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On the Intellectual Structure and Influence of Tourism Social Science Research

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Introduction

Tourism has grown rapidly over the past decades not only to become an industry with huge socio-economic implications, but also a field of scientific inquiry. Tourism research is characterized by numerous scientific works published in more than 250 journals such that it has matured as a field of academic inquiry (López-Bonilla & López-Bonilla, 2020; Xiao & Smith, 2006, 2007). As a discipline progresses, there is a growing interest among its researchers to appreciate its underlying intellectual structure. Determining the types of knowledge that constitute a discipline, tracking the evolution of such knowledge, and determining why and how knowledge changes are triggered are key issues in analyzing scientific developments and the intellectual structure of a discipline (Qian, Liu, & Sheng, 2020). Such endeavors make it possible for scholars to codify the knowledge produced and accumulated over time by allowing for an appreciation of its conceptual, theoretical, and methodological basis and the extent of its intra- and inter-disciplinarity. It is therefore important for scholars to reflect periodically on the intellectual structure of their academic disciplines.

Various studies have examined tourism knowledge, commencing with Jafari and Ritchie's (1981) wheel of knowledge, which has been further debated and extended to reflect the evolution of tourism research (Liburd, 2012; Tribe, 2018; Tribe & Linburd, 2016). Bibliometric techniques have been commonly used by researchers to analyze the intellectual structure of the tourism field. Such research can be grouped into three categories (Koseoglu, Rahimi, Okumus, & Liu, 2016): (1) review studies that include systematic reviews (e.g. Wattanacharoensil & La-ornual, 2019) and meta-analysis (e.g. GURSOY, Ouyang, Nunkoo, & Wei, 2019; Nunkoo, Seetanah, Jaffur, Moraghen, & Sannassee, 2020); (2) relational techniques that include citation analysis (e.g. Okumus, Mehraliyev, Ma, & Köseoglu, 2020), co-words analysis (Shao, Hu, Luo, Huo, & Zhao, 2020), and co-authorship analysis (Racherla & Hu, 2010); and (3) evaluative techniques that include studies on productivity measures, impact metrics, and hybrid metrics (e.g. Hall, 2011; Phillips, Page, & Sebu, 2020).

In this research, we continue along this tradition by analyzing the intellectual structure and influence of tourism social science research. Given this objective, we focus exclusively on *Annals of Tourism Research* (henceforth *Annals*) because of its positioning as a social science journal in the field (Tribe, 2018). More specifically, the study provides answers to the following research questions: (1) how have other disciplines influenced the intellectual structure and inter-disciplinarity of knowledge in *Annals*? and (2) to what extent *Annals* has influenced knowledge in other disciplines? Our data set comprises of 3,021 articles published in the journal over 47 years, from 1973 (inception of the journal) to 2019. We adopt a modestly different approach compared to previous research. To determine the disciplinary influences on research published in *Annals* (knowledge inflows), we use the references the journal's articles have cited. To understand the influence of *Annals* (knowledge outflows), we analyze all works (within and outside tourism) in which *Annals*'s articles appear as a reference. The benefits of using references over citation counts to analyze the intellectual structure of a discipline are documented in the literature on scientometrics (Bornmann & Mark, 2013; Marx & Bornmann, 2014, 2016). It is important to highlight that our study is at the 'macro-level', involving a disciplinary-level investigation based on all references used by *Annals* and on all works that have referenced the journal's articles over 47 years, and not a (co)citation analysis of individual articles – the 'micro-level'.

Although references used in academic works are to some extent, subject to authors', reviewers' and editors' bias, reflecting their alliances and allegiances in the academy, and are therefore politicized (Nunkoo, Hall, Rughoobur-Seetah, & Teeroovengadam, 2019), they ultimately reveal preferences for ideas and knowledge and are the threads that connect scientific works formally in a discipline (Marx & Bornmann, 2016; Meyer, Waldkirch, Duscher, & Just, 2018). Reference analyses have been used to gain insights into the intellectual structure and directions of several disciplines (Marx & Bornmann, 2016). In tourism, except for a few studies (e.g. Kim, Savage, Howey, & Hoof, 2009), bibliometric analyses have been used mainly to determine the influence of individual articles, journals, or authors, rather than to assess disciplinary developments and influences. Using this approach and by focusing on *Annals*, we are able to observe, in an illustrative manner, the ways which tourism social science research is positioned in relation to the scholarship within and outside the tourism literature and its influence on other disciplines, which are not always apparent and explicit in articles and citation indices. The research makes a modest contribution to the on-going debates about the interdisciplinarity of tourism research (Kim et al., 2009; Oviedo-García, 2016; Ren, Pritchard, & Morgan, 2010; Xiao & Smith, 2006, 2007) and its recognition in other disciplines (Bauer, 2015; Wardle & Buckley, 2014), both of which are essential indicators of the field's intellectual maturity.

