

Chapter 8

Focal Industries in Information Systems Research: A Scientometric Approach

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ABSTRACT

Information systems is a field that is highly relevant to the business environment. As a relevant concept, industry covers businesses that might have similar problems and processes. Problems and case studies from the industry are often covered in information systems publications. Considering the relevance of the industry concept, this chapter follows a scientometric approach to examine research interest from the information systems discipline towards sectors and industries. The approach depends on the industry codes involved in publication meta-data by EBSCO. Meta-data was collected for articles published in 20 information systems journals between 1996 and 2020. The results present an overview of relevant North American Industry Classification System (NAICS) sectors for selected information systems journals, as well as the most active journals by sector. A comparison of annual publication counts is presented, and the authors highlight the trends of research interest towards sectors.

INTRODUCTION

Information Systems Research is a dynamic and ever-changing field that faces many opportunities and challenges (Straub, Boudreau, & Gefen, 2004). Baskerville and Myers (2002) defined Information Systems as an applied discipline that needs to adapt to changes in the environment and draws upon more fundamental disciplines during its development. The primary objective of Information Systems Research is to generate the knowledge to enable the application of Information Technology (IT) for organizational and managerial purposes (Hevner, 2003). In this regard, the diffusion of information technology throughout digitalization is an interesting phenomenon for IS research.

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As a discipline that relies on the role of information systems and information technology in the industrialized world (Baskerville and Myers, 2002), Information Systems is closely related to digital transformation and its effects on businesses. More generally, Information Systems relate to the adoption of IT in organizations, as well as digital technologies. As noted in the highly influential paper by Benbasat and Zmud (2003), examining ties between Information Systems with the environment is necessary to define the boundaries and identity of the Information Systems discipline. From this theoretical perspective, digital transformation in the business environment is highly relevant to Information Systems research. Furthermore, Hevner (2003) underlined the relevancy of environmental factors for theory development, and applications in the Information Systems discipline. According to the author, Information System research requires understanding the organizations and people, along with technology, that necessitates case studies, experiments, field studies, and simulations. Similarly, Benbasat, Goldstein, and Mead (1987) highlighted the case study as an essential and legitimate method for extending the body of knowledge in the Information Systems discipline in a turbulent environment where the adoption of technology implicates both organizational and technical issues.

IS research has been subject to studies that examine the publications according to their research topics, methodology, and research paradigms followed. To our knowledge, the sectoral orientation of the discipline has not been extensively discussed in prior studies. An opportunity for our research is the availability of industry-publication links in publication meta-data. EBSCO database has been listing publications (EBSCO Connect, 2018) with lists of subjects, that index keywords and industry codes according to the North American Industry Classification System (NAICS). By analyzing the frequency of industry codes provided for IS publications, this chapter examines which sectors have been revisited by IS scholars and reports the most popular industries by IS journals. In this regard, this chapter extends the prior study (Kabasakal, 2017) by examining a more extensive dataset in greater detail. Moreover, the leading journals are highlighted for each sector, considering the ratio of their sector-related publications. Our findings also visualize the intensity of annual industry-linked publications to identify the trends of sectoral orientation.

LITERATURE REVIEW

Relevance of the Business Environment for the Information Systems Research

Information Technologies transform businesses, and the Information Systems discipline is highly relevant to organizations. A business exists in an industry along with its competitors and stakeholders. According to Chiasson and Davidson (2005), every industry has characteristics that influence IT artifacts as well as IS activities performed by businesses. The authors also argued that businesses within the same industry might have similar processes, equipment, supply chain structures, outputs, and IS requirements that include the IT solutions, governance mechanisms, and capabilities in software that relate to the characteristics of the industry. According to Melville and Ramirez (2008), industries require different degrees of information processing that emerge from the differences in regulations and supply chain structures. Besides, information is a crucial input that affects competition in an industry by changing the structure of industries and creating a competitive advantage for businesses (Porter and Millar, 1985) that leverage this input. Adopting information technologies in public administration also involves organizational issues to be addressed in IS research (Cordella and Iannacci, 2010).

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