



RESEARCH ARTICLE

# Keeping a close watch on Innovation Studies: Opening the black box of journal editorships

Ana Teresa Santos<sup>1,2</sup>  and Sandro Mendonça<sup>2,3,4</sup> 

<sup>1</sup>Egas Moniz Center for Interdisciplinary Research, Egas Moniz School of Health and Science, Almada, Portugal

<sup>2</sup>Instituto Universitário de Lisboa (ISCTE-IUL), Centro de Estudos Internacionais, Lisbon, Portugal

<sup>3</sup>UECE/REM – ISEG/University of Lisbon, Lisbon, Portugal

<sup>4</sup>SPRU, University of Sussex, Brighton, UK

an open access  journal



Citation: Santos, A. T., & Mendonça, S. (2024). Keeping a close watch on Innovation Studies: Opening the black box of journal editorships. *Quantitative Science Studies*, 5(1), 187–218. [https://doi.org/10.1162/qss\\_a\\_00293](https://doi.org/10.1162/qss_a_00293)

DOI: [https://doi.org/10.1162/qss\\_a\\_00293](https://doi.org/10.1162/qss_a_00293)

Peer Review: [https://www.webofscience.com/api/gateway/wos/peer-review/10.1162/qss\\_a\\_00293](https://www.webofscience.com/api/gateway/wos/peer-review/10.1162/qss_a_00293)

Supporting Information: [https://doi.org/10.1162/qss\\_a\\_00293](https://doi.org/10.1162/qss_a_00293)

Received: 8 January 2022  
Accepted: 16 December 2023

Corresponding Author:  
Ana Teresa Santos  
[atmss@iscte-iul.pt](mailto:atmss@iscte-iul.pt)

Handling Editor:  
Vincent Larivière

Copyright: © 2024 Ana Teresa Santos and Sandro Mendonça. Published under a Creative Commons Attribution 4.0 International (CC BY 4.0) license.



**Keywords:** editorial boards, innovation-oriented journals, interlocking editorships

## ABSTRACT

Editors are journals' entrepreneurs, managers, and stewards. They have the duty of holding high standards of scholarly quality in terms of end product (articles) and due process (adequate peer-review procedures). Given the importance of journals in the contemporary science "ecosystem," editors emerge as decisive power brokers. Elite board members are scrutinizers but, paradoxically, they are themselves seldom subject to systematic study. This paper presents a comprehensive portrait of the editorship phenomenon in Innovation Studies by probing the structural features of the boards of 20 leading innovation-oriented journals as of 2019 and conducting an editor survey. We account for 2,440 individual editors in 3,005 different roles based in 53 countries. We uncover the overwhelming dominance of U.S.-affiliated editors and the contrasting rare presence of scholars from the Global South. The gender balance tilts toward men, with a weight above 60%. Enhanced journal achievement is associated with editors on multiple boards, diverse national representation, and increased women on boards. Almost 20% of scholars serve on multiple boards, and no single journal is free from this interlocking editorship phenomenon. The journal *Research Policy* is the most central in the cross-board network, followed by *Industrial and Corporate Change*. Finally, the implications of editorometrics for journal governance are discussed.

## 1. INTRODUCTION

Academic serials (especially peer-reviewed journals) play an essential role in the research system as the main channel for spreading new knowledge (Braun, 2004; Hames, 2001; Liwei & Chunlin, 2015; Willett, 2013). As an autonomous institution, a journal is contingent on good editorial governance, usually defined by the integrity and independence of stewardship (Rynes, 2006). Elite journal board members, as "gatekeepers of knowledge" (Goyanes & de-Marcos, 2020, p. 791), "occupy key roles as opinion formers, gatekeepers and arbiters of disciplinary values" (Burgess & Shaw, 2010, p. 629). They act as mediators and influencers of academic discourse, effectively acting as power brokers affecting the distribution of resources (journal space, audience attention) and exerting influence (explicitly or implicitly) on the rate and direction of scientific progress (Wang, 2018). While directing the policies and positioning of journals and choosing reviewers and having the last word on what gets published, editorship holders shape the discipline and the community (Faria, 2005; Zsindely,

Schubert, & Braun, 1982). This paper approaches journals from an editorial board (EB) angle and brings this perspective to the field of Innovation Studies.

Although some debate about journal governance has taken place in a few research fields, little is still known about board composition and the environment surrounding the editorial process (Bedeian, Van Fleet, & Hyman, 2009; Horan, Weber et al., 1993; Miner, 2003; Ozbilgin, 2004; Van Fleet, Ray et al., 2006). For instance, Harzing and Metz (2012) suggested editorial membership clusters around the founding nationalities, highlighting the dominance of EB members from the United States, with the United Kingdom coming a distant second, as many others noticed (Braun & Dióspatonyi, 2005; García-Carpintero, Granadino, & Plaza, 2010). Furthermore, female underrepresentation on journal EBs has also been reported for fields such as information systems (Cabanac, 2012), medicine (Amrein, Langmann et al., 2011), management (Burgess & Shaw, 2010), psychology and neurosciences (Palser, Lazerwitz, & Fotopoulou, 2022), pediatric cardiology (Elisabeth, Burkhardt, & Jost, 2022) and anesthesiology journals (McMullen, Kraus et al., 2022). In addition, many of these and other sociodemographic characteristics have been related to the success that journals are able to achieve in terms of the number of citations received (Harzing & Metz, 2011; Metz & Harzing, 2009). Moreover, institutional and geographic correlates of journals' scholarly impact have also been explored (Wu, Lu et al., 2020).

Despite the large literature on Innovation Studies in recent years, to the best of our knowledge, little has been written on the community of scholars acting as gatekeepers of the field (Santos & Mendonça, 2022). Most of the extant research falls into a couple of major categories: qualitative work of a historical orientation (Fagerberg, Martin, & Andersen, 2013) or ethnographic bent (Sharif, 2006), and quantitative ventures into the bibliometric profile of founding researchers (Fagerberg, Fosaas et al., 2011; Meyer, Pereira et al., 2004), existing groups and networks (Fagerberg, Fosaas, & Sappasert, 2012; Fagerberg & Verspagen, 2009), and prevailing concepts and research streams (Rakas & Hain, 2019; Rossetto, Bernardes et al., 2018). We wonder how the interdisciplinary nature of Innovation Studies may impact on the editorship patterns within the field. In this work, we stretch this reflexive work on the knowledge base of Innovation Studies by leveraging the available, but limited, methodological understanding concerning journal EBs.

We do this by investigating the EB composition of the 20 foremost innovation-oriented outlets identified by Fagerberg et al. (2012). For this sample, we compiled the names of a total population of 2,440 individual scholars and built a complete editorship data set comprising 3,005 editorial memberships from original, exhaustive, and triangulated search work. The contribution of this paper is threefold: First, we produce a collection of new descriptive statistics on previously unacknowledged editorial characteristic features; second, we establish links between editorship characteristics and journal achievement metrics; and third, we unveil the social structures of board memberships in Innovation Studies. By doing so, we extend the analysis of Innovation Studies to include an "editometrics" perspective and discuss the governance of journals as academic institutions. We are aware that the interdisciplinary nature of Innovation Studies may have a significant impact on the editorship patterns, resulting in more inclusive and collaborative approaches to publishing as editors seek to bridge the gap between specialisms and between theory and practice by encouraging submissions from practitioners and policymakers (Fagerberg et al., 2013).

The paper is organized as follows. Section 2 discusses the interest in Innovation Studies. Section 3 argues about the need to consider the editorship approach as part of the scientometric enterprise, and the data collection, cleaning, and consolidation procedures. Section 4

presents the basic characteristic features of the editorial crowd steering the top innovation journals. Section 5 explores key patterns linking editorial features to journals' metrics. Section 6 shows how networks of journal and countries' editors are structured. The paper closes with concluding notes and some prospects for further research.

## 2. INNOVATION STUDIES (RE)REVISITED

From the 1960s onwards, modern Innovation Studies emerged from different disciplines, mainly economics (Nelson, 1962), management (Burns & Stalker, 1961), and sociology (Rogers, 1962). Its hallmark has been understanding the exploration, exploitation, and structural change effects of new knowledge.

Broadly capitalizing on the early insights of Joseph Schumpeter, who moved across subjects such as entrepreneurship and structural change in historical time, the field expanded into a plural research program and a global research community in the coming decades. By the 1970s and 1980s, the field had moved beyond economics as a dominant perspective (it had acquired a definite interdisciplinary hallmark), beyond its pioneering U.K. and U.S. teaching and research institutions (to encompass continental Europe, Latin America, and the emerging Asian Tigers), and beyond strictly academic circles (to impact the OECD, for instance) (Fagerberg, 2018, p. xii; Nelson, 2012, p. 38). By the 1990s, a number of journals had grown around the field (e.g., *Research Policy*, *Industrial and Corporate Change*, *Journal of Evolutionary Economics*) and the first textbooks became available (Freeman & Soete, 1997; Tidd, Bessant, & Pavitt, 1999). By the 2000s, a number of initiatives began taking stock of the lessons learned so far, with new reference handbooks being published (Fagerberg & Godinho, 2004; Hanusch & Pyka, 2007) and the first collections of articles by founding contributors with personal notes about the origins and evolution of the field (Dosi, 2000; Freeman, 2008; Pavitt, 1999). Also, by the 2000s, the first anniversaries of seminal papers appeared in the form of journal special issues/sections (Chesbrough, Birkinshaw, & Teubal, 2006; Dosi, Malerba et al., 2006), which in the 2010s was compounded with books celebrating earlier path-breaking classics in the area of the economics of innovation and evolutionary change (Lerner & Stern, 2013; Nelson, Dosi et al., 2018).

As with any other field, consolidation work in Innovation Studies partially takes the form of review papers. Generalization-seeking formal reviews of Innovation Studies have appeared every so often, with at least the periodicity of once in a decade, and such works have been mainly of an interpretative kind (Castellacci, Grodal et al., 2005; Dosi, 1988; Gopalakrishnan & Damanpour, 1997; Martin, 2016b). However, at the turn of the 2000s, as academic work on Innovation Studies was becoming more reflexive (i.e., providing integrative accounts of research progress), review articles became more quantitative. Leading examples were two works evaluating the impact of Keith Pavitt and reconstituting his intellectual environment: Meyer et al. (2004), who followed his career through a citation analysis, and Verspagen and Werker (2004), who collected evidence concerning relations among innovation scholars through an online questionnaire. Later in the decade, a first integrated picture of this community of scholars emerged: Fagerberg and Verspagen (2009) combined a thorough literature-based and web-based survey approach to show the vital scientific references of the field (inspiring figures, foundational volumes, etc.) and the structure of collaboration (influential journals, conferences, academic centers, professional associations, etc.). In the 2010s, the trend toward scientometric syntheses of this expansive research area gained momentum. A special issue in *Research Policy* (Fagerberg et al., 2012) adopted a particular methodology to identify the core literature in science, technology, entrepreneurship, and Innovation Studies:

an analysis of the references of authoritative handbooks. Other papers followed, providing journal-based bibliometric appraisals as a strategy to rein in the large literature and producing analytic storylines regarding the state of the field (Kotsemir, Abroskin, & Meissner, 2013; Kovács, van Looy & Cassiman, 2015; Merigó, Cancino et al., 2016; Rossetto et al., 2018; Teixeira, 2014).

Hence, there is an ongoing process of summarizing and interpreting the evolutionary journey of Innovation Studies. These efforts illustrate how a field develops while being reshaped through self-reflection, redefinition, repositioning, and reorientation (Castaldi & Mendonça, 2022; Dosi & Nuvolari, 2020; Fagerberg, 2018; Louçã, 2021; Nelson, 2020; Winter, 2014). As a result, the agenda is continually evolving, accumulating insights, and expanding significantly. As knowledge on the nature and dynamics advances, it becomes more widespread and interdisciplinary (Fagerberg & Godinho, 2004). Keeping true to its origins, the pluralism of perspectives has long been recognized as a feature of the field (Fagerberg et al., 2013). Moreover, the existing literature known as Innovation Studies is focused on innovation phenomena in a way that is also substantively oriented to concerns related to decision-making at the managerial and policy levels (Caraça, Lundvall, & Mendonça, 2009; see also Jugend, Fiorini et al., 2020; Wu & Mei, 2022). This pattern translates into the set of journals that works as the fleet carrying this literature forward; the process unfolds as different journals act as vehicles reaching a variegated audience with different needs, ranging from scientific agendas to more strategically applied outlooks (Fagerberg et al., 2012).

As we have seen, retrospective quantitative exercises such as statistical surveys and bibliographic evidence have recently contributed to a new phase of scholarly sense-making in this field. The scope for innovation-oriented scientometrics can nonetheless be expanded. Our approach takes a deeper look into publication channels devoted to the field. The perspective we take is aimed at illuminating membership at the top decision-making echelons of journals and the communities that support them (Eu-SPRI conference, DRUID conference, Schumpeter Society conference). Indeed, in Innovation Studies, where thematic diversity and cross-disciplinarity are so acute, little other common cognitive ground currently exists reaching the entire field besides journal platforms (Fagerberg & Verspagen, 2009). We analyze the characteristics and affiliation of editors: the prominent participants acting as curators of the field's communication system and as catalysts of the very research enterprise. Their role is of prime influence, and their profile matters.

### 3. EDITORSHIP DATA

#### 3.1. The Editometrics Approach

Journals are integral to the landscape of contemporary research and frame academic activities. Only recently, however, have they been incorporated in the systematic study of science. In scientometrics, this agenda has been implemented in the analysis of the governing structures of journals: EBs. The quantitative approach to editing patterns can be referred to as *editometrics* (Mendonça, Pereira, & Ferreira, 2018; see Nishikawa-Pacher, Heck, & Schoch, 2023). The main purpose of EBs is to foster the quality of published articles (Cabanac, 2012), but in turn it can be shown that the scientific impact of EB members influences the perceived worth of a journal (Krishnan & Bricker, 2004; Mazov & Gureyev, 2021). In principle, this approach could be used as a partial, complementary indicator of the knowledge base and organizational setup of a given academic area.

In their pioneering quantitative assessment, Zsindely et al. (1982, p. 58) noted the stratified organization of research communities and considered participation in such structures as representing “a distinctive recognition of the scientific work of the invitee.” Indeed, publishers and scholars have an interest in having talented and prestigious scholars in these strategic places (Baccini & Barabesi, 2010; Bakker & Rigter, 1985). Miniaci and Pezzoni (2015) found that the quantity and quality of research, a doctorate from a reputed university, and career length, but also social connections, are factors at play in editor selection. Individual editors’ prime role consists of determining what gets approved for publication (Bedeian et al., 2009) and in steering the research priorities of their field by, for instance, approving or promoting certain special issues or special sections (Bedeian et al., 2009). Moreover, they have the responsibility of authenticating the knowledge that enters the archives of science while keeping unethical author and reviewer behavior at bay (Hall & Martin, 2019). Thus, editors indirectly impact the scientific labor market through the mediation of the peer-review process (Petersen, Hattke, & Vogel, 2017). However, the burgeoning diversity of topics and the increasing specialization within fields places a cognitive burden on editors, suggesting that they may be under strain to remain at the forefront and to be acquainted with the key experts so as to ensure that the appropriate reviewers are selected (Biagioli, Kenney et al., 2019). As such, empirical information on editorial capabilities and context has substantive potential for tackling several issues of relevance to scientometrics and science policy (Chan, Fung, & Lai, 2005; Mazov & Gureyev, 2016; Oliveira & Silva, 2021; Nishikawa-Pacher et al., 2023).