Research Approach and Data Sources

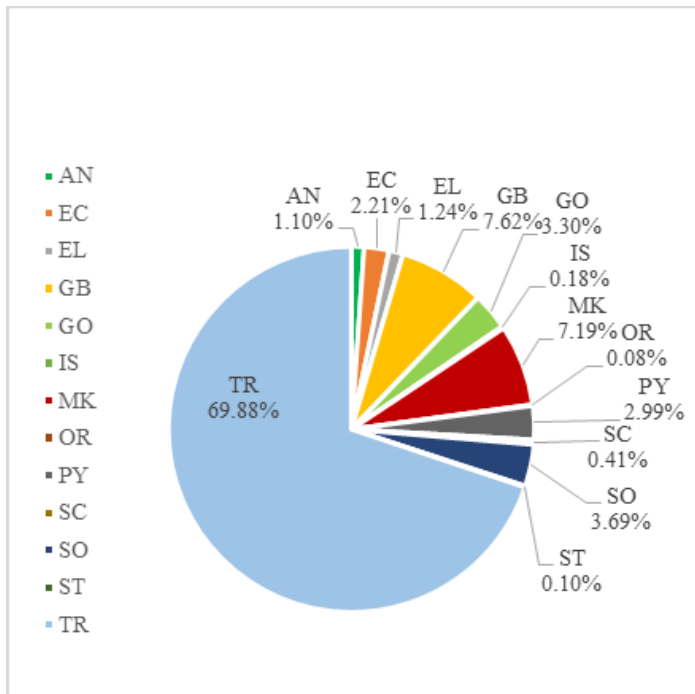
The study relies on data from Scopus which allows the retrieval of both forward and backward information to assess knowledge inflows to and outflows from a publication outlet. From 1973 to 2019, Scopus lists 3,021 documents published in *Annals*. Over this time period, these 3,021 articles cited 97,347 documents from 33,945 unique sources (knowledge inflows). The mean number of references used by *Annals*' article is 32.22. During the same period, *Annals*' articles generated 165,816 citations, out of which 2,605 articles received a minimum of one citation. This is equivalent to a mean citation count of 54.89. The remaining articles (416) did not receive any citation. Before proceeding with the analysis, following Agarwal (2016), we adopted a data reduction procedure. Any source cited less than 25 times by *Annals* and citing articles published in the journal less than 25 times over the 47-year period were removed from our analysis.

We then classified each source pertaining to the knowledge inflows or outflows into its major disciplinary focus. The disciplinary classification was determined by four researchers having domain expertise. In most cases, the name of the journal dictated its disciplinary classification. All tourism and related journals (e.g. *Journal of Leisure Research*) were classified under "Tourism"; *Annual Review of Anthropology*, *Economic Modeling*, *Canadian Geographer*, and *MIS Quarterly* for example, were classified under "Anthropology", "Economics", "Geography", and "Information Systems" respectively. When the disciplinary classification was not obvious from the journal name, we consulted existing discipline-related indices, journal classification lists, the journal's website and its editorial policy, and relevant academic studies (e.g. Agarwal, 2016; Kim et al., 2009). We also sought the advice of senior colleagues from the academy where necessary. Based on the information gathered, we agreed on the disciplinary focus of the journal. To assess inter-rater reliability, we used the Cohen's kappa (κ) which measures the consistency among raters based on the number of coding in the coding scheme, while adjusting for agreement by chance (Cohen, 1960). Sixty journals were selected randomly and assigned to their disciplinary

focus independently by a second researcher. The κ coefficient was 0.83, which is considered reliable, establishing consistency in our disciplinary classification process (Bakeman & Gottman, 1997). We acknowledge that other researchers may classify some of the knowledge sources differently. Although we do not believe that the study findings would have changed substantially, it is important to alert readers to this point.

