From e-learning to social-learning: Mapping development of studies on social media-supported knowledge management

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Article history:
Available online 11 February 2015

Keywords:
Social media
Knowledge management
CiteSpace
Citation-based analysis

Abstract
Social media is bringing great challenges and wonderful opportunities for organizational learning. With support of social media, organizations may facilitate the knowledge management process within firms (e.g., knowledge sharing), then to encourage employees to promote collaborative learning behaviors from e-learning to social learning. There is a significant trend in the recent studies is increasing number of publications on social media supported knowledge management (SMKM). However, previous SMKM studies have not been depicted well by combining work of both researchers in social media study and ones in KM (which supports organizational learning) study. By using CiteSpace, this paper mapped important references that lead trends of SMKM development, authors contributing greatly to this field and hot topics of all the related articles. The way that SMKM study developed was analyzed according to the visualization of references and topics. Furthermore, the two most important groups – topics from SM and those from KM study were studied respectively to compare their development in order to show the fusion, the separation and other relationship. Finally, hottest trends and topics in these years and recent future were discussed to provide help for future work.

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1. Introduction

Knowledge management (KM) refers to a set of organizational activities to achieving organizational objectives by making the best use of knowledge (Groff & Jones, 2012); KM is critical for organizational learning, as KM processes (i.e., knowledge capture, sharing, and apply) can support organizational processes involving individual learning and collective learning (King, 2009; King, Chung, & Haney, 2008). Recently, more and more researches start to focus on the relationship between social media and KM, which may improve organizational learning from e-learning to social-learning (Ma & Chan, 2014). The topics include whether the use of social media can facilitate KM, or the use of social media has a negative impact on KM in reverse. As established discipline by Nonaka since 1991, KM has been impacted by the study in the fields of business administration, information systems, management and library and information sciences (Nonaka, 1991; Nonaka & von Krogh, 2009). However, more recently, there are other fields that have started contributing to the KM study. Social media are included in these fields (Bellinger, 2013). Social media is the social interaction among people in which they create, share or exchange information and ideas in virtual communities and networks (Ahlqvist, Bäck, Halonen, & Heinonen, 2008). Andreas Kaplan and Michael Haenlein define social media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content.” (Kaplan & Michael, 2010). Meanwhile, social media performed better in many ways, including quality, reach, frequency, usability, immediacy, and permanence, than traditional or industrial media (Morgan, Jones, & Hodges, 2012). Based on this, more and more attention was paid on the relationship between social media and KM.

In 1973, Granovetter (1973) published their influential work, “The strength of weak ties”. In this work, they made an analysis of social network and it suggested that social network is a tool for strengthen the weak ties. The impact of the strength of weak ties on diffusion of information was explored. Nonaka found that “any organization that dynamically deals with a changing environment ought not only to process information efficiently but also create information and knowledge” (Nonaka, 1994) while social media is a good tool for an organization. However, no matter it is Granovetter or Nonaka, they are all in an era without Internet or
social media. So in some extent they just make a relative research, not direct research, of the relationship between social media and KM. Alavi and Leidner (2001) made a review on knowledge management and knowledge management systems in 2001. And Alavi concluded that “advanced information technologies (e.g., the Internet, intranets, extranets, browsers, data warehouses, data mining techniques, and software agents) can be used to systematize, enhance, and expedite large-scale intra- and inter-firm knowledge management” (Alavi & Leidner, 2001). In his work, he also believed that “the role of IT in organizational knowledge management ought to receive considerable scholarly attention and become a focal point of inquiry”. After the birth and burst of social media such as Facebook and Myspace, in 2010, Kaplan AM made a complete definition of social media and a classification of social media. He also mentioned that social media can improve the process of knowledge sharing in firms (Kaplan & Michael, 2010).

These researches focus either on social media or knowledge management, but all of these researches mentioned or predicted the relationship between social media and knowledge management. In a word, these researches strengthened the huge potential of the study on social media and knowledge management. However, it is not clear that the way of the study on social media and knowledge management emerged. Meanwhile, trends of the study on social media and knowledge management are in need of a good analysis. With a clear description on the development of the study on social media and knowledge management, there will be a better understanding on the theories on social media and knowledge management.

The rest of the paper is organized as follows. Section 2 presents the current status of the study on social media and knowledge management. In the next section, we will analyze the trends of the study on social media and knowledge management. Then we will make a classification of social media and knowledge management, based on the classification, the relationship between each kind of social media such as blogs, and each kind of knowledge management, such as knowledge sharing. After all of these, we will summarize the findings and make a conclusion of the paper.

2. Current status of the study on social media and knowledge management

2.1. Data

Web of Science (WoS) provides basic information of important academic literatures in many fields, including titles, authors, journals (or other source), abstracts as well as citation data. Also, based on WoS, we can do some basic analysis on selected dataset. We mapped big data study’s current status represented in literatures with WoS.

We used “social media” and “knowledge management” as topical searches on WoS. Time span was set “all years”. Then we got 344 results (Dataset I) from Web of Science Core Collection.

2.2. Depiction of current status of the study on social media and knowledge management

As Figs. 1 and 2 show, there are more and more published papers and citations about social media and knowledge sharing from year to year. From 1999 to 2003, not so many people cared about social media and knowledge sharing. However, with the development of social network such as Facebook, and Twitter and the outburst of Internet, there are more and more problems that worth to research. Obviously, the trend will go on. On the other hand, current study about social media and knowledge sharing is too new to form a complete system. Basic theories in other fields need to be used in the study. There are lots of things we can do about social media and knowledge sharing.

From Table 1, we can see that top authors contributing the study on social media and knowledge management are ABRAHAMS AS, BAYLEY M and so on. The top five organizations in study about social media and knowledge management are “UNIVERSITY OF TORONTO”, “FLORIDA STATE UNIVERSITY SYSTEM”, “UNIVERSITY OF BRITISH COLUMBIA”, “UNIVERSITY OF CALIFORNIA SYSTEM”. And “UNIVERSITY OF TORONTO” has advantage than others which has nine or less publications (Table 2). As Table 3 shows, LECTURE NOTES IN COMPUTER SCIENCE, JOURNAL OF KNOWLEDGE MANAGEMENT and JOURNAL OF ORGANIZATIONAL COMPUTING play great role in the development of the study on social media and knowledge management.

3. Analysis of the trends of study on social media and knowledge management

To map trends of the study on social media and knowledge management, citation analysis should be included in. With citation data of the used dataset, we got information in a much larger number of relevant publications. According to citation analysis, most cited references, influential authors and top-tier journals in the study of social media and knowledge management can be picked out.

In order to make the result more accurate, we use Citespace to show trends of the study of social media and knowledge management clearly. During the analysis, timespan was 1999–2014. And we took one year as a slice and top 50 cited terms in each slice were used for visualization. Meanwhile, we took some important

Fig. 1. (a) The number of papers each year from 1999 to 2014; (b) the number of citations each year from 2000 to 2014.
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