A number of contributions have increasingly explored scientific eminence, institutional representation, international diversity, sociodemographic factors, and network relationships using these empirical sources (Morton & Sonnad, 2007; Wilkes & Kravitz, 1995). However, it remains a fact that editorial practices and journal governance are not directly observable through editorship characteristics (Baccini & Barabesi, 2014; Mendonça et al., 2018; Resnik & Elmore, 2016), and neither is publisher influence on the board composition (for a rare account see Waltman, Larivière et al. (2020))<sup>1</sup>. Editors as journal managers also feel crushing pressure to improve publication metrics and, thus, are not immune to the risks of academic misconduct (Hall & Martin, 2019). Instances have been reported of EBs developing stratagems of pumping their titles up the rankings, from coercive citations to cross-journal citation cartels (Martin, 2016a), and from journal capture by an editorial clique to the entrepreneurial establishment of pseudo or predatory journals (Biagioli et al., 2019). Editors have a degree of organizational power because the standards, policy, and agenda of the outlet are primarily regulated by them. Editormetrics can contribute to unveiling journal strategy and shed some light on what otherwise remains a rather opaque segment of the academic ecosystem.

### 3.2. Data Collection

We conduct a large-scale study on EB membership characteristics in a relatively young but rather influential research field—*Innovation Studies*. Journal selection follows the top 20 outlets identified by Fagerberg et al. (2012)<sup>2</sup>. We searched for the names of those currently in charge of journals and compiled their observable characteristics. We distinguished between

<sup>1</sup> The limited autonomy in managing the journal’s daily business along with editor appointments by Elsevier motivated the collective resignation of the editorial community of the *Journal of Informetrics*, who moved to launch *Quantitative Science Studies* as an open access journal published by MIT Press.

<sup>2</sup> This list is not necessarily ideal. A number of journals are present that could have only a marginal relation to the “Schumpeterian crowd”, whereas others that are quite popular among the community of innovation scholars are not included (e.g., *Industry and Innovation*). Notwithstanding, the pertinence of the titles is confirmed by other studies (e.g., Cancino, Merigo, & Palacios-Marqués, 2015; Kotsemir et al., 2013).

“editorships” (positions) and “editors” (individuals), because a given academic can be a member of several journals (a “serial” or “super” editor) and even have more than one editorial role in a given board.

Scholars’ names were retrieved from the journals’ editorial lists on the official websites in January 2019. Complementary information, such as affiliation and gender, was assembled on the basis of personal webpages and professional social networks such as LinkedIn and Google Scholar. Where details were missing, reassurance was obtained by consulting biographies available in various institutional and professional social media information spaces. When missing, for instance, first names were added by searching these sources. All editors’ gender was ascribed based on their given names by using GenderChecker.com. For 29 EB members (1.2% of the total population) no information about the institution or country of residence was ascertained, so they did not count for geographical statistics. When the same name and surname were found multiple times, the editor was considered the same person.

The notion of editor adopted in this paper is very empirical, broad, and agnostic. It includes all individuals who figure on journal lists, irrespective of the labels assigned to them, such as editor, coeditor, and, advisor. No details are available regarding actual duties, time commitments, and current responsibilities<sup>3</sup>. The data come at face value and no particulars are usually given: date of appointment, duration of mandate (if any), selection mechanism, the content of duties, division of labor within the EB (i.e., does a hierarchy exist?) or with outside entities (the publisher, the professional association, etc.).

Hence, editorial evidence is ridden with difficulties. Kocher and Sutter (2001) point to the possibility of incompleteness in the editors’ lists and the possible inclusion of secretarial and administrative helpers. There are, moreover, practical constraints of varying data display and the fact that EB composition is not readily retrievable from any scientometric data set (Miniaci & Pezzoni, 2015, p. 7; see Nishikawa-Pacher et al., 2023). Nonstandardization is, therefore, a drawback, implying a less than perfect quality of data. Additionally, terminological proliferation on editorial webpages suggests dissimilar internal (but also rather opaque) organizational schemes among the journals.

The database was built by making choices, dealing with ambiguities, and combining information from multiple sources. A total of 3,005 available editorial seats were recorded; these were occupied by 2,440 distinct persons from 53 countries and territories. Other information about the journals was also collected, such as the outlets’ achievement scores (such as the *H*-index; summary descriptors available in Table 1). All data refer to 2019. A great variability of EB size is apparent (from 19 to 399 members). It is also worth mentioning that editorial membership counts are larger than the number of individual editors, as some of them assume more than one position. For these “repeat” names we make the following distinction: *intra* and *inter* journals. Repeat editors in the same journals (*intra*) are reported in our analysis (but in the absence of context this phenomenon is not examined further). Repeat editors in more than two different boards (*inter*) is something identified in the extant literature and will be referred to here as *serial editors*, with the further qualification of *super-editors* for the subset of individuals who appear in three or more EBs.

To improve our understanding about editorial patterns, we dig deeper and attempt to reach out to editors themselves. A sample of editors was selected at random and they were asked to take part in a brief survey questionnaire regarding their individual profiles and editorial duties.

---

<sup>3</sup> For instance, *Organization Studies* and *Cambridge Journal of Economics* reported “Former Editors In Chief” and “Patrons,” respectively, and these were counted too.

**Table 1.** Innovation Studies journals

Short name	Journal	Launch year	Journal <i>H</i> -index*	No. of unique board members	No. of countries editors are affiliated with	No. of EB different duties	Gender balance (% men)
AMJ	<i>Academy of Management Journal</i>	1975	283	328	20	5	72
AMR	<i>Academy of Management Review</i>	1978	242	312	26	5	66
ASQ	<i>Administrative Science Quarterly</i>	1975	165	115	13	5	66
CJE	<i>Cambridge Journal of Economics</i>	1977	74	53	8	4	87
HR	<i>Human Relations</i>	1947	113	99	17	1	66
ICC	<i>Industrial and Corporate Change</i>	1992	95	98	14	8	86
IJTM	<i>International Journal of Technology Management</i>	1986	51	21	12	3	90
JIBS	<i>Journal of International Business Studies</i>	1996	168	275	28	8	66
JMS	<i>Journal of Management Studies</i>	1964	158	280	30	2	80
MS	<i>Management Science</i>	1969	221	399	21	35	81
OSc	<i>Organization Science</i>	1996	211	237	15	4	60
OSt	<i>Organization Studies</i>	1980	130	235	23	6	69
RDM	<i>R&amp;D Management</i>	1970	91	19	11	5	84
RS	<i>Regional Studies</i>	1967	105	37	11	11	76
RP	<i>Research Policy</i>	1971	206	102	27	3	75
SBE	<i>Small Business Economics</i>	1989	108	152	28	4	68
SMJ	<i>Strategic Management Journal</i>	1980	253	50	9	6	76
TASM	<i>Technology Analysis &amp; Strategic Management</i>	1989	60	37	12	3	92
TFSC	<i>Technological Forecasting and Social Change</i>	1970	93	98	23	5	85
Tec	<i>Technovation</i>	1981	111	58	28	12	79
	<i>Mean</i>			150.3	18.8	6.8	78
	<i>Min</i>			19	8	1	60
	<i>Max</i>			399	30	35	92

Source: Own elaboration from journal homepages and Scimago.

\* The *H*-index of a journal represents the minimum number of articles (*H*) that have garnered at least *h* citations from the year of its establishment.

The survey was conducted through a self-reported web-based questionnaire created with Typeform software. The editors' email addresses were obtained from either the journals' websites or recent publications by the editors themselves. In conducting this exercise, with the potential to provide at once a sensitivity analysis and shed light on editorships from a different angle, we anticipated low response rates: These were like to be scholars busy with their own agendas and also busy with managerial responsibilities. Indeed, direct approaches to editors are seldom seen in scientometric literature (rare examples are Davis & Müllner, 2002; Meerpohl, Herrle et al., 2012; Smart, Gaston et al., 2019). Fortunately, in the end, we were able to motivate enough answers to be able to add precious novel systematic evidence for the first time in the field of Innovation Studies.

#### 4. INNOVATION STUDIES EDITORS: THE MAJOR CHARACTERISTIC FEATURES

##### 4.1. The Size Distribution of EBs

The mean size is 150 editors per journal. Seven journals are clearly above this level: They are the U.S.-based, management-oriented, high-impact journals (Figure 1). There is also what seems to be a midsized group (where core innovation journals are located such as RP, ICC, and TFSC) and a smaller group (where the innovation management specialism seems to be concentrated, e.g., TASM, IJTM, RDM). EB size heterogeneity seems to be a common characteristic feature (Dhanani & Jones, 2017; Harzing & Metz, 2013; Kocher & Sutter, 2001).

##### 4.2. Geographies of Editorship

All journals in the sample are plural in terms of countries represented in the EB. Sufficiently large journals tend to encompass more countries; smaller journals less so. Notwithstanding this, some journals do have great internationalization performance in relation to the size of their EBs, such as IJTM, RDM, and Tec.

Figure 2 shows the country and continent distribution of editorships. Taken together, the Global North takes most seats (North America and Europe, 88%) and the same can be said about the Anglosphere (English-speaking countries and territories, 73%), and the least represented are Latin America and Africa. In terms of individuals' countries, the United States is far ahead (47.7%), followed by the United Kingdom (14.9%), with Canada (5.9%), Australia (3.1%), Italy, and The Netherlands (both with 3.0%) coming next. Outside the "West" (Anglosphere and Europe), the best-represented places are Hong Kong, Mainland China,

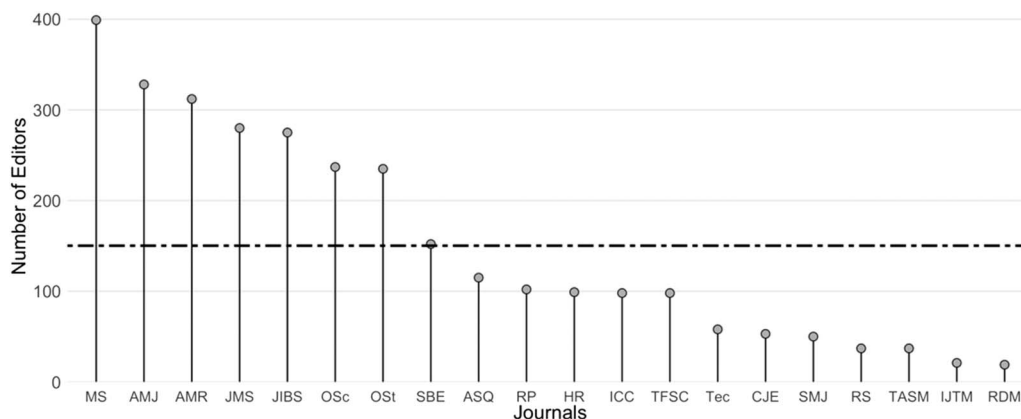


Figure 1. EB size per journal. Dashed line represents the mean.



Figure 2. Location of editorial members.

Japan, Israel, and South Korea (taken together, however, these five players reach little over 4%). Scholars' location could be also described as approximating a Pareto distribution, because 20% of nations' host editors take 85% of the editorial seats.

This uneven landscape is in line with other areas. For 15 scientific disciplines, García-Carpintero et al. (2010) found that 53% of EB members were located in the United States, with 32% coming from Europe as a whole. For 246 economics journals, Wu et al. (2020) confirm the overwhelming primacy of the United States (48.8% of all editors), followed by the United Kingdom (11.2%). Studies of the 30 top economics journals and 16 major finance journals show EB membership to be even more skewed towards the United States (Chan & Fok, 2003; Hodgson & Rothman, 1999). A clear dominance of the United States, United Kingdom, Canada and Australia occurs also for 39 journals in communications and media studies (Ozbilgin, 2004). Saunders (2019), who studied information systems, found 48.5% of EB members to be affiliated with the United States and 13.7% with the United Kingdom, followed by Canada and Australia, suggesting dominance by Anglophone countries. The same happens for 22 human resource management journals, with China and Japan as the only bright spots beyond the northwestern corner of the world (Ozbilgin, 2004). Our data indicate that Innovation Studies journals are not distinguished by their openness or inclusivity norms.

#### 4.3. Institutional Presence

Table 2 lists the top 20 institutions by counting the number of different editorial seats occupied by their staff (a measure of "scale") and by the number of different journals in which they have a role ("scope"). The 14 highest ranked institutions in terms of sheer numbers of editorial positions occupied belong to the United States. However, the dominance of the U.S. universities is less pronounced in terms of the portfolio of different journals reached (nine U.S. and six U.K. universities in the top 20). It seems, therefore, that U.S. editorial leadership is more characterized by depth (i.e., heavily concentrated in some journals and themes) rather than breadth (i.e., spread across a wide array of journals and specializations).

Not all affiliations are universities or research institutions. In addition, a small number of other entities (31) were found, such as firms (e.g., Uber, DaimlerChrysler, IGS Group, Hong Kong international Management Consulting Company, Public Policy Forecasting Inc., Saint-Gobain

**Table 2.** Scale and scope of institutional presence in EBs, top 20

Institution	Country	Quantity of editorships	Institution	Country	Number of boards
University of California	U.S.	50	Harvard University	U.S.	12
University of Pennsylvania	U.S.	49	University of Manchester	U.K.	12
New York University	U.S.	37	HEC Montreal	CA	10
Harvard University	U.S.	36	London School of Economics	U.K.	10
Cornell University	U.S.	34	University of California	U.S.	9
Stanford University	U.S.	34	New York University	U.S.	9
University of Michigan	U.S.	33	Copenhagen Business School	DK	9
Copenhagen Business School	DK	31	University of Toronto	CA	9
INSEAD	WO	30	Bocconi University	IT	9
University of Southern California	U.S.	30	London Business School	U.K.	9
University of Toronto	CA	29	Imperial College London	U.K.	9
Bocconi University	IT	28	University of Cambridge	U.K.	9
London Business School	U.K.	28	University of Warwick	U.K.	9
Arizona State University	U.S.	26	Stanford University	U.S.	8
Massachusetts Institute of Technology	U.S.	26	University of Michigan	U.S.	8
University of Texas at Dallas	U.S.	24	University of Southern California	U.S.	8
University of Washington	U.S.	24	Arizona State University	U.S.	8
Duke University	U.S.	23	University of Texas at Dallas	U.S.	8
Erasmus University Rotterdam	NL	23	University of Maryland	U.S.	8
University of Maryland	U.S.	22	National University of Singapore	SG	8

Note: "Quantity of editorships" gives the total number of editorial seats taken by staff affiliated to each institution, which includes the possibility of an individual having more than one editorial role. "Number of boards" gives the count of distinct journal boards in which an institution is represented; "WO" refer to "World" when the country of residence is not ascertained.