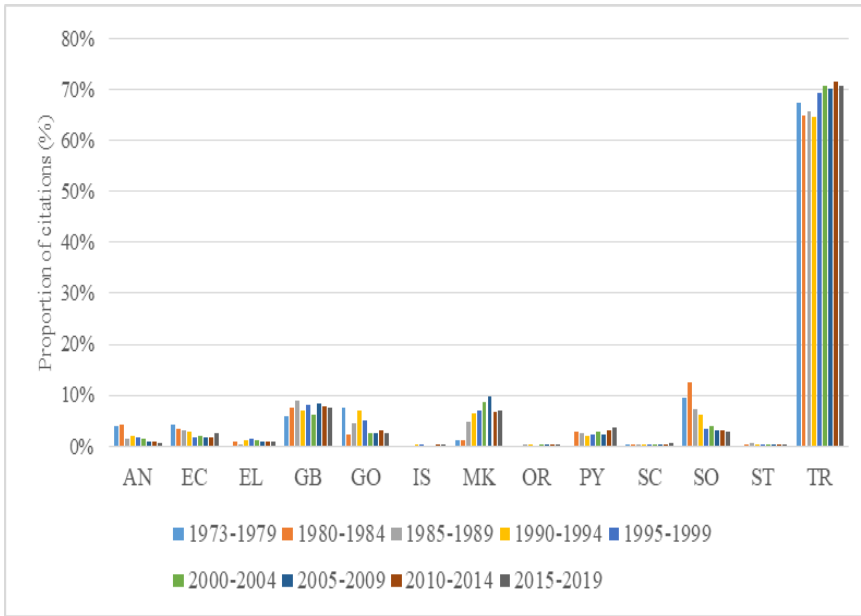
Results

Over the 47 years, *Annals* derived its knowledge from 313 unique sources representing 13 distinct disciplines, resulting in 46,187 citations (Figure 1a). Tourism represents the single largest proportion (around 70%) of knowledge inflows. The journal's reliance on the tourism literature increased slightly from 67.3% in 1973-1979 to 70.6% in 2015-2019 (Figure 1b). Disciplines such as marketing, general business, and psychology not only have a substantial influence on *Annals'* research (Figure 1a), but their contributions to knowledge inflows have also increased over the years (Figure 1b). Although disciplines such as sociology, economics and anthropology were fundamental to *Annals'* during its early years, their contribution to the journal's intellectual development have declined. The contribution of anthropology and sociology to knowledge inflows for example, declined from 4% and 9.4% in 1973-1979 to 0.8% and 2.9% in 2015-2019 respectively.



[AN: Anthropology, EC: Economics, EL: Ecology, GB: General Business, GO: Geography, IS: Information Systems, MK: Marketing, OR: Operations Research, PY: Psychology, SC: General Science, SO: Sociology, ST: Statistics, TR: Tourism]

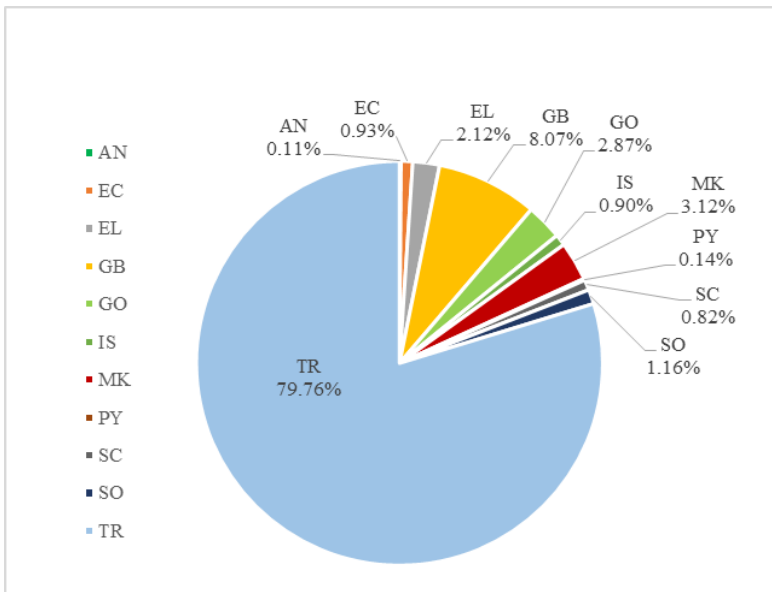
Figure 1a. Knowledge inflows (1973-2019)



