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Why researchers publish in non-mainstream journals: Training, knowledge bridging, and gap filling

Diego Chavarro^{a,*}, Puay Tang^a, Ismael Ràfols^{a,b}^a SPRU (Science Policy Research Unit), University of Sussex, Brighton BN1 9SL, UK^b Ingenio (CSIC-UPV), Universitat Politècnica de València, València 46022, Spain

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ABSTRACT

In many countries research evaluations confer high importance to mainstream journals, which are considered to publish excellent research. Accordingly, research evaluation policies discourage publications in other non-mainstream journals under the assumption that they publish low quality research. This approach has prompted a policy debate in low and middle-income countries, which face financial and linguistic barriers to access mainstream journals. A common criticism of the current evaluation practices is that they can hinder the development of certain topics that are not published in mainstream journals although some of them might be of high local relevance. In this article, we examine this issue by exploring the functions of non-mainstream journals in scientific communication. We interviewed researchers from agricultural sciences, business and management, and chemistry in Colombia on their reasons to publish in non-mainstream journals. We found that non-mainstream journals serve the following functions: 1) offer a space for initiation into publishing (*training*); 2) provide a link between articles in mainstream journals and articles read by communities with limited access to them (*knowledge-bridging*); 3) publish topics that are not well covered by mainstream journals (*knowledge gap-filling*). Therefore, publication in non-mainstream journals cannot be attributed only to 'low scientific quality' research. They also fulfil specific communication functions. These results suggest that research evaluation policy in low and middle-income countries should consider assigning greater value to non-mainstream journals given their role in bridging and disseminating potentially useful and novel knowledge.

1. Introduction

In many countries, there is an increasing pressure to prove the value of publicly funded research in order to respond to policy demands for accountability (Whitley and Gläser, 2007). Quantitative forms of research monitoring or assessment are often used as a means to convey to policy-makers, stakeholders, and the wider public the relative performance of researchers, laboratories, universities, and national science systems (Hicks et al., 2015; Wilsdon et al., 2015; Rafols et al., 2016a,b). Many of these assessments use indicators based on data of publications in *mainstream journals*, that is, journals perceived to publish excellent research, which are typically indexed by the citation databases Web of Science (WoS) and Scopus (Vessuri et al., 2014). In contrast, articles published in other journals receive less recognition in research assessments under the assumption that they publish poor quality articles. Here, we refer to them as *non-mainstream journals*.¹

The higher rank attributed to research published in mainstream

journals in evaluation in comparison to non-mainstream journals has motivated a long-standing debate. In Latin America, which serves as the geographical focus of this article, it is often assumed that non-mainstream journals do not have satisfactory editorial standards and scientific impact, which render them unsuitable for publication of quality research (Arvanitis and Gaillac, 1992; Vessuri, 1995; Meneghini and Packer, 2007; Aguado-López et al., 2014). An influential blogger, for instance, has called them 'publication favelas' (Beall, 2015). However, some scholars have argued that non-mainstream journals offer a valuable communications channel for research that is neglected in mainstream journals (see debates between Velho and Krige, 1984 and Moravcsik, 1987; Spinak, 1996 and Garfield 1997; Beall, 2015 and Scielo, 2015). The relevance of this debate to research policy is that it reveals a potential underestimation of the knowledge contained in non-mainstream journals by conventional research assessments and agendas (Bianco et al., 2016). We address such a concern by examining the role of non-mainstream journals in scientific communication in the light of

* Corresponding author.

E-mail addresses: dchavarro@gmail.com (D. Chavarro), p.tang@sussex.ac.uk (P. Tang), i.rafols@ingenio.upv.es (I. Ràfols).¹ We recognise that some journals indexed by WoS and Scopus might be less mainstream than others, but given the stronger effects on evaluation for those not-indexed, here we take a dichotomous definition based on indexation.<http://dx.doi.org/10.1016/j.resp.2017.08.002>

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an increasing policy support to publishing in mainstream journals (Vessuri et al., 2014).

This article investigates the motivations of researchers to publish in non-mainstream journals and the functions of these journals in scientific communication. We obtained main insights from in-depth interviews with 30 Colombian researchers from agricultural sciences, business and management (B & M), and chemistry. Colombia is an interesting case because it exhibits both a trend of an increasing number of articles in mainstream journals and an important production of nationally edited journals. Our work contributes to existing research on scientific communication systems by identifying three functions fulfilled by non-mainstream journals: training, knowledge bridging, and knowledge gap-filling. These functions provide a richer understanding of the role of non-mainstream journals in a global environment that demands policy support of more relevant and responsible research (Bortagaray and Ordóñez-Matamoros, 2012).