Group, Growth Dynamics, Infosys Technologies, AT&T Information Systems), international organizations and comparable institutions (the European Commission, European Management Association, Center for Global R&D and Innovation, European Management Association, OECD, SMS Executive Office in Chicago, Economic Commission for Latin America and the Caribbean, African Development Bank, the United Nations Conference on Trade and Development, and the Inter-American Development Bank), Foundations and Think Tanks (Fundação Getúlio Vargas, Fundação de Amparo à Pesquisa do Estado de São Paulo, Kuwait Foundation for the Advancement of Sciences), and others from the civil society and government (Council of Great Lakes Industries, Swedish Entrepreneurship Forum, Federal Government of Brazil, Embassy of Mexico in South Africa, and European Commission Joint Research Centre).

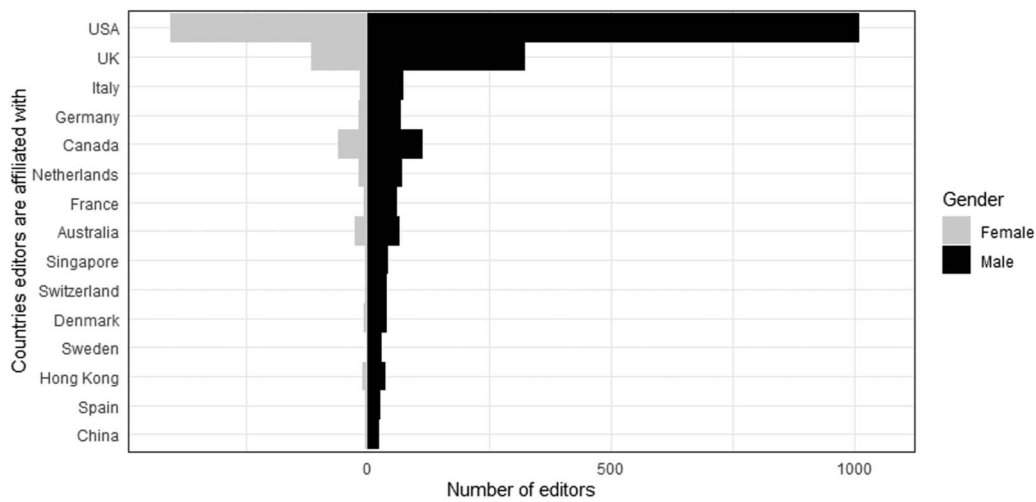


Figure 3. Number of editors affiliated to the 15 countries hosting more editors, by gender.

#### 4.4. Gender Balance

Women are a minority in editorial responsibilities (26.9%) and a considerable number of countries do not have any female editorship (15 out of 53, or 28.3% of the countries). A total of 25 countries have more male than female editors; the countries for which men are not the majority tend to have a smaller number of editors; only six<sup>4</sup> countries have more women than men, and only marginally so. Figure 3 shows a breakdown along gender lines for the largest 15 countries and illustrates a highly significant correlation. This pattern means that countries such as the United States and the United Kingdom, with the largest numbers of editorships, have the largest female presence. Despite having more men than women, the editorial footprint of North America and Europe combined is more notable for the female (89.1%) than for the male gender (88.8%). The average proportion of editorial seats held by women is 24% (journals such as *Regional Studies* and *Strategic Management Journal* are situated here), and the US-based *Organization Science* is the most balanced with 40%; the U.K.-based *Technological Analysis and Strategic Management* is at the other end of the spectrum with 8%.

Gender balance in EBs attracts interest from numerous authors and has been studied in different areas (Harris, Banerjee et al., 2019; Sama, Griffin et al., 2020). Topaz and Sen (2016) found a smaller presence of women editorships (8.9%) on boards from mathematical sciences.

Similar to our results, Mendonça et al. (2018) identified 28% of female editors among five leading journals on sub-Saharan Africa studies. In educational psychology, Robinson, McKay et al. (1998) found only 11% of female editors and 43% female editorial board members. Later, Greenbaum, Goodsir et al. (2018) updated these figures and contrasted the 60% of female editors and 47% of EB members with those registered in the past. Thus, there is still a significant gap in female representation and, although women are entering EBs, Metz and Harzing (2009) showed that the imbalance is decreasing (for the area of management and business) but only very slowly.

Thus, the overall picture is that EBs in Innovation Studies do not have a history of gender parity, something that reflects the broader patterns observed where science, technology, engineering, and mathematics (STEM) careers are concerned (Lerchenmueller & Sorenson, 2018).

<sup>4</sup> The six countries are: Austria, Finland, Greece, Israel, Taiwan, and Thailand.

4.5. Editorial Job Titles and Duties

The internal modus operandi of an EB is not commonly described in general, this also being the case here. Brinn and Jones (2008) explained that editors typically serve in one of three prominent roles: the editor-in-chief, who is responsible for overseeing the editorial process and policies across the journal; the managing editor, who monitors the workflow of manuscript submission and final publication details; and the associate editors, who are responsible for receiving manuscripts, allocating reviewers, evaluating the reviews, and making recommendations for or against publication.

Among different journals, substantial variability of role labeling was found. For instance, there are journals with only one title for all editors, such as HR where everyone is “editor,” whereas MS exhibited 35 different titles. According to the titles assigned, different internal organizations can notionally be inferred: Some journals can have more sophisticated organizational setups and more defined internal structures, sometimes including regional specialization, than others. Table 3 provides the summary of the editorial duties, organized by us in broad descriptors.

Table 3. Editorial labeling in journals

Role family	Role titles found
Associate Editor	Associate Editor, Associate Editors.
Book Review Editor	Book Review Editor, Book Review Editors.
Copy Editor	Copy Editor, Copy/Production Editor.
Editor-in-Chief	Editors-in-Chief, Editor-in-Chief, Editor in Chief, Editor-In-Chief, Editor, Managing Editor.
Editor	Editor, Editors, Co-Editors, Members, Editorial Board, Editorial Board Members, Editorial Review Board, Editorial Advisory Board.
Advisory Editors	Advisory Board, Advisory Editors.
Senior Editor	Senior Managing Editor/Licensing Services Manager, Senior Managing Editor.
Regional Editor	Regional Editor, Continental Europe Editor, North America Editor, United Kingdom And Scandinavia Editor, Regional Editor China, Urban and Regional Horizons Editor, Regional Editor Far and Middle East.
Region Editorial Manager	Region Editorial Manager, Continental Europe Editorial Manager, United Kingdom And Scandinavia Editorial Manager.
Area Editor	Area Editor, Big Data Analytics Editor, Accounting Editor, Business Strategy Editor, Decision Analysis Editor, Entrepreneurship and Innovation Editor, Finance Editor, Healthcare Management Editor, Information Systems Editor, Marketing Editor, Operations Management Editor, Optimization Editor, Organizations Editor, Revenue Management and Market Analytics Editor, Stochastic Models and Simulation Editor.
Area Associate Editor	Area Associate Editor, Accounting Associate Editor, Business Strategy Associate Editor, Decision Analysis Associate Editor, Entrepreneurship and Innovation Associate Editor, Finance Associate Editor, Healthcare Management Associate Editor, Information Systems Associate Editor, Marketing Associate Editor, Operations Management Associate Editor, Optimization Associate Editor, Organizations Associate Editor, Big Data Analytics Associate Editor, Revenue Management and Market Analytics Associate Editor, Stochastic Models and Simulation Associate Editor.
Special Topics	Commercializations, Emerging Economies, IT and National Policy, Marketing and New Product Development, Strategy and Innovation, Sustainable Development Innovation, Technological Entrepreneurship, Technology Management in Industry.
Patrons	Founding Editor, Founding Editor and Editor-in-Chief 1969–2010, Patrons, Former Editors-in-Chief.

Downloaded from [http://direct.mit.edu/gss/article-pdf/5/1/187/2373957/gss\\_a\\_00293.pdf](http://direct.mit.edu/gss/article-pdf/5/1/187/2373957/gss_a_00293.pdf) by guest on 07 April 2026

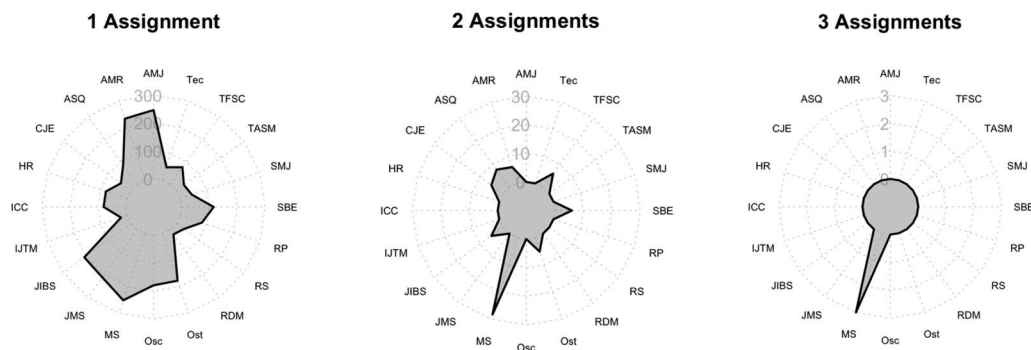


Figure 4. Number of editors with one or multiple duties in the same journal.

We found 44 scholars undertaking multiple duties for the same journal, something that (remarkably) seems not to have been pointed out in the literature so far (see, e.g., Baccini, Barabesi et al., 2020; Ni, Sugimoto, & Cronin, 2012). In addition, we observed 41 editors having two simultaneous appointments and three editors with three appointments. This phenomenon happens in eight journals (AMR, ASQ, CJE, JIBS, MS, OSt, SBE, and TFSC) and no rationale for it is offered. Figure 4 displays the journal distributions of editors with one, two, and three editorship duties within the same journal.

#### 4.6. Shared Editors, Inter-journals

The database comprises 3,005 memberships and includes 91 seats occupied in the same journal by the same people; this we will disregard for the remainder of this paper. Hence, the individuals in our database occupy 2,958 editorial positions in one or more journals. Out of the 2,440 editors, 448 (18.4%) can be classified as serial editors because they appear multiple times across different journals. On average, each editor holds 1.2 editorial positions. These serial editors are spread over all of the 20 journals, (i.e., every journal has at least one editor of this type). The majority of serial editors (324, or 72.3%) are present in two EBs, and the others are present in more (we call them *super-editors* for simplicity): 73 are in three journals, 12 in four, and three are in five. Amid serial and super-editors, we found 120 men and 21 women respectively. Serial editors come mostly from the United States (212) and the United Kingdom (68), meaning that these countries exhibit a great proportion of serial editors in their total stock of editors: 18.7% and 18.8%, respectively. When compared to the nonsuper-editor data (see Section 4.2), it is possible to see that the dominance of U.S. editors decreases when only super-editors are evaluated, whereas the U.K. dominance increases somewhat. It should also be noted that their reach is extensive: U.S. and U.K. serial editors are spread across 16 and 18 different journals, respectively. Super-editors also come mostly from the United States (49) and the United Kingdom (11). The extreme situation of a single individual occupying five editorships is exclusive to these countries: one is American, two are British. The US and UK-based editors are thus serious accumulators of editorial powers.

Table 4 shows (left-hand side) that the proportion of serial editors in the journals ranges from 2% (in CJE, the most isolated journal) to 56% (ASQ and SMJ, the most inclusive of networked editors). It also shows (right-hand side) the 30 countries with serial editors and the subset of 18 countries with super-editors.

Evidence for multiple memberships and serial editors has been reported in other fields. For instance, in the accounting field, Brinn and Jones (2008) identified two individuals assuming

**Table 4.** Where serial and super-editors can be found

Journal	Total individual editors	Shared editors	Shared editors (%)	Country	Serial editors*	Super-editors**
AMJ	328	145	44	United States	212	49
AMR	310	149	48	United Kingdom	69	11
ASQ	111	62	56	Canada	33	9
CJE	52	1	2	Italy	18	5
HR	99	26	26	Denmark	12	1
ICC	98	38	39	France	11	2
IJTM	21	2	10	Australia	11	1
JIBS	274	66	24	Germany	7	3
JMS	280	99	35	Netherlands	7	1
MS	365	21	6	Singapore	7	0
OSc	237	117	49	Switzerland	6	3
OSt	234	82	35	Hong Kong	6	2
RDM	19	3	16	China	5	0
RS	37	3	8	Finland	4	0
RP	102	38	37	Sweden, Japan	3	1
SBE	150	14	9	South Korea	3	0
SMJ	50	28	56	Spain	2	2
TASM	37	12	32	Russia, Israel	2	1
TFSC	96	12	13	Taiwan, Austria	2	0
Tec	58	12	21	Peru, New Zealand	1	1
<b>Total</b>	<b>2958</b>	<b>930</b>		Belgium, Brazil, Cyprus, India, Ireland, Norway	1	0

\* 26 serial editors presented different country affiliations for different memberships and their names are found associated with two nations.

\*\* Seven super editors presented different country affiliations for different memberships and their names are found associated with two nations; the presence of serial editors is referred to as shared editors from the point of view of the journals (the terms should be interpreted interchangeably).

editorial duties for six journals simultaneously. Chan and Fok (2003) found three scholars with eight journals, the maximum number of memberships in the field of international business.

## 5. EXPLORING FURTHER PATTERNS ON EDITORIAL BOARDS

### 5.1. The Correlates of EB Diversity

The journals in our sample were founded in the 30 years that span between 1964 and 1996. To explore whether the founding years of journals are associated with any diversity pattern, we generated an analysis that led to Figure 5. No link is found between journal cohorts and geographical diversity (Figure 5A); that is to say, younger journals are no more cosmopolitan than

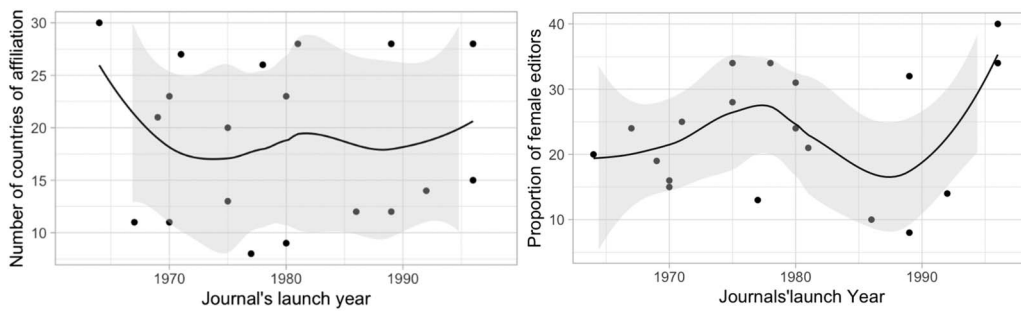


Figure 5. Journals' cohorts and diversity. A: geography; B: gender.

older journals. This pattern seems to corroborate what Shaw, Grimshaw, and Burgess (2016) witnessed for the information systems research field; using a dynamic perspective, geographic diversity remained unchanged over time. Likewise, no clear connections emerge between journal cohort (the pattern is only less linear, Figure 5B); notwithstanding, although the two older journals display little more than 20% female presence, the two younger journals have a little less than 40% of female editors in the EB. Dickersin, Fredman et al. (1998) concluded for epidemiology that newer journals had a higher proportion of female editors on EBs.

