

An Exploration of Intellectual Themes and Trends in Sport Management from a Multilevel Perspective: Bibliometric and Social Network Analyses

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**20-minute oral presentation
(including questions)
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Since the first sport management program initiated in 1966 (Mason & Paul, 1988), 354 higher education institutions in North America currently devote to distribute knowledge for future competent practitioners and scholars in the discipline of sport management (NASSM, 2012). In addition, numerous professional academic associations and academic journals are committed to building the body of knowledge by investigating the extensive range of phenomena in the context of sport management. However, as other burgeoning young academic fields have experienced (e.g., Merton, 1973), many sport management scholars have challenged the legitimacy of sport management as one distinctive academic field having vigorous ongoing debates with each other on diverse issues such as definition, boundary, and proper employment of methodologies within the field of sport management (e.g., Chalip, 2006; Costa, 2005; Quatman & Chelladurai, 2008; Slack, 1998). Although a number of well-known scholars of sport management provided several intuitive opinions and suggestions regarding these issues (e.g., Mahony & Pitts, 1998), what is lacking in the discussion is a firm grasp of what has been accomplished thus far in establishing an intellectual body of our own.

As sport management has grown considerably and has spawned several journals and books, it is arduous to review a wide range of publications through qualitative methods. Hence, the present study introduces a quantitative and empirical methodology - bibliometric analysis - that can depict and examine the structure of knowledge. Originally, the studies of bibliometrics tended to focus on identifying the most-cited publications and most-occurred authors, institutions, or keywords through simple frequency analyses to recognize the central themes and paradigms within an academic field. Even though this line of analyses can disclose the critical themes or paradigms at an individual-level (micro-level), it cannot reveal the relationships among these individual themes. Therefore, integrating social network analysis (SNA) to the studies of bibliometrics provides the different aspects in knowledge structure at a structure-level (macro-level). Consequently, the aim of this presentation is to elaborate how to employ bibliometric analysis and SNA for comprehending the intellectual structure from a multilevel perspective in the field of sport management.

Empirically and theoretically, the field of bibliometrics has been ripened as an academic discipline since it established close relationships with the seminal works of Merton (1973) in the sociology of science, *The Structure of Scientific Revolutions* by Thomas Kuhn (1970), and the initiation of the Science Citation Index (SCI). The critical set of beliefs of scholars in sociology of science is that various types of external factors of the social structure of science (e.g., citing patterns, authors' affiliations, etc.) have a reciprocal relationship with the production and distribution of scientific knowledge. As many other academic fields have adopted the conceptual framework and analytical techniques of the discipline of bibliometrics to disclose the intellectual structures (e.g., McMillan & Casey, 2010; Tai, 2009), it can be beneficial for the discipline of sport management to revisit the knowledge construction extensively. SNA is considered a perspective and a paradigm, not just a methodology. In fact, Freeman (2011) highlighted four defining characteristics of SNA: 1) it is related to the intuition that connections among social actors are important, 2) it requires the collection and analysis of data that contain social relations, 3) it visualizes a graphic imagery to display the structural patterns of those links, and 4) it develops mathematical and computational models to depict and illustrate those structural patterns. Recognizing the significant influence of structural attributes, many academic fields, from physics to anthropology, are applying SNA to their inquiries in order to explore macro-level phenomena. The field of bibliometrics also began to integrate SNA to the original analytical technique, frequency analysis, by examining the relationships among individual influential themes. Hence, this study suggests sport management scholars utilize both bibliometric analysis at a micro-level and SNA at a macro-level in order to investigate the body of knowledge with a multilevel design.

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As empirical examples, this study analyzed the keyword data and citation data at a micro-level and analyzed the keyword co-occurrence network (KCN) data and co-citation network (CCN) data at a macro-level. The sample was a full list of published articles by the Journal of Sport Management (JSM) between 1997 and 2010, which was retrieved directly from the Web of Science (WoS). The keywords were frequently occurring words in the titles of an article's citations extracted from the KeywordsPlus of WoS database generated by Thomson Reuters (WoS, 2009). For comparison purposes, two time-periods of the data – the early period (1997-2003) and the later period (2004-2010) were analyzed separately.

The results of KA demonstrated that the keywords having broad concepts such as model, organization, behavior, and performance were popular during the entire period. In addition, the keywords from the critical concepts in psychology and sociology tended to occur frequently. Interestingly, the keywords related to the field of sport marketing and diversity issues were newly emerged, whereas the majority of keywords that closely related to organizational theory or organizational behavior were diminished in the later period.

In the visualized KCN, the results of KCNA showed that the popularity of topics tended to focus greatly on organizational theory or organizational behavior, whereas more varied concepts were covered by the JSM articles in the later period. The noticeable groups touched upon a model of satisfaction, commitment, and perceptions, models of performance, diversity issues, alumni behavior in sports, distributive justice, and equality in intercollegiate sports. Similar to the assumption of KA, Citation analysis (CA) focused on identifying the most-cited studies to recognize the central subjects or theories associated with the popular studies through frequency analysis. The results of CA identified new trends and themes that emerged in the later period. Methodologically, structural equation modeling and qualitative research methods gained dramatic popularity. Conceptually, sport marketing, organizational studies, and diversity studies were central themes in both periods. In the later period, sport marketing and diversity issues in sport settings gained more popularity, while organizational studies had decreased in popularity.

CCNA revealed the connections among individual concepts and methodologies that were identified by the CA. In the visualized CCN, the results of CCNA showed that the group of organizational theory and behavior, such as leadership, was the central group in the early period. The other smaller groups such as sport marketing, tourism, and institutional theory encompassed that central group. On the contrary, in the later period, two different knowledge groups, the groups of sport marketing and structural equation modeling, were intertwined and formulated the giant group at the center. This implies an outstanding popularity of studies that investigated the phenomena in sport marketing through structural equation modeling as an analytical tool. Also, a new theme of diversity studies was identified.

During the presentation, we will discuss the results of KA, CA, KCNA, and CCNA with the visualized networks. Moreover, the future directions will be proposed, so we can expand this stream of research combining the methodologies.