2. Reasons to publish and journal functions

Journals are the communication channels for peer-reviewed publications produced by specific research communities. Within each community, the certification of knowledge is done by recognised members who judge the soundness of contributions according to criteria that conform to the norm of universalism (Merton 1973b, pp. 270–272). Universalism is the appraisal of contributions based on objective scientific standards, for instance, compliance with methods accepted in a discipline and derivation of robust conclusions from the findings (Polanyi, 2000, pp. 5–6). This implies that particular characteristics of the person who produces the knowledge, such as their nationality, language, or professional standing, should not influence the appraisal of research (Merton 1973b, pp. 270–272). In this sense, publication of an article in a journal is seen as an objective (thus universal) indicator of its scientific quality within a research field as judged by peers (Zuckerman and Merton, 1971, pp. 66–75). By publishing in journals, researchers contribute to advance knowledge in their field and gain scientific recognition as a reward (Merton, 1973a). Therefore, from the Mertonian sociology of science perspective, the functions of a journal are to serve the communication needs of a scientific community, to certify the quality of contributions and to give scientific recognition to the research community that uses it for publishing.

Research communities are embedded in specific social contexts, for example in geographical, linguistic, and disciplinary contexts, which influence what a research community considers as subjects of interest in their research field and as good scholarship standards (Gläser and Laudel, 2016, Hess, 2016, p. 162). For instance, medical researchers located in South America may have a particular interest in studying tropical diseases, whereas the ‘international’ community (with a majority of North American and European researchers) may be more inclined to have an interest on cancer research (Evans et al., 2014). In addition, some research communities may value contributions to knowledge because of the rigour of their methodology or the novelty of their results (such as in high-energy physics), whereas other communities may value more their potential contribution to perceived societal problems. As journals serve the communication needs of research communities in specific contexts, they are likely to reflect their contextual interests and standards. In particular, editors and peer-reviewers act as gatekeepers who set the direction of their research field and decide who makes part of their community through their authority on publication (Crane, 1967; Myers, 1985).

However, researchers usually belong to more than one community. For instance, lecturers in B & M located in Colombia are part of the Latin American community, but often they form part of the European or North American communities too. Having distinct (though generally overlapping) communities, the question of understanding the functions of journals becomes also a question of understanding the specific community and thus the type of audience that a researcher is

addressing in each publication. Each journal is an entrance, guarded by editors and reviewers, to recognition by a specific community with very specific epistemic and social contexts. For example, Piñeiro and Hicks (2014) showed for Spanish sociology that the most cited articles in WoS and in the Spanish citation database IN-RECS differed radically in their subjects. The authors interpreted this difference as resulting from the different audiences addressed: ‘foreign’ in the case of journals covered by WoS, and ‘domestic’ in the case of journals covered by IN-RECS.

Within a given scientific community, researchers tend to share common views about journal quality. Some journals are perceived as more rigorous or important, and are awarded more prestige than other journals. The existence of a ranking of journals might be plausible within a given research community when publishing is only about communication within the community and for scientific recognition – in a universalistic Mertonian ethos. However, the possibility of rankings of research quality based on objective and purely scientific criteria is not possible when comparing different scientific communities.² This is because scientific disciplines abide by different quality criteria and therefore are incommensurable (Kuhn, 1963). Thus, peer review does not work when peers are not in the same field or from the same research community (Weinberg, 1963, p. 162).

Based on the consideration that journals are communication channels for specific research communities, and that these communities are affected by their social contexts, it is plausible to assume that researchers choose the journals to publish according to the fit between the content and style of the text and the audiences of the journal (Myers, 1985, Bazerman, 1988, p. 4). Hicks (2004) clearly illustrated that in the case of the social sciences and the humanities, the choice is not only between journals (e.g. international vs. national), but also between books and the press, with each communication channel addressing a different audience. Therefore, the choice of a journal by a researcher is not only guided by considerations of knowledge advancement and peer recognition. Our research aims to uncover other motivations for publishing decisions by researchers, which may include activities valued by the specific community, such as addressing some particular societal needs.

In addition to these motivations, a new driver for publication has arisen from the advent of research evaluation systems for managerial purposes. These systems have created notions of performance as measured by expertise external to science, which have decoupled career advancement from traditional peer recognition (Paradeise and Thoenig, 2013). In particular, they have transformed publishing into an indicator of scientific performance that is increasingly important for career advancement (Whitley and Gläser, 2007). Many research evaluation frameworks use journal classifications as proxies for scientific quality, thus creating notions of mainstream and non-mainstream science from them. Therefore, there is a potential misalignment between perceptions of quality by the local research communities, and implementations of quality assessments by evaluation systems. The following section addresses this topic.

3. Research evaluation systems and journal quality

Non-mainstream journals in Latin America have had very low public policy support under the assumption that they publish low quality research (Vessuri, 1995). On many occasions, measures have been implemented to promote publication in ‘top’ journals thus discouraging publication in non-mainstream journals (Vessuri, 1995; Cetto et al., 2010) which are considered by some as ‘adding noise’ to scientific communication (Garfield, 1995). However, these journals have continued to develop in Latin America, which is one of the regions with a

² For example, the Leiden Manifesto for research metrics (Hicks et al., 2015) warns that different fields, local contexts or missions of science cannot be compared using the same bibliometric indicators. To do so, one needs to make strong assumptions on the relative value of contributions or citations across fields.

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