We also explored whether there was any association between the board size and diversity, in terms of both geographical dispersion (Figure 6A) and gender parity (Figure 6B). Figure 6A shows that journals with large numbers of editors do not necessarily embrace global compositions; there seems to be a plateau, especially for big journals (EB size above 100), with possibly even a negative relationship for very large journals (EB size above 300). Similar evidence was also compiled by Tutarel (2004) for management journals. Wu et al. (2020) also noticed that the number of editors from different continents was not higher for the largest boards in economics. Figure 6B depicts what seems a pronounced inverted U relationship between EB size and gender representation. This result is consistent with the idea of a “glass ceiling” limiting women’s presence on EBs (Hymowitz & Schelhardt, 1986). This phenomenon is found in different disciplines, such as medicine (Amrein et al., 2011; Hafeez, Waqas et al., 2019) and mathematics (Topaz & Sen, 2016).

### 5.2. Drivers of Journal Achievements

To understand what role sociodemographic characteristics of EBs (geography and gender) might have on journal achievement, we studied the association of both variables with the journals' *H*-index. Figure 7A shows a positive association with geographic diversification.

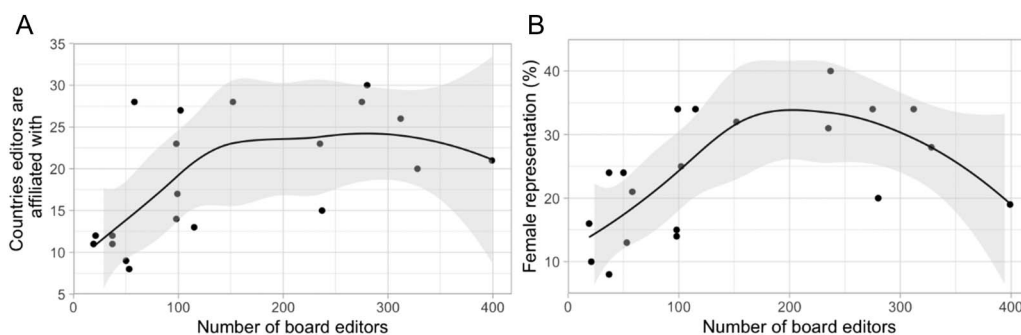


Figure 6. Board size and diversity. A: geographical; B: gender.

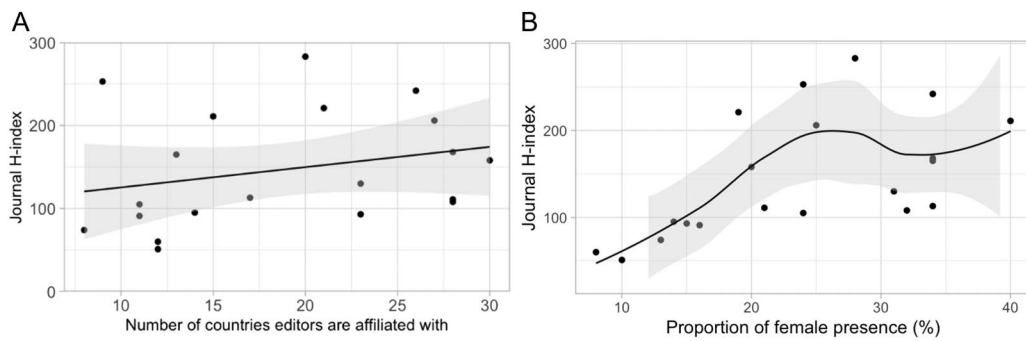


Figure 7. Country representation. A: female presence; B: journal achievement.

Nisonger (2002) also found it in a number of areas including business and political science and argues that a heterogeneous EB's international composition is a marker of higher journal quality in many areas including business and political science. In the economics field, Wu et al. (2020) also found a significant correlation between affiliation diversity and the 5-year impact. Figure 7B finds a mostly positive, although wobbling, relationship between gender representation and impact. For EBs with over 30% of female editors the journal quality is conspicuously not affected. A general positive association was noticed by Metz and Harzing (2009) in the field of management.

A final variable set against journal achievements is highly networked editors: Figure 8 finds an overall positive association. This much was observed by Aguinis, Gottfredson et al. (2012) in the field of management. These authors argued that editors with multiple memberships tend to be more embedded in the science system, its norms, and know-how. For these reasons, high-impact journals compete for experienced scholars and try to hoard reputed editors for their EBs. As Baccini and Barabesi (2010) did, it is also worth noting that when scholars

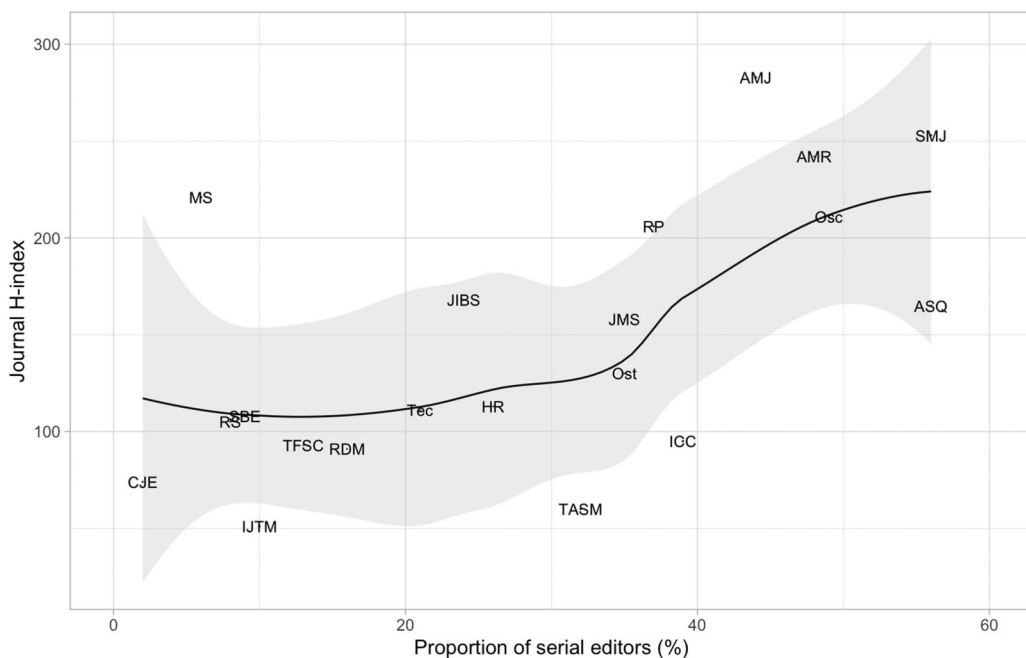


Figure 8. Serial editors and journal achievement.

become members of the EBs of more than one journal there are connections created between the journals in a way that is reminiscent of “interlocking directorates” in the corporate world. These interorganizational ties constitute potentially important conduits of communication and epistemic proximity between the journals. Rather than being a spurious or trivial pattern, economic sociologists see here a central characteristic of modern social structures and explain this phenomenon as the result of strategic decisions and amenable to analysis through network theory (Mizruchi, 1996). The analysis of social networks generated by the presence of shared editors in different journals is one important, albeit still relatively underexplored, way to study the contemporary informal dynamics of science as an institution (Baccini et al., 2020).

## 6. INNOVATION STUDIES EDITORIAL NETWORKS

### 6.1. The Editors: Analyzing the Connections

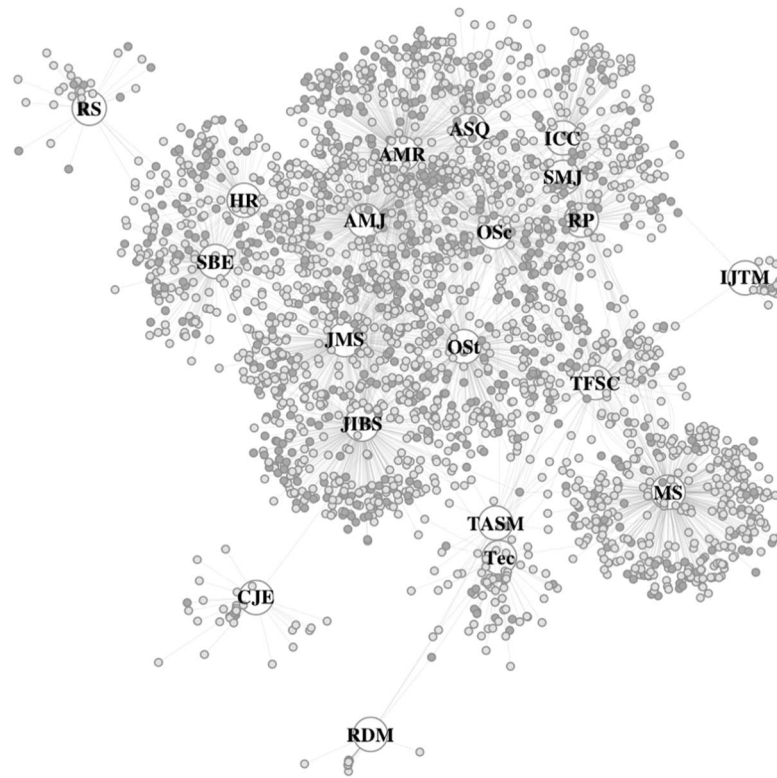
In modern science governance literature, editors demonstrate role legitimacy through high academic standing (publication profile and performance) and further signal their intellectual and social capital through EB affiliations (Vandome, 2013; Wright, 1985). As Powell and Grodal (2006) pointed out in relation to innovative activities, the heterogeneity of team member profiles provides a wide stock of cognitive resources. In this sense, the editorial process is a particular type of knowledge work and bridging activity for sustaining professional communities (Costa & Pestana, 2020). Relational evidence can be captured in a number of ways; for instance, editors not only belong to formal groups (EBs) but as they contact fellow editors in other journals, their cross-cutting connections reveal latent informal network structures that can be studied (Vespignani, 2018). A social network was defined by Wasserman and Faust (1994a, 1994b, p. 20) “as a finite set or sets of actors and the relationship or relationships between them.” Social network analysis (SNA) unpacks structures in terms of nodes (or vertices) and ties (edges).

Figure 9 is a bipartite graph that displays two different groups: the scholars in the database (small light gray dots for women, dark gray for men) and the journals they are attached to (the larger, tagged circles); connections to the journal represent EB memberships. Sharing editors brings journals together and to the center of the picture. By contrast some journals appear more isolated (i.e., their editors tend not to occupy EB seats elsewhere: RS, IJTM, CJE, and RDM). These journals share few members with few other journals: For instance, CJE shares only one scholar with a single journal (JIBS).

If we consider only serial editors, those with multiple editorial jobs within our sample, Figure 10 emerges. Each small dot is a serial editor, and always has more than one link connecting to journals. It is possible to see pairs of journals sharing more editors, depicted as a larger number of linkages flowing to the same editors. Pairs of journals such as AMR and AMJ, JMS and OSt, and RP and ICC have many editors in common.

A giant cluster is evident in the top left corner, comprising U.S. editorial houses such as ASQ, AMJ, AMR, HR, OSc, Ost, and JMS. This dense cluster suggests that a high number of editors are shared between them, which could be geographically explained by the common location of the journals, the United States.

Overall, journals are connected by 627 links to shared editors and the density of the interlocking editorship network (i.e., the ratio of the actual number of connections and the maximum possible number of them in the network) is 41.6%, meaning that only this proportion of possible connections between editors and journals was established. This figure is well above



**Figure 9.** Bipartite graph of the editorial network in Innovation Studies.

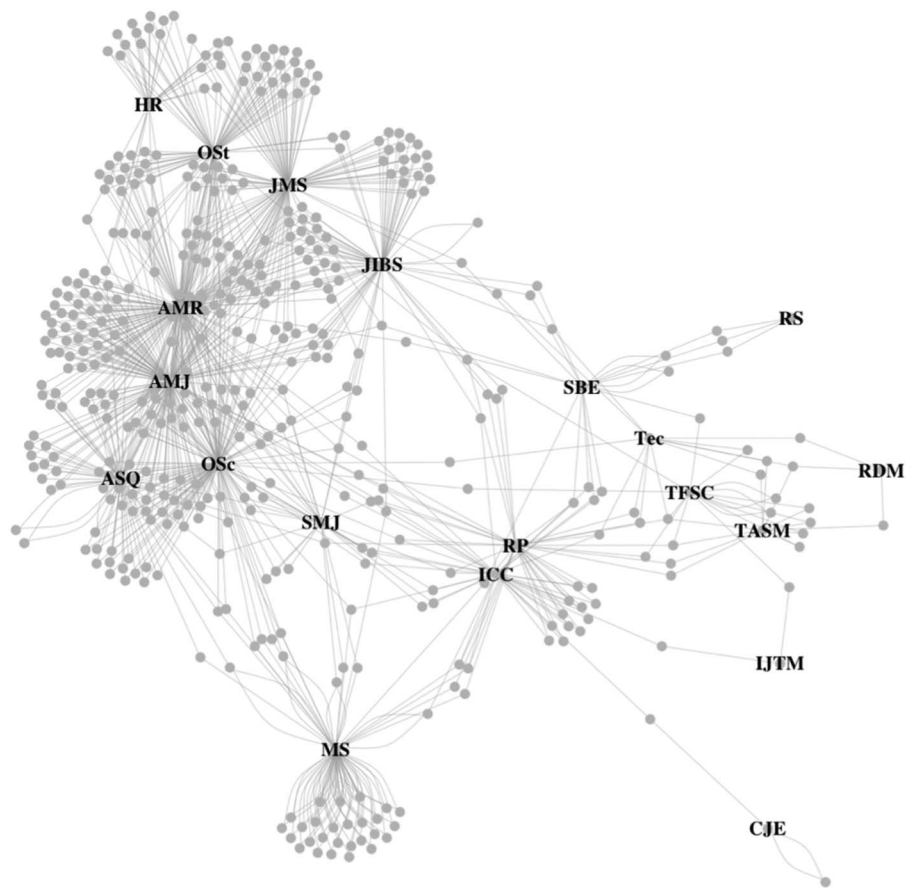
the 14% found by Baccini, Barabesi, and Marcheselli (2009) for statistical journals and the 2.3% determined for an economic outlet set (Baccini & Barabesi, 2010).

### 6.2. The Interlocking Editorship Network: Journal Centrality

A key purpose in SNA is to distinguish between the most central and the peripheral components of a network. In our case, the goal is to perceive the journals in a central position, with greater power or influence. EB networks can be conceptually understood as webs of journals (the large vertices) linked (edges) to the editors (small vertices) they share. The bipartite network was not projected, so that we could keep the network as informative as possible. Centrality reveals the status of an entity in a network and, as suggested by Wasserman and Faust (1994a, 1994b), can be unpacked in three main measures: Degree, Closeness, and Betweenness. A complementary measure, such as PageRank, can be derived from these previous ones (Oldham, Fulcher et al., 2019).

