

Editorial

Scientific marketing: researchers and prosumers in science

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The links for the dissemination of science grow and diversify in accordance with digital technological evolutions. The vertigo of data, the speed of information, the exponential growth of platforms (Martel, 2014) and the inclusion of advertising and marketing plans in academic and scientific activities, catalyse strategies and tactics that are comparable with those of other industries. commercial (Fenner, 2012).

Van Noorden (2014) said -in an article in the journal *Nature* with 787 citations in Google Scholar- that Twitter, Facebook, LinkedIn (the general ones) and Researchgate, Academia and Mendeley (the scientific ones) are the social networks with the greatest impact to find scientific peers, publish content, share links, actively discuss research, discover new recommended papers, contact regular visitors and be questioned, in detail, about their projects and production. In other words, an outburst of hyper-connected activities, a trans-textuality of content and a mainstream of favourable actions for the visibility, impact and transfer of knowledge in network societies.

Similarly, we are witnessing an ebullition and expansion of digital channels and disruptive platforms that provide specialized and refined dialogic opportunities, because we must remember that the medium is the message (Strate, 2012). Digitalization and technological transformation -pushed in part by pandemic virtualization- has enabled a maturation of media, a boom in tools and an opportunity for emerging projects, solutions and brands that are core to the processes of making scientific content and products visible.

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The list could be endless: books on Amazon, quantifiable shortlinks on Bit.ly, accounts on CrossRef, Delicious, ePrints, Figshare, Github, Goodreads, PLOS, Reddit, SlideShare, among dozens of other alternative channels that are part of a hypermedia fabric and are a scientific source for PlumX, for the Knowmetrics Network or for Semantic Scholar (Li, Peng & Du, 2021), for example. And they allow the extraction of data and high-value information that impacts on the social appropriation of knowledge, in citations, downloads and H-indexes, which, in short, is a marketing of science to attract new audiences.

This attraction funnel evidences a tangible architecture of an eclectic scientific marketing that emulates conventional marketing. Even, a transmedia scientific marketing, which brings together multiple formats that make up a measurable and quantifiable digital ecosystem (Sepúlveda-Cardona & Suárez Quiceno, 2020): blog posts, chapters, cases, conferences, infographics of datasets, interviews, letters, press releases, posters, reports, presentations, videos and even trailers of scientific publications (Caballero & Ponce, 2020). Simultaneously, this digital range of formats, channels, tools, apps, software and instruments have allowed the development of specialized KPI (Key Performance Indicator) for scientific marketing that is planned, executed and measured, just like a traditional advertising campaign of a marketing agency (Sepúlveda-Cardona, 2020). Companies, brands, programs and professionals are able to measure up to five different KPI categories for each researcher and scientist:

- Usage: clicks, views, downloads, video reproductions...
- Captures: bookmarks, favourites, embedded codes, watchers...
- Mentions: blog postings, comments, reviews, links...
- Social media: favourites, likes, shares, saves, posts...
- Citations: in Scopus, PubMed, Patents, Semantic and Google Scholar...

Consequently, the scientific apparatus of the countries has mobilized -perhaps belatedly in Latin American countries- towards innovative plans and strategies as practices of a scientific marketing that adopts trends of commercial industries. In the case of Colombia, the Ministry of Science, Technology and Innovation has enabled a series of novel strategies in its policies and guidelines that are visible from its platforms for researchers and research groups.

In the year 2021 it has generated in its CvLac platform -which is the scientific resume of Colombian researchers- a new category called Production of transmedia strategies and contents: "they are convergent productions of contents in different media, digital or physical, that involve different communicative products and circulate through different platforms taking advantage of their nature, offering a unified and coordinated experience" (Minciencias, 2021, p. 100).

These transmedia experiences are part of the science public outreach products where the product's media, target audience, literary genre, circulation routes, differential approaches, format conceptualization, transmedia component, conceptual guidelines, creative references, technical features and narrative structure, among others, can be recorded. All of them are also required for validation in the national science system.

Something similar happens in the category of Web development (Minciencias, 2021, p. 105), also as a strategy of social appropriation of knowledge and public dissemination of science where researchers must record similar information: target audience, digital component, conceptualization of the format, genre, UX or user experience, wireframes and mockups, conceptual guidelines, creative references, technical and technological features, and narrative structure. As can be seen, these new scientific tasks, which are tensions for many laggards, but a habit for scientists with digital skills, are key in the visibility of knowledge and integrate a mashup of technologies and marketing skills for science.

Finally, researchers and scientists face multiple new challenges given the strong competition within and outside the communities and the financial and economic constraints that affect the impact of projects. We are at a turning point in the roles of scientists, who seem to be tending towards the activities of a scientific prosumer. Prosumers (Scolari, 2018), you and us, scientists or not, need of multiple systems, experiences, channels and contents to make our production (textual, hypertextual, visual, audio-visual) visible in digital ecosystems. Scientific content, analyses, meta-analyses, research, reflections, systematized or systematic reviews, etc., need two types of narratives: one for humans and another for digital robots (spiders) that allow this content, in addition to being visible, to be durable and reusable (Borgman et al., 2012). We are talking about content with a narrative that is easy to read for scientists, for social appropriation, for laymen, but also of a semantics for digital machines.

In this order of ideas, scientific prosumers are creating digital content for the frontend of journals, repositories and platforms that seek usability and readability for human sensibilities. And in the same way, they build, design, write a strategic backend for Google and all its ecosystem, for the journal's information-matrix, for other general and scientific meta-search engines. Dizzying tasks, infinite loops of a long and wide digital spectrum.

Conflict of interest

The author declares that there is no conflict of interest regarding the publication of this article.

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