cronin, B. (1985). *The citation process: The role and significance of citations in scientific communication*. London: Taylor Graham. [https://doi.org/10.1016/0306-4573\(85\)90080-9](https://doi.org/10.1016/0306-4573(85)90080-9)
- Cronin, B. (1998). Metatheorizing citation. *Scientometrics*, *43*(1), 45–55. <https://doi.org/10.1007/BF02458393>

- Cronin, B. (2001). Hyperauthorship: A postmodern perversion or evidence of a structural shift in scholarly communication practices? *Journal of the American Society for Information Science and Technology*, 52(7), 558–569. <https://doi.org/10.1002/asi.1097>
- Cronin, B., & Atkins, H. B. (Eds.). (2010). *The web of knowledge: A festschrift in honor of Eugene Garfield*. Medford, NJ: Information Today, Inc.
- Cronin, B., & Shaw, D. (2002a). Banking (on) different forms of symbolic capital. *Journal of the American Society for Information Science and Technology*, 53(14), 1267–1270. <https://doi.org/10.1002/asi.10140>
- Cronin, B., & Shaw, D. (2002b). Identity-creators and image-makers: Using citation analysis and thick description to put authors in their place. *Scientometrics*, 54(1), 31–49. <https://doi.org/10.1023/A:1015628320056>
- Cronin, B., Shaw, D., & La Barre, K. (2003). A cast of thousands: Coauthorship and subauthorship collaboration in the 20th century as manifested in the scholarly journal literature of psychology and philosophy. *Journal of the American Society for Information Science and Technology*, 54(9), 855–871. <https://doi.org/10.1002/asi.10278>
- Cronin, B., Snyder, H., & Atkins, H. (1997). Comparative citation rankings of authors in monographic and journal literature: A study of sociology. *Journal of Documentation*, 53(3), 263–273.
- Desrochers, N., Paul-Hus, A., Haustein, S., Costas, R., Mongeon, P., Quan-Haase, A., ... Larivière, V. (2018). Authorship, citations, acknowledgments and visibility in social media: Symbolic capital in the multifaceted reward system of science. *Social Science Information*, 57(2), 223–248. <https://doi.org/10.1177/0539018417752089>
- Didegah, F., Bowman, T. D., & Holmberg, K. (2018). On the differences between citations and altmetrics: An investigation of factors driving altmetrics versus citations for Finnish articles. *Journal of the Association for Information Science and Technology*, 69(6), 832–843. <https://doi.org/10.1002/asi.23934>
- Ding, Y., Liu, X., Guo, C., & Cronin, B. (2013). The distribution of references across texts: Some implications for citation analysis. *Journal of Informetrics*, 7(3), 583–592. <https://doi.org/10.1016/j.joi.2013.03.003>
- Hyland, K. (2003). Self-citation and self-reference: Credibility and promotion in academic publication. *Journal of the American Society for Information Science and Technology*, 54(3), 251–259. <https://doi.org/10.1002/asi.10204>
- MacRoberts, M. H., & MacRoberts, B. (2007). Problems of citation analysis: A critical review. *Journal of the American Society for Information Science and Technology*, 40(5), 342–349. [https://doi.org/10.1002/\(SICI\)1097-4571\(198909\)40:5<342::AID-ASI7>3.0.CO;2-U](https://doi.org/10.1002/(SICI)1097-4571(198909)40:5<342::AID-ASI7>3.0.CO;2-U)
- McCain, K. W. (2018). Beyond Garfield's Citation Index: An assessment of some issues in building a personal name Acknowledgments Index. *Scientometrics*, 114(2), 605–631. <https://doi.org/10.1007/s11192-017-2598-1>
- OECD. (2016). *Education at a glance 2016: OECD indicators*. OECD Publishing, Paris. <https://doi.org/http://dx.doi.org/10.1787/eag-2016-en>
- Ortega, J. L. (2016). To be or not to be on Twitter, and its relationship with the tweeting and citation of research papers. *Scientometrics*, 109(2), 1353–1364. <https://doi.org/10.1007/s11192-016-2113-0>
- Priem, J., & Costello, K. L. (2010). How and why scholars cite on Twitter. In *American Society for*

Information Science and Technology.

- Priem, J., & Hemminger, B. (2010). Scientometrics 2.0: New metrics of scholarly impact on the social Web. *First Monday*, 15(7).
- Priem, J., Hemminger, B., & Piwowar, H. (2011). Altmetrics in the wild: An exploratory study of impact metrics based on social media. In *Metrics: Symposium on Informetric and Scientometric Research*. New Orleans.
- Ryan, F., Cruickshank, P., Hall, H., & Lawson, A. (2016). Managing and evaluating personal reputations on the basis of information shared on social media: a Generation X perspective. *Information Research*, 21(4). Retrieved from <http://www.informationr.net/ir/21-4/istic/istic1612>
- Stvilia, B., Wu, S., & Lee, D. J. (2018). Researchers' uses of and disincentives for sharing their research identity information in research information management systems. *Journal of the Association for Information Science and Technology*, 69(8), 1035–1045. <https://doi.org/10.1002/asi.24019>
- Warren, H. R., Raison, N., & Dasgupta, P. (2017). The rise of altmetrics. *JAMA*, 317(2), 131. <https://doi.org/10.1001/jama.2016.18346>
- White, H. D. (2001). Authors as citers over time. *Journal of the American Society for Information Science and Technology*, 52(2), 87–108. [https://doi.org/10.1002/1097-4571\(2000\)9999:9999<::AID-ASI1542>3.0.CO;2-T](https://doi.org/10.1002/1097-4571(2000)9999:9999<::AID-ASI1542>3.0.CO;2-T)