The simplest measure for the centrality of a journal in an editorial cobweb is represented by the overlap among EBs. Degree centrality, hence, is the number of direct edges a journal has to other journals measured by the editors they have in common (Bonacich, 1987; Nieminen, 1973; Shaw, 1954). It measures journals' ability to access, share knowledge or other resources, and, ultimately, influence the wider network. Thus, the more ties a journal has to other journals, the more connected it will be and the more central its position in the network (Borgatti & Foster, 2003; Wasserman & Faust, 1994a).

Closeness is proxied by the distance between a journal and all the other journals. This is computed by the shortest paths between all nodes (Beauchamp, 1965; Sabidussi, 1966). A journal is central in this sense if members in its EBs can quickly interact with all the other



**Figure 10.** Bipartite graph of the editorial network in Innovation Studies, serial editors.

EBs. The more direct and indirect connections a given journal has with others, the stronger the pull it will have in the network. A journal informational potential that passes through multiple other journals to reach any end journal will take longer and be slower than those that interact directly. In other words, the number of editors the message must pass through before reaching its destination represents a cost that rises as the number of editors in the path grows. Thus, journals occupying a central location are best placed to reach the entire network most efficiently.

The idea behind Betweenness is that communication between two nonadjacent journals might depend on other journals in the network, especially on those outlets lying on the paths between the two. The number of times a given node lies on the shortest path between other nodes highlights how it acts as a “bridge” in the network (Freeman, 1979; Hansen, Shneiderman et al., 2020; McKnight, 2014). This proxies for an ability to intermediate information, govern the resource flow, and bring together otherwise disparate parts of the system.

Finally, PageRank can be computed with the algorithm used by Google Search to rank web pages measuring their importance (Page, Brin et al., 1999). Each node in a network is assigned a score based on its number of incoming links (its “indegree”). These links are also weighted depending on the relative score of its originating node. In Table 5, centrality measures are provided for all the outlets in the network to identify the most powerful top tiers in Innovation Studies.

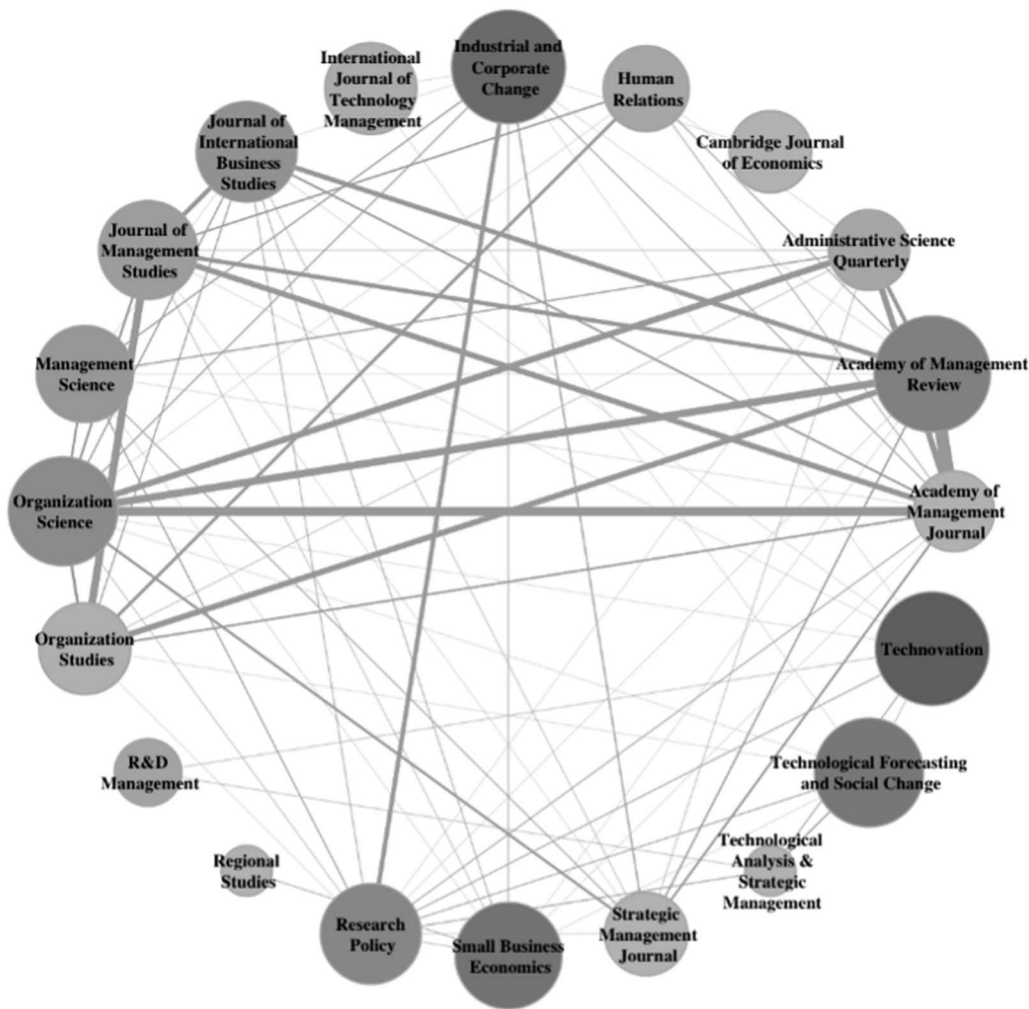
**Table 5.** Journals' centrality measures

Journal	Degree	Closeness	Betweenness	PageRank
AMJ	<b>12</b>	<b>0.037</b>	11.35	0.069
AMR	7	<b>0.037</b>	11.35	0.069
ASQ	9	0.030	2.65	0.053
CJE	1	0.022	0	0.013
HR	6	0.027	0	0.037
ICC	<b>11</b>	<b>0.037</b>	<b>61.02</b>	<b>0.073</b>
IJTM	6	0.024	0.80	0.019
JIBS	<b>11</b>	<b>0.037</b>	9.58	0.064
JMS	10	0.033	12.85	0.059
MS	9	0.033	3.01	0.054
OSc	<b>13</b>	<b>0.038</b>	21.71	<b>0.075</b>
OSt	9	0.031	6.09	0.053
RDM	2	0.021	0	0.020
RS	1	0.021	0	0.013
RP	<b>13</b>	<b>0.040</b>	<b>36.71</b>	<b>0.077</b>
SBE	9	0.033	<b>40.81</b>	0.060
SMJ	9	0.032	2.40	0.053
TASM	4	0.027	6.28	0.033
TFSC	7	0.031	20.72	0.049
Tec	8	0.032	36.69	0.055

Note: The three highest scores in each type of metric are in bold type.

Within the network, RP and OSc come ahead as the outlets with the highest Degree (i.e., with more individual connections to other journals). RP is also shown to be the journal with the highest Closeness to other journals, with OSc as the second again. As with Betweenness, ICC proved to be the most mediating of outlets, with SBE a distant second. Regarding RP and ICC, it should be noted that RP comes third in Betweenness, and also that ICC exhibits the third-highest values for Degree and Closeness (on a par with management journals in each metric). Overall, and as PageRank also shows, these findings consistently underscore RP and ICC as the most central outlets in Innovation Studies.

Figure 11 provides an integrated picture of the network centrality evidence. Edges illustrate the common editors shared between each pair of journals, so wider ones mean a higher number of scholars. The size of nodes illustrates journals' Closeness (i.e., the average shortest distance) to all other outlets. Larger journals are those with the shortest average distance to other outlets, and the smaller ones are those with the largest distance to the others. A gray scale is applied to illustrate the Betweenness centrality measure, where darker colors represent journals linking higher numbers of other nonadjacent outlet pairs.



**Figure 11.** Projection of journals' centrality measures. Nodes are alphabetically ordered. Common editors in each pair of journals are illustrated by the width of the links, where the larger ones illustrate a higher number of scholars. Closeness is represented by the size of nodes, where the larger journals are those with the shortest average distance to other outlets. Betweenness is denoted by a gray scale where darker colors represent journals connecting a higher number of other nonadjacent journal pairs.

The largest nodes are RP and RDM, with the highest closeness scores and shortest average distance to other nodes. Occupying such a position may suggest they are a reference for other outlets. RS and RDM are the smallest nodes connected to the whole network by only one and two editors, respectively. With the highest Betweenness score, ICC is the darkest node responsible for facilitating the communication between innovation-oriented journals. The large number of editors ICC shares with other outlets and its interdisciplinary nature make communication exchange possible between nonadjacent journals. As no journals presented a zero degree, all of them have at least an edge connecting to at least another journal.

All these centrality measures were also applied to the network structure of EBs by Andrikopoulos and Economou (2015) to identify the sources of major influence in Finance. Likewise, Goyanes and de-Marcos (2020) identified the editors, geographic areas, and institutions with the highest centrality in Communication Sciences. Teixeira and Oliveira (2018) mapped the most influential journals in Knowledge Management. Finally, Baccini and Barabesi (2011) also ranked journals in Information and Library Sciences using centrality measures.

### 6.3. Editorial Communities: Country Perspective

Editors share their knowledge on the EBs but also in the countries in which they live. Barabási and Albert (1999) have shown that real networks are not random graphs because they have great heterogeneities, revealing a degree of organization. Considering the editors' countries of affiliation, we applied a multilevel modularity optimization algorithm for finding community structure. Based on modularity (a measure of community presence), we aimed to identify the community structures in the network with dense connections between the nodes within communities but sparse connections between nodes in different communities. Fortunato (2010, p. 76) explained communities as "groups of vertices that probably share common properties and/or play similar roles within the graph." In our study, communities are those countries sharing editors for the same journals.

To reach an optimized modularity, the "Louvain algorithm" was applied (Blondel, Guillaume et al., 2008). With it, each vertex is moved to the community with which it achieves the highest contribution to modularity. When no vertices can be reassigned, each community is considered a vertex on its own, and the process starts again with the merged communities. The process stops when there is only a single vertex left or when the modularity cannot be increased any more in a step. Even though the modularity achieved was 0.05329, a small value indicating the number of connections between the nodes within a community would be a few higher than the connections between nodes in different communities.

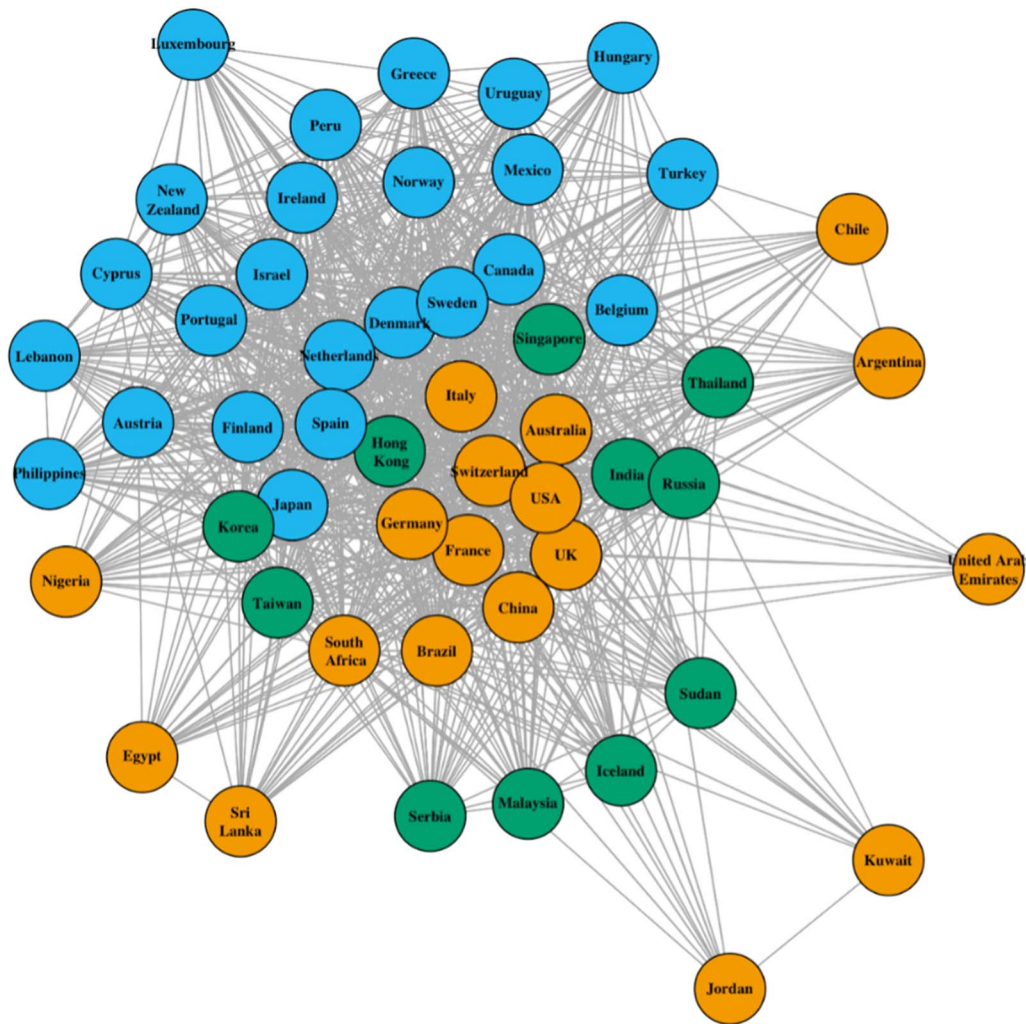
Figure 12 depicts the three communities of countries. The network consists of countries that are connected the copresence of editors on the same EB. The 53 countries are found to be placed in three communities: There is what appears a central group with 18 countries, in yellow, where countries such as the United States and United Kingdom are situated; a large group, in blue, encompassing 24 countries, in which many European countries are found; and a smaller group of 11 countries, in green, where many Asian countries appear.

Running the usual centrality metrics, it emerges that the countries scoring the highest values (for Degree, Betweenness, and Closeness) are indeed in the "yellow" community: United States, United Kingdom, Australia, France, and Switzerland. However, this group includes a few countries with a limited number of editors and low centrality scores, such as Kuwait and Jordan, which have few editors and seem only to appear on EBs whenever the most central nationalities are there.

### 6.4. Complementary Survey Evidence on Editor Profiles

To gain a deeper understanding of the editors' roles in the governance of journals, a survey of editors of the 20 peer-reviewed academic journals was planned. The survey was specifically designed to explore the editors' responsibilities, experience, and training, and was not intended to audit the policies or practices of the journals. A total of 361 individuals were contacted (15%), consisting of 341 randomly selected editors and at least one of the editors-in-chief from the Innovation Studies journals. Due to their busy schedules, a low response rate was anticipated from the outset. Measures were taken to minimize inconveniences: The questionnaire could be completed online and returned anonymously. One reminder was sent (by email).

Of the 361 questionnaires sent out, 111 were viewed, 42 started and 31 responses were returned, giving an effective response rate of 8.6% (31/361). The editors were queried on several aspects, including the number of journals they oversee as editors, the length of time they have served as editors, their primary responsibilities, the number of hours they dedicate to their



**Figure 12.** Communities of countries found among the Innovation Studies editors.

work each week, their methods of learning their job, and various demographic characteristics of the sample, such as age and gender. The actual survey can be read in the Supplementary material to this article. Editors-in-chief answered a different survey, as their answers were considered separately. The results are presented in Table 6.