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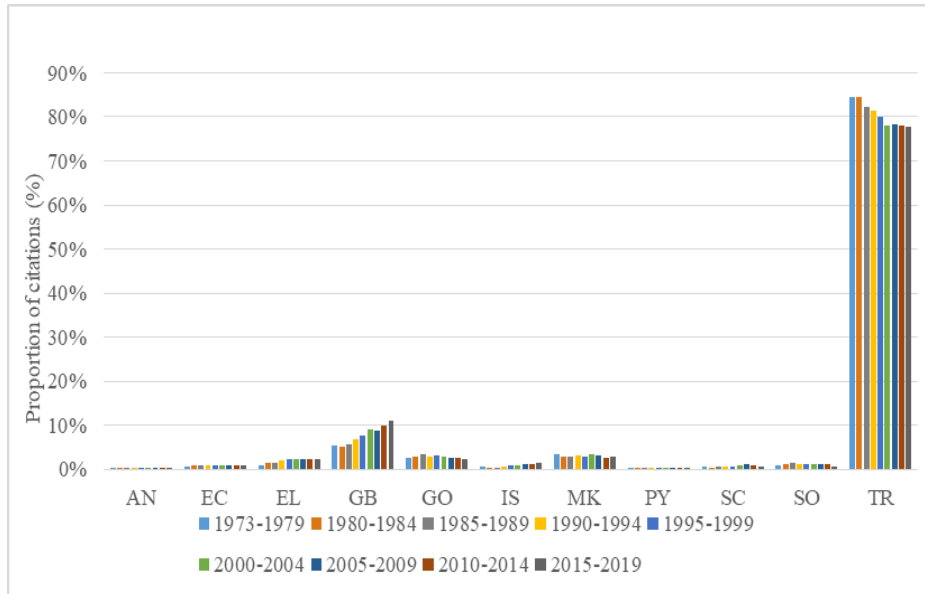
Fig. 1b. Cross-period variations in knowledge inflows

In terms of knowledge outflow, 439 unique sources from 11 disciplines cited *Annals'* works, generating 78,490 citations for the journal. Most citing sources belong to the tourism field, representing around 80% of knowledge outflows (Figure 2a), although this trend appears to be declining (Figure 2b). The journal's influence on the business field is not only non-negligible (8.7%), but it has almost doubled over 47 years: from 5.5% in 1973-1979 to 11% in 2015-2019. The contributions of *Annals* to disciplines such as marketing, geography, and ecology is also noteworthy given the large number of journals in these fields.



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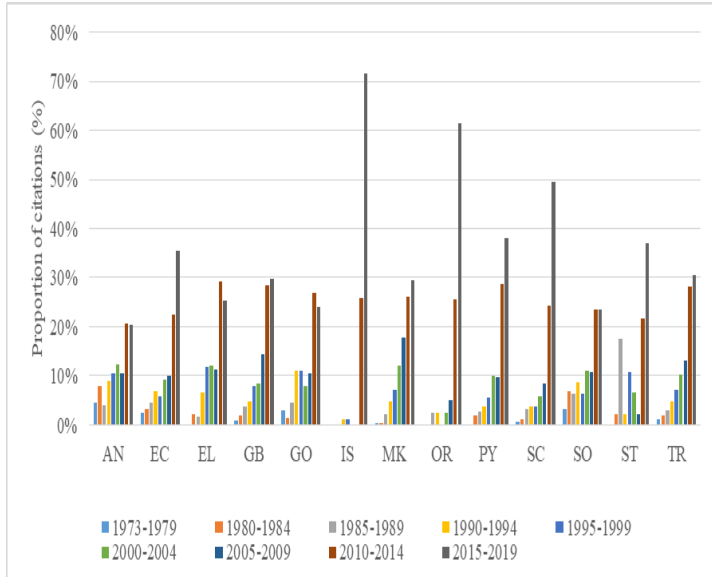
Figure 2a. Knowledge outflows (1973-2019)



[AN: Anthropology, EC: Economics, EL: Ecology, GB: General Business, GO: Geography, IS: Information Systems, MK: Marketing, OR: Operations Research, PY: Psychology, SC: General Science, SO: Sociology, ST: Statistics, TR: Tourism]