According to the survey results, the age distribution of general editors and editors-in-chief was similar, although the mean age of editors-in-chief was younger. Additionally, the survey showed that males were more prevalent among general editors. However, among editors-in-chief, a gender balance seems to have been achieved.

Both groups of editors reported working almost the same number of years as editors, although editors-in-chief dedicated more hours per week to their work, despite being engaged in fewer journals simultaneously. In terms of their responsibilities, editors-in-chief have a prominent role in selecting other members. General editors are more focused on ensuring the review process is on time. Both groups showed a similar level of commitment to monitoring the quality of reviews. Finally, 84% of editors reported that they mostly learned their job through on-the-job experience, followed by working with experienced colleagues (48%).

**Table 6.** Results of editors' survey

	<b>Editors (n = 26)</b>	<b>Editors-in-chief (n = 5)</b>	<b>Overall (n = 31)</b>
Age (mean)	59.19 (40–73)	56 (41–71)	58.71 (40–73)
Sex (%)			
Male	88.5	40	81
Female	11.5	40	16
Other	0	20	3
Number of journals working as an editor (mean)	2.4 (1–12)	1.4 (1–2)	2.2 (1–12)
Number of years they have been on the board of any given journal (mean)	17.3 (4–35)	17.2 (8–35)	17.3 (4–35)
Number of hours devoted to editing each week (mean)	9.1 (1–30)	12.0 (2–20)	9.6 (1–30)
Main responsibilities (proportion)			
Choosing other editorial board members	57.7	80	61
Monitor the quality of the reviews prepared	76.9	80	77
Ensuring the review process is completed on time	73.1	60	71
Identifying, investigating, and addressing any ethical violations of conduct in the content sent from authors	50	60	52
Identifying indexes in which the journal should be included	11.5	0	10
Finding ways to promoting the journal	11.5	60	48
Enforcing conflict-of-interest policies for all parties involved in the publication process, including editors, staff, and reviewers	26.9	40	29
To review the journal's mission and scope	61.5	40	58
To suggest special issue topics	26.9	60	32
Preparing reports for the publisher	11.5	20	13
Other	11.5	20	13
How the job was learned (proportion)			
Formal training (e.g., editors workshops)	0	0	0
Learned on the job	84.6	80	84
Learned the role from an experienced editor	50	40	48
Publishers assisted you to learn the role	3.8	0	3
Other	3.8	20	6

The survey findings are consistent with the data collected from 20 journals focused on Innovation Studies. Despite a noticeable male majority in the field worldwide, the gender distribution among editors-in-chief positions is more balanced. However, the survey also reveals that editors may work for more journals than previously identified through network analysis: This

suggests that editors may be associated with journals beyond the sample of 20 initially selected. Finally, there seems to be a “market failure” in terms of editorial training and skill-building—something that is not without policy implications.

## 7. CONCLUSIONS

Editorships are a central feature in modern, journal-based, professional research communication. This paper offers a snapshot of the editorial characteristics and structures in 20 leading Innovation Studies journals. Three empirical goals can justify such a project: to uncover the sociodemographic and geographical-institutional patterns in this field; to highlight characteristic features linking editorial features to journal achievement; and, finally, to provide an outline of the social organization of the editorship communities in this area of research. There are two additional goals: a methodological one, which is stretching the efforts regarding the mapping and measurement of Innovation Studies as a field, and a science policy one, which relates to the implications concerning the governance of journals as academic institutions.

First, editorships in Innovation Studies are heterogeneous. The editorial corps in the journal sample ranges from a few dozen to hundreds. Using a new data set of 2,440 individuals and 3,005 different EB memberships, a few gaps are revealed, namely in terms of gender and geography: This is a male-dominated and Anglo-American-based editorial elite. It is also a concentrated phenomenon, as 20% of the (typically high-income) countries hold 85% of the editorial positions. A lopsided distribution is also apparent from an institutional perspective, as the top 20 universities with more say at the journal table are all located in seven countries from the northern hemisphere: United States, United Kingdom, Italy, Netherlands, Canada, Denmark, and Singapore. This outlook is compounded where editors-in-chief are concerned: Only two countries hold more than two of these positions, namely, the United States and the United Kingdom.

Second, linking the editorship characteristics to the outlets’ broader record also yields a picture of the correlates of scientific standing. The inclusion of editors sitting on multiple boards, more diverse national representation, and a greater proportion of women on EBs seems to be positively associated with journal achievement. The importance of identity factors is likely to be nonlinear; in particular, there is only a certain extent to which gender balance is linked to journal impact metrics. Journal organizational indicators show that neither younger nor larger journals display greater diversity.

Third, the editorial environment is seemingly made of people that interact with each other across journal boundaries, which matters for developing a fuller picture of the forces shaping the course of Innovation Studies. Serial editors are almost 20% of the editors, and thanks to them all the journals are connected, and their collocation on different boards builds up a journal network with properties that are worth analyzing. The conventional centrality measures (Degree, Closeness, Betweenness) reaffirm *Research Policy* as the prime reference in Innovation Studies, with *Industrial and Corporate Change* coming second. An international pattern of coeditorship emerges in which a core community of one-third of the countries stands out, and it is here that we can find those most influential in the sense of network centrality, namely the United States, United Kingdom, Australia, France, and Switzerland.

Our study has a few limitations and leaves open the possibility that some patterns can be better described, revised, and explained. The journal list in Fagerberg et al. (2012) can be made more customized to innovation-oriented journals, as well as being updated. Although we collected valuable information on editorial responsibilities through a survey, conducting interviews with editors in the future would provide additional insights into their recruitment process, job responsibilities, academic background, and training needs.

Innovation Studies is a reflexive field (Morlacchi & Martin, 2009) and proved to be a fruitful object for studying the usefulness of editometrics as a methodology that can add to the stock of knowledge. The interest in editometrics as a complement to bibliometrics has resulted in certain changes so far. Elsevier journals have already reported editors' gender information, and Cell Press has established an "Inclusion & Diversity" statement as a path to parity. *Regional Studies* employed an innovative method for hiring editors with a statement regarding their search for a new editor, and the *Journal of Hazardous Materials* also intended to reward exceptional early-career scholars to encourage them to pursue careers as editors.

The business of editorship has displayed more entrepreneurial traits recently. This editorial activism is related to new strategies in developing novel "product lines" and in "promoting" their content. *Research Policy* occasionally publishes "Discussion papers" on themes that are deemed relevant and the editors commission responses to a leading article in the form of commentaries with different views. *Industrial and Corporate Change* provides a list of "editor's choice" articles and makes them free to read. *Technological Forecasting & Social Change* allows for occasional opinion essays called "From my perspective," which are not standard research papers. *Management Studies* created an "Insights blog" to attract attention to particular pieces of published research, highlighting the practical and societal consequences. *Human Relations* gives the "Paper of the Year Award" to the article that the EB considers best encapsulates broad readership appeal and sound methods. All of these editors' initiatives highlight the importance of understanding the "who's who" in journal gatekeeping processes as a source of information about the structure and strategy of the contemporary research ecosystem.

Given that scholarly journals remain a prime plank of the modern scientific infrastructure it is important to address the need for metrics and evaluation. However, the scope for wider understanding is also warranted because trust in academic institutions is at a premium in an increasingly complex ecosystem of knowledge claims (see Biagioli et al., 2019; Biagioli & Lippman, 2020; Hall & Martin, 2019). This paper encountered, and documented, the proliferation of editorial duty labeling within the same epistemic community: a phenomenon that is underexplained in the literature as far as we are aware. But it also points out something that is rarely described in journals: the relative degree of autonomy among different editors and, in particular, the binding powers yielded by editors-in-chief. Moreover, structural and behavioral accountability is found lacking: The selection of editors is mostly unclear, as are the procedures for appealing decisions. Identifying and lowering the barriers against more representative editorships, holding merit constant, could be an insurance against groupthink (inside the EB) and bias (in journal throughput) while surely being something more aligned with the "Republic of Science" self-image that the academic sectoral system still clings to. If information pertaining to editors, the editorial process, and journal governance appears to be less developed in journals' frontmatter it is nonetheless possible to make more available. For instance, regarding individual editors: their background and expertise, year of enlisting, competing interests, papers managed per year, etc. Regarding the editorial process: publishing a code of editorial conduct, establishing oversight mechanisms for re-appraising cases or issues by another authority in the journal, etc. Regarding journal management provisions: showing the bylaws governing the workings of the journal by pointing out, namely, its internal structure, reporting practices, editor selection and evaluation methodology, etc. Adaptive editorial guidelines and indicators could be specified to assist editors in their roles while helping the prospective author and readers to better navigate the journal content and metadata. It is believed that a better balance between flexibility and structure is possible, that is, enhancing transparency without bringing in unnecessary bureaucracy and excessive audit culture

(Heidari, Babor et al., 2016). Editors themselves seem to have little training, which hinders board quality and could be emphasized as a barrier to editorial effectiveness; thus, skillset packages for upgrading board capabilities could be envisioned and provided by publishers and other organizations.

In addition, the digital governance of journals could be upgraded. Persistent identifiers (PIDs) can be used to track journal editorships, bringing benefits such as transparency, accountability, and efficiency. By assigning unique codes to editorships, publishers can create a permanent record of who held the position and when, which helps prevent disputes and fraudulent claims. PIDs also enable automated tracking, analysis, and reporting of editorship data, saving time and resources while improving the quality and reliability of scholarly publishing. This approach promotes data sharing among publishers, libraries, and researchers, enabling better decision-making, evaluation, and benchmarking. Such efforts would need to be considered under the broad umbrella of standards for better editorship.

With this work, we advance a modest proposal for integrating the editormetric perspective into the efforts to map and measure Innovation Studies. The insights emerging from our study invite a reflection on the sources of the editorial crowd, as well as their impact on the evolution of science. Future studies may lead to a better understanding of the editorial black box.

#### ACKNOWLEDGMENTS

The authors are thankful to Vitor Corado Simões, Bram Timmermans, and Jon Mikel Zabala-Iturriagoitia for their detailed comments and suggestions. Preliminary ideas and results benefited from being presented in the 18th International Conference on Scientometrics and Informetrics (ISSI2021), July 2021; we thank the participants and organizers. We thank also the editor and two anonymous reviewers for their constructive comments, which helped us to improve the manuscript significantly. BRU-IUL and REM/UECE are financially supported by FCT, Portugal. All the views and shortcomings remain the responsibility of the authors alone.

#### AUTHOR CONTRIBUTIONS

Ana Teresa Santos: Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Validation, Writing—original draft. Sandro Mendonça: Conceptualization, Formal analysis, Methodology, Project administration, Supervision, Validation, Writing—review & editing.

#### FUNDING INFORMATION

This work benefited from support by the Portuguese Science and Technology Foundation (FCT) through the Grant UID/GES/00315/2013 and is part of project PTDC/EGE-ECO/30690/2017. BRU-IUL and REM/UECE are financially supported by FCT, Portugal.

#### COMPETING INTERESTS

The authors have no competing interests.

#### DATA AVAILABILITY

The data sets analyzed in the present study are available on Figshare: <https://doi.org/10.6084/m9.figshare.25140689>.

REFERENCES

- Aguinis, H., Gottfredson, R. K., Culpepper, S. A., Dalton, D. R., & de Bruin, G. P. (2012). Doing good and doing well: On the multiple contributions of journal editors. *Academy of Management Learning & Education*, 12(4), 564–578. <https://doi.org/10.5465/amle.2012.0066>
- Amrein, K., Langmann, A., Fahrleitner-Pammer, A., Pieber, T. R., & Zollner-Schwetz, I. (2011). Women underrepresented on editorial boards of 60 major medical journals. *Gender Medicine*, 8(6), 378–387. <https://doi.org/10.1016/j.genm.2011.10.007>, PubMed: 22153882
- Andrikopoulos, A., & Economou, L. (2015). Editorial board interlocks in financial economics. *International Review of Financial Analysis*, 37, 51–62. <https://doi.org/10.1016/j.irfa.2014.11.015>
- Baccini, A., & Barabesi, L. (2010). Interlocking editorship. A network analysis of the links between economic journals. *Scientometrics*, 82(2), 365–389. <https://doi.org/10.1007/s11192-009-0053-7>
- Baccini, A., & Barabesi, L. (2011). Seats at the table: The network of the editorial boards in information and library science. *Journal of Informetrics*, 5(3), 382–391. <https://doi.org/10.1016/j.joi.2011.01.012>
- Baccini, A., & Barabesi, L. (2014). Gatekeepers of economics: The network of editorial boards in economic journals. In *The economics of economists: Institutional setting, individual incentives, and future prospects* (pp. 104–150). Cambridge University Press. <https://doi.org/10.1017/CBO9781139059145.006>
- Baccini, A., Barabesi, L., Khelifaoui, M., & Gingras, Y. (2020). Intellectual and social similarity among scholarly journals: An exploratory comparison of the networks of editors, authors and co-citations. *Quantitative Science Studies*, 1(1), 277–289. [https://doi.org/10.1162/qss\\_a\\_00006](https://doi.org/10.1162/qss_a_00006)
- Baccini, A., Barabesi, L., & Marcheselli, M. (2009). How are statistical journals linked? A network analysis. *Chance*, 22(3), 35–45. <https://doi.org/10.1080/09332480.2009.10722969>
- Bakker, P., & Rigter, H. (1985). Editors of medical journals: Who and from where. *Scientometrics*, 7(1–2), 11–22. <https://doi.org/10.1007/BF02020137>
- Barabási, A. L., & Albert, R. (1999). Emergence of scaling in random networks. *Science*, 286(5439), 509–512. <https://doi.org/10.1126/science.286.5439.509>, PubMed: 10521342
- Beauchamp, M. A. (1965). An improved index of centrality. *Behavioral Science*, 10(2), 161–163. <https://doi.org/10.1002/bs.3830100205>, PubMed: 14284290
- Bedeian, A. G., Van Fleet, D. D., & Hyman, H. H. (2009). Scientific achievement and editorial board membership. *Organizational Research Methods*, 12(2), 211–238. <https://doi.org/10.1177/1094428107309312>
- Biagioli, M., Kenney, M., Martin, B. R., & Walsh, J. P. (2019). Academic misconduct, misrepresentation and gaming: A reassessment. *Research Policy*, 48(2), 401–413. <https://doi.org/10.1016/j.respol.2018.10.025>
- Biagioli, M., & Lippman, A. (2020). *Gaming the metrics: Misconduct and manipulation in academic research*. Cambridge, MA: MIT Press. <https://doi.org/10.7551/mitpress/11087.001.0001>
- Blondel, V. D., Guillaume, J. L., Lambiotte, R., & Lefebvre, E. (2008). Fast unfolding of communities in large networks. *Journal of Statistical Mechanics: Theory and Experiment*, 2008(10), P10008. <https://doi.org/10.1088/1742-5468/2008/10/P10008>
- Bonacich, P. (1987). Power and centrality: A family of measures. *American Journal of Sociology*, 92(5), 1170–1182. <https://doi.org/10.1086/228631>
- Borgatti, S. P., & Foster, P. C. (2003). The network paradigm in organizational research: A review and typology. *Journal of Management*, 29(6), 991–1013. [https://doi.org/10.1016/S0149-2063\(03\)00087-4](https://doi.org/10.1016/S0149-2063(03)00087-4)
- Braun, T. (2004). Keeping the gates of science journals. In *Handbook of quantitative science and technology research* (pp. 95–114). Dordrecht, Netherlands: Springer. [https://doi.org/10.1007/1-4020-2755-9\\_5](https://doi.org/10.1007/1-4020-2755-9_5)
- Braun, T., & Dióspatonyi, I. (2005). The counting of core journal gatekeepers as science indicators really counts. The scientific scope of action and strength of nations. *Scientometrics*, 62(3), 297–319. <https://doi.org/10.1007/s11192-005-0023-7>
- Brinn, T., & Jones, M. J. (2008). The composition of editorial boards in accounting: A UK perspective. *Accounting, Auditing & Accountability Journal*, 21(1), 5–35. <https://doi.org/10.1108/09513570810842304>
- Burgess, T. F., & Shaw, N. E. (2010). Editorial board membership of management and business journals: A social network analysis study of the financial times 40. *British Journal of Management*, 21(3), 627–648. <https://doi.org/10.1111/j.1467-8551.2010.00701.x>
- Burns, T., & Stalker, G. M. (1961). *The management of innovation*. Tavistock Publications.
- Cabanac, G. (2012). Shaping the landscape of research in information systems from the perspective of editorial boards: A scientometric study of 77 leading journals. *Journal of the American Society for Information Science and Technology*, 63(5), 977–996. <https://doi.org/10.1002/asi.22609>
- Cancino, C., Merigo, J. M., & Palacios-Marqués, D. (2015). A bibliometric analysis of innovation research. In *Proceedings of ALTEC 2015 Conference* (Vol. 642). Porto Alegre, Brazil.
- Caraça, J., Lundvall, B. Å., & Mendonça, S. (2009). The changing role of science in the innovation process: From Queen to Cinderella? *Technological Forecasting and Social Change*, 76(6), 861–867. <https://doi.org/10.1016/j.techfore.2008.08.003>
- Castaldi, C., & Mendonça, S. (2022). Regions and trademarks: Research opportunities and policy insights from leveraging trademarks in regional innovation studies. *Regional Studies*, 56(2), 177–189. <https://doi.org/10.1080/00343404.2021.2003767>
- Castellacci, F., Grodal, S., Mendonca, S., & Wibe, M. (2005). Advances and challenges in innovation studies. *Journal of Economic Issues*, 39(1), 91–121. <https://doi.org/10.1080/00213624.2005.11506782>
- Chan, K. C., & Fok, R. C. W. (2003). Membership on editorial boards and finance department rankings. *Journal of Financial Research*, 26(3), 405–420. <https://doi.org/10.1111/1475-6803.00066>
- Chan, K. C., Fung, H.-G., & Lai, P. (2005). Membership of editorial boards and rankings of schools with international business orientation. *Journal of International Business Studies*, 36(4), 452–469. <https://doi.org/10.1057/palgrave.jibs.8400142>
- Chesbrough, H., Birkinshaw, J., & Teubal, M. (2006). Introduction to the research policy 20th anniversary special issue of the publication of “Profiting from Innovation” by David J. Teece. *Research Policy*, 35(8), 1091–1099. <https://doi.org/10.1016/j.respol.2006.09.001>
- Costa, C. M., & Pestana, O. (2020). Periodical press and port cities: Creation of knowledge, representations and networks. *Portuguese Journal of Social Science*, 19(1), 3–9. [https://doi.org/10.1386/pjss\\_00016\\_2](https://doi.org/10.1386/pjss_00016_2)
- Davis, R. M., & Müllner, M. (2002). Editorial independence at medical journals owned by professional associations: A survey of

Downloaded from [http://direct.mit.edu/qss/article-pdf/5/1/187/2373957/qss\\_a\\_00293.pdf](http://direct.mit.edu/qss/article-pdf/5/1/187/2373957/qss_a_00293.pdf) by guest on 07 April 2026

- editors. *Science and Engineering Ethics*, 8(4), 513–528. <https://doi.org/10.1007/s11948-002-0004-7>, PubMed: 12501720
- Dhanani, A., & Jones, M. J. (2017). Editorial boards of accounting journals: Gender diversity and internationalisation. *Accounting, Auditing and Accountability Journal*, 30(5), 1008–1040. <https://doi.org/10.1108/AAAJ-08-2014-1785>
- Dickersin, K., Fredman, L., Flegal, K. M., Scott, J. D., & Crawley, B. (1998). Is there a sex bias in choosing editors? Epidemiology journals as an example. *Journal of the American Medical Association*, 280(3), 260–264. <https://doi.org/10.1001/jama.280.3.260>, PubMed: 9676675
- Dosi, G. (1988). Sources, procedures, and microeconomic effects of innovation. *Journal of Economic Literature*, 26(3), 1120–1171.
- Dosi, G. (2000). *Innovation, organization and economic dynamics: Selected essays*. Chichester: Edward Elgar. <https://doi.org/10.4337/9781782541851>
- Dosi, G., Malerba, F., Ramello, G. B., & Silva, F. (2006). Information, appropriability, and the generation of innovative knowledge four decades after Arrow and Nelson: An introduction. *Industrial and Corporate Change*, 15(6), 891–901. <https://doi.org/10.1093/icc/dtl028>
- Dosi, G., & Nuvolari, A. (2020). Introduction: Chris Freeman’s “History, co-evolution and economic growth”: An affectionate reappraisal. *Industrial and Corporate Change*, 29(4), 1021–1034. <https://doi.org/10.1093/icc/dtaa016>
- Elisabeth, B., Burkhardt, U., & Jost, C. A. (2022). Geographical and gender inequality on pediatric cardiology editorial boards: Time for action now! *JACC: Advances*, 1(5), 100151. <https://doi.org/10.1016/j.jacadv.2022.100151>
- Fagerberg, J. (2018). *Innovation, economic development and policy: Selected essays*. Chichester: Edward Elgar. <https://doi.org/10.4337/9781788110266>
- Fagerberg, J., Fosaas, M., Bell, M., & Martin, B. R. (2011). Christopher Freeman: Social science entrepreneur. *Research Policy*, 40(7), 897–916. <https://doi.org/10.1016/j.respol.2011.06.011>
- Fagerberg, J., Fosaas, M., & Sappasert, K. (2012). Innovation: Exploring the knowledge base. *Research Policy*, 41(7), 1132–1153. <https://doi.org/10.1016/j.respol.2012.03.008>
- Fagerberg, J., & Godinho, M. M. (2004). Innovation and catching-up. In *The Oxford handbook of innovation*. Oxford: Oxford University Press.
- Fagerberg, J., Martin, B. R., & Andersen, E. S. (2013). *Innovation studies: Evolution and future challenges*. Oxford: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199686346.001.0001>
- Fagerberg, J., & Verspagen, B. (2009). Innovation studies—The emerging structure of a new scientific field. *Research Policy*, 38(2), 218–233. <https://doi.org/10.1016/j.respol.2008.12.006>
- Faria, J. R. (2005). The game academics play: Editors versus authors. *Bulletin of Economic Research*, 57(1), 1–12. <https://doi.org/10.1111/j.1467-8586.2005.00212.x>
- Fortunato, S. (2010). Community detection in graphs. *Physics Reports*, 486(3–5), 75–174. <https://doi.org/10.1016/j.physrep.2009.11.002>
- Freeman, C. (2008). *Systems of innovation: Selected essays in evolutionary economics*. Chichester: Edward Elgar. <https://doi.org/10.4337/9781035306176>
- Freeman, C., & Soete, L. (1997). *The economics of industrial innovation* (3rd ed.). Cambridge, MA: MIT Press. <https://mitpress.mit.edu/books/economics-industrial-innovation-third-edition>
- Freeman, L. C. (1979). Centrality in social networks conceptual clarification. *Social Networks*, 1(3), 215–239. [https://doi.org/10.1016/0378-8733\(78\)90021-7](https://doi.org/10.1016/0378-8733(78)90021-7)
- García-Carpintero, E., Granadino, B., & Plaza, L. (2010). The representation of nationalities on the editorial boards of international journals and the promotion of the scientific output of the same countries. *Scientometrics*, 84(3), 799–811. <https://doi.org/10.1007/s11192-010-0199-3>
- Gopalakrishnan, S., & Damanpour, F. (1997). A review of innovation research in economics, sociology and technology management. *Omega*, 25(1), 15–28. [https://doi.org/10.1016/S0305-0483\(96\)00043-6](https://doi.org/10.1016/S0305-0483(96)00043-6)
- Goyanes, M., & de-Marcos, L. (2020). Academic influence and invisible colleges through editorial board interlocking in communication sciences: A social network analysis of leading journals. *Scientometrics*, 123(2), 791–811. <https://doi.org/10.1007/s11192-020-03401-z>
- Greenbaum, H. K., Goodsir, H. L., Smith, M. C., & Robinson, D. H. (2018). Female participation as top-producing authors, editors, and editorial board members in educational psychology journals from 2009 to 2016. *Educational Psychology Review*, 30(4), 1283–1289. <https://doi.org/10.1007/s10648-018-9452-8>
- Hafeez, D. M., Waqas, A., Majeed, S., Naveed, S., Afzal, K. I., ... Khosa, F. (2019). Gender distribution in psychiatry journals’ editorial boards worldwide. *Comprehensive Psychiatry*, 94, 152119. <https://doi.org/10.1016/j.comppsych.2019.152119>, PubMed: 31473553
- Hall, J., & Martin, B. R. (2019). Towards a taxonomy of research misconduct: The case of business school research. *Research Policy*, 48(2), 414–427. <https://doi.org/10.1016/j.respol.2018.03.006>
- Hames, I. (2001). Editorial boards: Realizing their potential. *Learned Publishing*, 14(4), 247–256. <https://doi.org/10.1087/095315101753141347>
- Hansen, D. L., Shneiderman, B., Smith, M. A., & Himelboim, I. (2020). Calculating and visualizing network metrics. In *Analyzing social media networks with NodeXL*. Elsevier. <https://doi.org/10.1016/B978-0-12-817756-3.00006-6>
- Hanusch, H., & Pyka, A. (2007). *Elgar companion to neo-Schumpeterian economics*. Chichester: Edward Elgar. <https://www.worldcat.org/title/elgar-companion-to-neo-schumpeterian-economics/oclc/180230196>. <https://doi.org/10.4337/9781847207012>
- Harris, C. A., Banerjee, T., Cramer, M., Manz, S., Ward, S. T., ... Telem, D. A. (2019). Editorial (spring) board? Gender composition in high-impact general surgery journals over 20 years. *Annals of Surgery*, 269(3), 582–588. <https://doi.org/10.1097/sla.0000000000002667>, PubMed: 29342020
- Harzing, A. W., & Metz, I. (2011). Gender and geographical diversity in the editorial board of the *Journal of International Business Studies*. *AIB Insights*, 11(3), 3–7.
- Harzing, A. W., & Metz, I. (2012). Explaining geographic diversity of editorial boards: The role of conference participation and English-language skills. *European Journal of International Management*, 6(6), 697–715. <https://doi.org/10.1504/EJIM.2012.050423>
- Harzing, A. W., & Metz, I. (2013). Practicing what we preach: The geographic diversity of editorial boards. *Management International Review*, 53(2), 169–187. <https://doi.org/10.1007/s11575-011-0124-x>
- Heidari, S., Babor, T. F., De Castro, P., Tort, S., & Curno, M. (2016). Sex and gender equity in research: Rationale for the SAGER guidelines and recommended use. *Research Integrity and Peer Review*, 1, 2. <https://doi.org/10.1186/s41073-016-0007-6>, PubMed: 29451543
- Hodgson, G. M., & Rothman, H. (1999). The editors and authors of economics journals: A case of institutional oligopoly? *The*