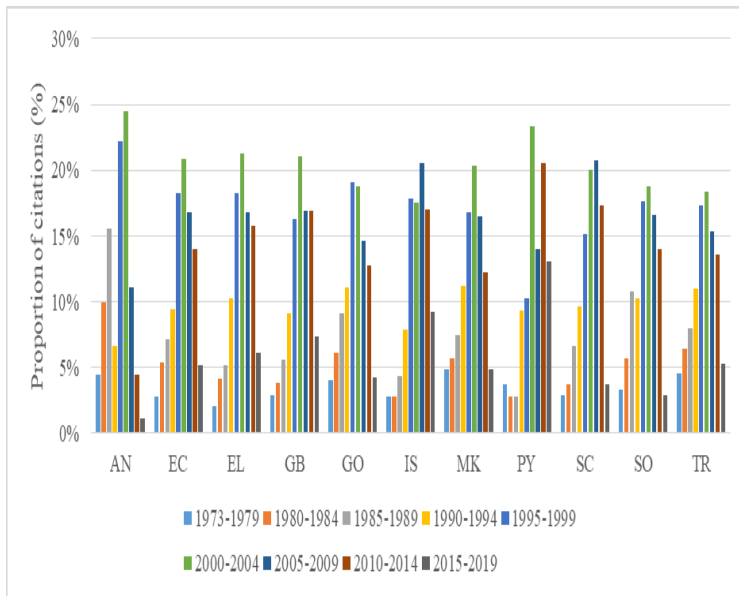
Fig. 2b. Cross-period variations in knowledge outflows

We also show the relative changes in knowledge inflows and outflows within discipline across time, after normalizing the data by the total citations originating from that discipline. Of all citations coming from a particular discipline, the period 2010-2019 cumulatively accounts for more than 50% of knowledge inflows - a trend observed across all disciplines (Figure 3a). While these trends can be attributed to an increase in the number of articles published by *Annals* over the last decade, they also suggest that the journal has become more inter-disciplinary, relying on theories and methodologies developed in other fields to advance tourism research. There are, however, some marked differences in knowledge inflows from disciplines such as information system, operations research, and general science, which appear to have a major influence on *Annals'* intellectual structure in the present decade. In terms of knowledge outflows, the journal had the most significant influence on tourism research and other disciplines during the period 2000-2009, but it appears that its intellectual influence has declined more recently (Figure 3b). Such a decline may be attributed to both intellectual and editorial developments taking place within the tourism academy as well as in other disciplines, however a discussion of such factors is beyond the scope of this research note.



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Figure 3a. Relative change within discipline over time (inflows)



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Figure 3b. Relative change within discipline over time (outflows)

Discussion and Conclusion

This study analyzes knowledge inflows to and outflows from *Annals* and their evolution since the journal's inception in 1973. Previous studies have identified similar disciplinary influences on tourism knowledge structure revealed in this study, although those studies are not restricted to *Annals* only (Belhasen & Caton, 2009; Tribe, 2018; Tribe & Liburd, 2016). During the most recent

years, *Annals'* knowledge structure seems to have been influenced by the need for researching sustainable tourism from an interdisciplinary perspective (Moyle, Moyle, Ruhanen, Weaver, & Hadinejad, 2020), which potentially explains the knowledge inflows from general science and ecology. Most importantly, we also find that knowledge inflows from disciplines like general business and marketing have increased, while those from sociology, anthropology, economics, and geography have declined over the years, a trend also observed by other researchers (Kim et al., 2009; Morgan, Pritchard, Causevic & Minnaert, 2018; Ren et al., 2010).

Such trends reflect disciplinary responses to prevailing political and socio-economic changes and challenges as well as to generational shifts in the tourism academy (Ren, Pritchard, & Morgan, 2010). While economists, sociologists, anthropologists, and geographers laid the foundation for early works in tourism, research over the recent past two decades has been largely influenced by the business management literature (Ren et al., 2010) - a trend referred to as a hegemonic system world, characterized by economically driven knowledge imperatives by Habermas (1987). However, a hegemonic hold on *Annals* is as privilege as it is harmful and as powerful as it is opaque, with concomitant implications for its intellectual structure and its positioning as a social science journal in the field. Hegemonic-driven scientific knowledge often fails to address issues of inequality, power relations, diversity, and oppressions in tourism development, while reinforcing business interests and economic growth (Mair & Reid, 2007). In this way, knowledge becomes characterized by 'performativity', 'consumerism', and 'profitability' (Tribe, 2009) and therefore, fails to address fundamental social, economic, and political questions (Corbyn, 2008; Tuchman, 2009). This may lead to an instrumental deformation of tourism social science research, while at the same time, driving *Annals* toward similarity with journals like *Tourism Management* and the *Journal of Travel Research* that have traditionally published more business-oriented research articles, making it indistinguishable from them.