- Economic Journal*, 109(453), 165–186. <https://doi.org/10.1111/1468-0297.00407>
- Horan, J. J., Weber, W. L., Fitzsimmons, P., Maglio, C. J., & Hanish, C. (1993). Further manifestations of the MOMM phenomenon. *The Counseling Psychologist*, 21(2), 278–287. <https://doi.org/10.1177/0011000093212011>
- Hymowitz, C., & Schelhardt, T. D. (1986). The glass-ceiling: Why women can't seem to break the invisible barrier that blocks them from top jobs. *The Wall Street Journal*, 57(D1), D4–D5. [https://www.scrip.org/\(S\(lz5mqp453edsnp55rrgjt55\)\)/reference/ReferencesPapers.aspx?ReferenceID=2092173](https://www.scrip.org/(S(lz5mqp453edsnp55rrgjt55))/reference/ReferencesPapers.aspx?ReferenceID=2092173)
- Jugend, D., Fiorini, P. D. C., Armellini, F., & Ferrari, A. G. (2020). Public support for innovation: A systematic review of the literature and implications for open innovation. *Technological Forecasting and Social Change*, 156, 119985. <https://doi.org/10.1016/j.techfore.2020.119985>
- Kocher, M. G., & Sutter, M. (2001). The institutional concentration of authors in top journals of economics during the last two decades. *The Economic Journal*, 111(472), 405–421. <https://doi.org/10.1111/1468-0297.00637>
- Kotsemir, M., Abroskin, A., & Meissner, D. (2013). Innovation concepts and typology – An evolutionary discussion. *Higher School of Economics Research Paper No. WP BRP 05/STI/2013*. <https://doi.org/10.2139/ssrn.2221299>
- Kovács, A., van Looy, B., & Cassiman, B. (2015). Exploring the scope of open innovation: A bibliometric review of a decade of research. *Scientometrics*, 104(3), 951–983. <https://doi.org/10.1007/s11192-015-1628-0>
- Krishnan, C. N. V., & Bricker, R. (2004). Top finance journals: Do they add value? *Journal of Economics and Finance*, 28(3), 361–378. <https://doi.org/10.1007/BF02751738>
- Lerchenmueller, M. J., & Sorenson, O. (2018). The gender gap in early career transitions in the life sciences. *Research Policy*, 47(6), 1007–1017. <https://doi.org/10.1016/j.respol.2018.02.009>
- Lerner, J., & Stern, S. (2013). *The rate and direction of inventive activity revisited*. University of Chicago Press. <https://doi.org/10.7208/chicago/9780226473062.001.0001>
- Liwei, Z., & Chunlin, J. (2015). Social network analysis and academic performance of the editorial board members for journals of library and information science. *COLLNET Journal of Scientometrics and Information Management*, 9(2), 131–143. <https://doi.org/10.1080/09737766.2015.1069947>
- Louçã, F. (2021). As time went by—Why is the long wave so long? *Journal of Evolutionary Economics*, 31, 749–771. <https://doi.org/10.1007/s00191-021-00724-9>
- Martin, B. R. (2016a). Editors' JIF-boosting stratagems—Which are appropriate and which not? *Research Policy*, 45(1), 1–7. <https://doi.org/10.1016/j.respol.2015.09.001>
- Martin, B. R. (2016b). Twenty challenges for innovation studies. *Science and Public Policy*, 43(3), 432–450. <https://doi.org/10.1093/scipol/scv077>
- Mazov, N. A., & Gureyev, V. N. (2016). The editorial boards of scientific journals as a subject of scientometric research: A literature review. *Scientific and Technical Information Processing*, 43(3), 144–153. <https://doi.org/10.3103/S0147688216030035>
- Mazov, N. A., & Gureyev, V. N. (2021). Publishing contribution of editorial board members to bibliometric indices of Library and Information Science journals. In *Proceedings of the 18th International Conference on Scientometrics and Informetrics (ISSI2021)*.
- McKnight, W. (2014). Graph databases. In *Information management*. Elsevier. <https://doi.org/10.1016/B978-0-12-408056-0.00012-6>
- McMullen, K., Kraus, M. B., Kosiorek, H., & Harbell, M. W. (2022). Representation of women as editors in anesthesiology journals. *Anesthesia and Analgesia*, 134(5), 956–963. <https://doi.org/10.1213/ANE.0000000000005881>, PubMed: 35073283
- Meerpohl, J. J., Herrle, F., Antes, G., & von Elm, E. (2012). Scientific value of systematic reviews: Survey of editors of core clinical journals. *PLOS ONE*, 7(5), e35732. <https://doi.org/10.1371/journal.pone.0035732>, PubMed: 22563469
- Mendonça, S., Pereira, J., & Ferreira, M. E. (2018). Gatekeeping African studies: What does “editometrics” indicate about journal governance? *Scientometrics*, 117(3), 1513–1534. <https://doi.org/10.1007/s11192-018-2909-1>
- Merigó, J. M., Cancino, C. A., Coronado, F., & Urbano, D. (2016). Academic research in innovation: A country analysis. *Scientometrics*, 108(2), 559–593. <https://doi.org/10.1007/s11192-016-1984-4>
- Metz, I., & Harzing, A.-W. (2009). Gender diversity in editorial boards of management journals. *Academy of Management Learning & Education*, 8(4), 540–557. <https://doi.org/10.5465/amle.8.4.zqr540>
- Meyer, M., Pereira, T. S., Persson, O., & Granstrand, O. (2004). The scientometric world of Keith Pavitt: A tribute to his contributions to research policy and patent analysis. *Research Policy*, 33(9), 1405–1417. <https://doi.org/10.1016/j.respol.2004.07.008>
- Miner, J. B. (2003). Commentary on Arthur Bedeian's “The manuscript review process: The proper roles of authors, referees, and editors.” *Journal of Management Inquiry*, 12(4), 339–343. <https://doi.org/10.1177/1056492603259056>
- Miniaci, R., & Pezzoni, M. (2015). Is publication in the hands of outstanding scientists? A study on the determinants of editorial boards membership in economics. *GREDEG Working Papers*. <https://ideas.repec.org/p/gre/wpaper/2015-17.html>
- Mizruchi, M. S. (1996). What do interlocks do? An analysis, critique, and assessment of research on interlocking directorates. *Annual Review of Sociology*, 22, 271–298. <https://doi.org/10.1146/annurev.soc.22.1.271>
- Morlacchi, P., & Martin, B. R. (2009). Emerging challenges for science, technology and innovation policy research: A reflexive overview. *Research Policy*, 38(4), 571–582. <https://doi.org/10.1016/j.respol.2009.01.021>
- Morton, M. J., & Sonnad, S. S. (2007). Women on professional society and journal editorial boards. *Journal of the National Medical Association*, 99(7), 764–771. PubMed: 17668642
- Nelson, R. R. (1962). *The rate and direction of inventive activity: Economic and social factors*. NBER/Princeton University Press. <https://www.nber.org/books-and-chapters/rate-and-direction-inventive-activity-economic-and-social-factors>
- Nelson, R. R. (2012). Some features of research by economists on technological change foreshadowed by the *Rate and Direction of Inventive Activity*. In J. Lerner & S. Stern (Eds.), *The rate and direction of inventive activity revisited* (pp. 35–42). University of Chicago Press. <https://doi.org/10.7208/chicago/9780226473062.003.0003>
- Nelson, R. R. (2020). A perspective on the evolution of evolutionary economics. *Industrial and Corporate Change*, 29(5), 1101–1118. <https://doi.org/10.1093/icc/dtaa045>
- Nelson, R. R., Dosi, G., Helfat, C. E., Pyka, A., Saviotti, P. P., ... Winter, S. G. (2018). *Modern evolutionary economics: An overview*. Cambridge University Press. <https://doi.org/10.1017/9781108661928>
- Ni, C., Sugimoto, C. R., & Cronin, B. (2012). Visualizing and comparing four facets of scholarly communication: Producers, artifacts, concepts, and gatekeepers. *Scientometrics*, 94(3), 1161–1173. <https://doi.org/10.1007/s11192-012-0849-8>

- Nieminen, U. J. (1973). On the centrality in a directed graph. *Social Science Research*, 2(4), 371–378. [https://doi.org/10.1016/0049-089X\(73\)90010-0](https://doi.org/10.1016/0049-089X(73)90010-0)
- Nishikawa-Pacher, A., Heck, T., & Schoch, K. (2023). Open Editors: A dataset of scholarly journals' editorial board positions. *Research Evaluation*, 32(2), 228–243. <https://doi.org/10.1093/reseval/rvac037>
- Nisonger, T. E. (2002). The relationship between international editorial board composition and citation measures in political science, business, and genetics journals. *Scientometrics*, 54(2), 257–268. <https://doi.org/10.1023/A:1016065929026>
- Oldham, S., Fulcher, B., Parkes, L., Arnatkevičiūtė, A., Suo, C., & Fornito, A. (2019). Consistency and differences between centrality measures across distinct classes of networks. *PLOS ONE*, 14(7), e0220061. <https://doi.org/10.1371/journal.pone.0220061>, PubMed: 31348798
- Oliveira, D. J. S., & Silva, J. B. (2021). An overview of botanical research through a bryological lens: Geographic origin of editorial board members and advisor gender influence publication success. *Journal of Biology & Pharmacy and Agricultural Management*, 17(3), 586–612.
- Ozbilgin, M. (2004). "International" human resource management: Academic parochialism in editorial boards of the "top" 22 journals on international human resource management. *Personnel Review*, 33(2), 205–221. <https://doi.org/10.1108/00434804105180559>
- Page, L., Brin, S., Motwani, R., & Winograd, T. (1999). *The PageRank citation ranking: Bringing order to the web*. Stanford InfoLab.
- Palsler, E. R., Lazerwitz, M., & Fotopoulou, A. (2022). Gender and geographical disparity in editorial boards of journals in psychology and neuroscience. *Nature Neuroscience*, 25(3), 272–279. <https://doi.org/10.1038/s41593-022-01012-w>, PubMed: 35190729
- Pavitt, K. (1999). *Technology, management and systems of innovation*. Chichester: Edward Elgar.
- Petersen, J., Hattke, F., & Vogel, R. (2017). Editorial governance and journal impact: A study of management and business journals. *Scientometrics*, 112(3), 1593–1614. <https://doi.org/10.1007/s11192-017-2434-7>
- Powell, W. W., & Grodal, S. (2006). Networks of innovators. In *The Oxford handbook of innovation*. Oxford: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199286805.003.0003>
- Rakas, M., & Hain, D. S. (2019). The state of innovation system research: What happens beneath the surface? *Research Policy*, 48(9), 103787. <https://doi.org/10.1016/j.respol.2019.04.011>
- Resnik, D. B., & Elmore, S. A. (2016). Ensuring the quality, fairness, and integrity of journal peer review: A possible role of editors. *Science and Engineering Ethics*, 22(1), 169–188. <https://doi.org/10.1007/s11948-015-9625-5>, PubMed: 25633924
- Robinson, D. H., McKay, D. W., Katayama, A. D., & Fan, A. C. (1998). Are women underrepresented as authors and editors of educational psychology journals? *Contemporary Educational Psychology*, 23(3), 331–343. <https://doi.org/10.1006/ceps.1997.0967>, PubMed: 9665794
- Rogers, E. M. (1962). *Diffusion of innovations* (3rd ed.). New York, NY: Free Press.
- Rossetto, D. E., Bernardes, R. C., Borini, F. M., & Gattaz, C. C. (2018). Structure and evolution of innovation research in the last 60 years: Review and future trends in the field of business through the citations and co-citations analysis. *Scientometrics*, 115(3), 1329–1363. <https://doi.org/10.1007/s11192-018-2709-7>
- Rynes, S. L. (2006). "Getting on board" with AMJ: Balancing quality and innovation in the review process. *Academy of Management Journal*, 49(6), 1097–1102. <https://doi.org/10.5465/amj.2006.23478050>
- Sabidussi, G. (1966). The centrality index of a graph. *Psychometrika*, 31(4), 581–603. <https://doi.org/10.1007/BF02289527>, PubMed: 5232444
- Santos, A. T., & Mendonça, S. (2022). The small world of innovation studies: An "editormetrics" perspective. *Scientometrics*, 127(12), 7471–7486. <https://doi.org/10.1007/s11192-022-04279-9>
- Sarna, K. V., Griffin, T., Tarlov, E., Gerber, B. S., Gabay, M. P., & Suda, K. J. (2020). Trends in gender composition on editorial boards in leading medicine, nursing, and pharmacy journals. *Journal of the American Pharmacists Association*, 60(4), 565–570. <https://doi.org/10.1016/j.japh.2019.12.018>, PubMed: 31953121
- Saunders, M. (2019, January 20). *My first 12 months as a journal editor*. <https://ecologyisnotdirtyword.com/2019/01/20/my-first-12-months-as-a-journal-editor/>
- Sharif, N. (2006). Emergence and development of the National Innovation Systems concept. *Research Policy*, 35(5), 745–766. <https://doi.org/10.1016/j.respol.2006.04.001>
- Shaw, M. E. (1954). Group structure and the behavior of individuals in small groups. *Journal of Psychology: Interdisciplinary and Applied*, 38(1), 139–149. <https://doi.org/10.1080/00223980.1954.9712925>
- Shaw, N., Grimshaw, P., & Burgess, T. (2016). Diversity of the information systems research field: A journal governance perspective. *Information Systems Research*, 28(1), 5–21. <https://doi.org/10.1287/isre.2016.0657>
- Smart, P., Gaston, T., Smart, P., & Gaston, T. (2019). How prevalent are plagiarized submissions? Global survey of editors. *Learned Publishing*, 32(1), 47–56. <https://doi.org/10.1002/leap.1218>
- Teixeira, A. A. C. (2014). Evolution, roots and influence of the literature on National Systems of Innovation: A bibliometric account. *Cambridge Journal of Economics*, 38(1), 181–214. <https://doi.org/10.1093/cje/bet022>
- Teixeira, E. K., & Oliveira, M. (2018). Editorial board interlocking in knowledge management and intellectual capital research field. *Scientometrics*, 117(3), 1853–1869. <https://doi.org/10.1007/s11192-018-2937-x>
- Tidd, J., Bessant, J., & Pavitt, K. (1999). *Managing innovation: Integrating technological, market, and organizational change*. Wiley.
- Topaz, C. M., & Sen, S. (2016). Gender representation on journal editorial boards in the mathematical sciences. *PLOS ONE*, 11(8), e0161357. <https://doi.org/10.1371/journal.pone.0161357>, PubMed: 27536970
- Tutarel, O. (2004). Composition of the editorial boards of leading medical education journals. *BMC Medical Research Methodology*, 4, 3. <https://doi.org/10.1186/1471-2288-4-3>, PubMed: 14733618
- Van Fleet, D. D., Ray, D. F., Bedeian, A. G., Downey, H. K., Hunt, J. G., ... Feldman, D. C. (2006). The *Journal of Management's* first 30 years. *Journal of Management*, 32(4), 477–506. <https://doi.org/10.1177/0149206306286715>
- Vandome, R. (2013). The advancement of *Science*: James McKeen Cattell and the networks of prestige and authority, 1894–1915. *American Periodicals*, 23(2), 172–187. <https://doi.org/10.1353/amp.2013.0011>
- Verspagen, B., & Werker, C. (2004). Keith Pavitt and the invisible college of the economics of technology and innovation. *Research Policy*, 33(9), 1419–1431. <https://doi.org/10.1016/j.respol.2004.07.010>
- Vespignani, A. (2018). Twenty years of network science. *Nature*, 558(7711), 528–529. <https://doi.org/10.1038/d41586-018-05444-y>, PubMed: 29941900
- Waltman, L., Larivière, V., Milojević, S., & Sugimoto, C. R. (2020). Opening science: The rebirth of a scholarly journal. *Quantitative Science Studies*, 1(1), 1–3. [https://doi.org/10.1162/qss\\_e-00025](https://doi.org/10.1162/qss_e-00025)

- Wang, X. (2018). The relationship between SCI editorial board representation and university research output in the field of computer science: A quantile regression approach. *Malaysian Journal of Library and Information Science*, 23(1), 67–84. <https://doi.org/10.22452/mjlis.vol23no1.5>
- Wasserman, S., & Faust, K. (1994a). *Social network analysis: Methods and applications*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511815478>
- Wasserman, S., & Faust, K. (1994b). Social network data: Collection and applications. In *Social network analysis: Methods and applications*. Cambridge: Cambridge University Press.
- Wilkes, M. S., & Kravitz, R. L. (1995). Policies, practices, and attitudes of North American medical journal editors. *Journal of General Internal Medicine*, 10(8), 443–450. <https://doi.org/10.1007/BF02599916>, PubMed: 7472701
- Willett, P. (2013). The characteristics of journal editorial boards in library and information science. *International Journal of Knowledge Content Development & Technology*, 3(1), 5–17. <https://doi.org/10.5865/IJKCT.2013.3.1.005>
- Winter, S. G. (2014). The future of evolutionary economics: Can we break out of the beachhead? *Journal of Institutional Economics*, 10(4), 613–644. <https://doi.org/10.1017/S1744137414000277>
- Wright, P. (1985). Editing: Policies and processes. In T. M. Duffy & R. Waller (Eds.), *Designing usable texts* (1st ed.). Academic Press. <https://doi.org/10.1016/B978-0-12-223260-2.50009-8>
- Wu, D., Lu, X., Li, J., & Li, J. (2020). Does the institutional diversity of editorial boards increase journal quality? The case economics field. *Scientometrics*, 124(2), 1579–1597. <https://doi.org/10.1007/s11192-020-03505-6>
- Wu, X., & Mei, L. (2022). Policy-driven open strategy: Lessons from China's high-speed rail industry. *Journal of Engineering and Technology Management*, 63, 101671. <https://doi.org/10.1016/j.jengtecman.2022.101671>
- Zsindely, S., Schubert, A., & Braun, T. (1982). Editorial gatekeeping patterns in international science journals. A new science indicator. *Scientometrics*, 4(1), 57–68. <https://doi.org/10.1007/BF02098006>