Resisting to hegemonic influences on knowledge structure might be difficult if not impossible for academic journals. However, *Annals* should be mindful of research that mimic social science in ways that reflect the most prominent versions of science, that is, the natural sciences that produce scientific knowledge based on prediction and control of the natural world in an attempt to inform social relations. This requires that *Annals* redefines the meaning of tourism social science research if it is to reinforce its distinctiveness and influence as a social science journal. For social science to matter and be meaningful, a phronesis approach based on the Aristotle's philosophy, combined with a Foucauldian's perspective of power is advocated (Flyvbjerg, 2001; Schram, 2009; Simmons, 2012). Such an approach to social science emphasizes context, interpretation, and power relations and becomes an "an intellectual activity aimed at . . . contributing to social and political praxis" (Flyvbjerg, 2001, p. 4). In this way, Flyvbjerg call for phronetic social science can become a useful antidote to hegemonic knowledge structures in *Annals*.

The intellectual structure of *Annals* is influenced largely by intra-disciplinary citation practices, indicating its heavy reliance on the tourism literature as opposed to other disciplines. On the other hand, *Annals'* usage of knowledge sources from other disciplines suggests the journal borrows concepts, theories, and methodologies beyond tourism to advance knowledge. Although dated and based on a slightly different disciplinary classification of knowledge sources, Kim et al.'s (2009) study also found that more than 55% of knowledge inflows to *Annals* was from the tourism field. The study further confirmed the interdisciplinary knowledge structure of *Annals*,

revealing that 14%, 18.6%, and 7.5% of the journal's citation was from 'social sciences and public administration', 'business and economics' and 'natural sciences and geography', respectively. While the intra-discipline referencing patterns indicate of the maturity of tourism research (Goldman, 1979; Kim et al., 2009; Wardle & Buckley, 2014), citing works outside tourism is necessary for "groundbreaking, transformative, and high-impact science that will help us solve complex problems of global importance" (Leahey & Barringer, 2020, p.1). At the same time however, poorly crafted interdisciplinary research that draws on the fringes of other disciplines presents a challenge for theoretical advancement and lowers the scientific standard of a field (Jones, 2010). Researchers warn that highly disciplinary and highly interdisciplinary articles have low citation potentials, arguing that there is a desired level of interdisciplinarity, beyond which research becomes too dispersed to have a high scholarly impact (Larivière & Gingras, 2010).

It is therefore both difficult and problematic to determine an optimum level of inter- and intra-disciplinary knowledge sources most beneficial to *Annals'* intellectual development and influence. Within this discussion, it is important we remind ourselves that the structure of knowledge and its components are socially constructed entities (Barnes, 2014; Tribe & Liburd, 2016). Like any other journals, the degree of intra- and inter-disciplinarity of *Annals* and its influence on other disciplines depend on the scholarly behaviors of researchers such as their citation and collaboration patterns, which are themselves socially conditioned academic practices (Nunkoo, Hall, Rughoobur-Seetah, & Teeroovengadum, 2019; Nunkoo, Thelwall, Ladsawut, & Goolaup, 2020). Furthermore, the roles of gatekeepers such as reviewers, editorial board members, and journal editors in knowledge development should not go unnoticed. However, our data set did not allow us to consider such influences in assessing the intellectual structure and influence of *Annals*, which is a limitation of our study. Nevertheless, we can argue reasonably that disciplinary influences on *Annals'* knowledge structure have evolved over time in response to societal, environmental, and economic changes that resulted in the demise of certain disciplines and the rise of others. We can expect similar changes to *Annals'* intellectual development as we enter the fourth industrial revolution, which is shaping our future world, with their impacts on our societies, economies, culture, and personal lives. In conclusion, *Annals'* intellectual structure can be best described as evolutionary, intradisciplinary, as well as interdisciplinary, although the challenges accompanying such intellectual developments must be continuously addressed.

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