



The impact of knowledge management processes on information systems: A systematic review



Mostafa Al-Emran^{a,*}, Vitaliy Mezhuhev^a, Adzhar Kamaludin^a, Khaled Shaalan^b

^a Faculty of Computer Systems & Software Engineering, Universiti Malaysia Pahang, Pahang, Malaysia

^b Faculty of Engineering & IT, The British University in Dubai, Dubai, United Arab Emirates

ARTICLE INFO

Keywords:

Knowledge management processes
Information systems
Systematic review

ABSTRACT

Knowledge Management (KM) processes play a significant role in the implementation of various Information Systems (IS). Several review studies were carried out to afford a better understanding of the current research trend of KM processes. However, this issue still needs to be examined from other perspectives. It is observed that previous research neglects the examination of KM processes studies with regard to ISs. The current study systematically reviews and sheds the light on KM processes studies related to ISs aiming to provide a comprehensive analysis of 41 research articles published in peer-reviewed journals from 2001 to 2018. The main findings of this study indicate that knowledge sharing is the most frequent KM process studied, followed by knowledge acquisition and knowledge application. Besides, questionnaire surveys were found to be the primarily relied research methods for data collection in the context of KM processes. In addition, 78% of the analyzed studies registered positive research outcomes. In terms of IS type, most of the analyzed studies focused on investigating the impact of KM processes on E-business systems, knowledge management systems, and IS outsourcing, respectively. Additionally, in terms of data collection, the majority of the analyzed studies were primarily focused on the participants who are IS executives/managers. Furthermore, most of the analyzed studies that achieved positive outcomes were carried out in China. To that end, this review study attempts to demonstrate and detail the recent increase in the interest and the advancement made in KM processes research considering ISs studies, which form an essential reference for scholars in KM field.

1. Introduction

Information Systems (IS) offer a wide range of opportunities for institutions to automate, produce, and share their knowledge effectively (Rahimi, Møller, & Hvam, 2016). The successful implementation of a particular IS can only be accomplished when knowledge and resources are managed sufficiently (Kwon & Zmud, 1987). Within this scenario, ISs play a key role in the development of KM (Cerchione & Esposito, 2017). It is claimed that KM processes are the fundamental processes for improving the capabilities of a particular technology, and the successful adoption and implementation of such technology increasingly depends on the efficient use of these processes (Colomo-Palacios, Fernandes, Soto-Acosta, & Larrucea, 2018; Lee, Lee, & Lin, 2007). Researchers have introduced different KM processes, each of which, contributes to the efficient use of ISs. Knowledge acquisition is defined as the institution processes that utilize the current knowledge and capture a new knowledge (Lee et al., 2007). Institutions that have the

capability to acquire valuable knowledge are more likely to use and implement an information system (Migdadi, Abu Zaid, Al-Hujran, & Aloudat, 2016). It is argued that knowledge sharing is the central process of KM and the successful implementation of KM highly depends on this type of knowledge (Assegaff, Hussin, & Dahlan, 2011). Knowledge sharing is defined as the institution processes that disseminate knowledge among all individuals taking a part in the activities of a particular process (Lee et al., 2007; Migdadi et al., 2016). Kim (2012) pointed out that individuals who share knowledge frequently are more likely to use an IS. Besides, Lin and Lee (2005) indicated that the institutional willingness of knowledge sharing would facilitate the process of technology adoption. Lee et al. (2007) defined knowledge application as the institution processes that enable the institution to access the knowledge smoothly via its efficient storage and retrieval techniques. Institutions that stimulate the knowledge application are highly qualified to the successful adoption and implementation of an IS (Lin & Lee, 2005; Migdadi et al., 2016).

* Corresponding author.

E-mail addresses: malemran@buc.edu.om (M. Al-Emran), vitaliy@ump.edu.my (V. Mezhuhev), adzhar@ump.edu.my (A. Kamaludin), khaled.shaalan@buid.ac.ae (K. Shaalan).

<https://doi.org/10.1016/j.ijinfomgt.2018.08.001>

Received 6 October 2017; Received in revised form 2 July 2018; Accepted 1 August 2018

0268-4012/ © 2018 Elsevier Ltd. All rights reserved.

According to the literature, KM in general and KM processes in specific play an essential role in facilitating the implementation of many ISs. The existing literature has focused on several perspectives with respect to KM processes. Various KM processes review studies were carried out. It is believed that each of which reviews provides a valuable synthesis of KM processes, yet further examination is required depending on other research perspectives. It has been noticed that the extant review studies neglected the examination of KM processes studies with regard to ISs. Accordingly, the present study systematically reviews and synthesizes the KM processes studies related to ISs in order to afford a comprehensive analysis of the collected studies. More specifically, this review study poses the following five research questions:

RQ1. What are the main KM processes studied considering their relationship with information systems?

RQ2. What are the main research methods and research outcomes addressed in the collected studies?

RQ3. What types of information systems are mainly studied involving KM processes, and what are the types of participants in the collected studies?

RQ4. How are the KM processes studies considering information systems are distributed across the countries of implementation and the years of publication?

RQ5. What are the active databases in the context of KM processes?

2. Literature review

During the last decade, an enormous number of IS studies has proved the importance of knowledge in organizations (Blumenberg, Wagner, & Beimborn, 2009). This knowledge was far more important than any other assets in the organization; thereby, it needs to be managed efficiently. Knowledge Management (KM) has become a prevalent research trend in academia and business sector (Al-Emran, Mezhyuev, & Kamaludin, 2018b; Jasimuddin, 2006; McAdam & McCreedy, 1999). KM is defined as "the process of capturing, storing, sharing, and using knowledge" (Lee, 2001). With the existence of KM, organizations will be capable to achieve these processes (Hwang, Lin, & Shin, 2018). KM is an emerging mechanism that can find particular information more efficiently and organize that information for quick retrieval and reuse (Lee et al., 2007). It is argued that KM is the essential asset in the modern institutions as it sustains the institutional learning, growth, success, and innovation (Lee, Shiue, & Chen, 2016).

According to the literature, different researchers have introduced different KM processes. Spender (1996) stated that KM processes include: knowledge creation, knowledge transfer, and knowledge application. DeLong (1997) pointed out that KM processes consist of knowledge capture, knowledge transfer, and knowledge application. More broadly, Probst, Romhardt, and Raub (2000) claimed that KM processes include: knowledge identification, knowledge capture, knowledge development, knowledge sharing, knowledge dissemination, knowledge application, and knowledge storage. In addition, Soto-Acosta, Popa, and Palacios-Marqués (2017) and Tiwana (2000) pointed out that KM processes include: knowledge acquisition/creation, knowledge sharing/dissemination, and knowledge utilization. Tiwana (2000) specified that KM processes are working in a continuous cycle, in which, it enables the IS users to achieve their goals, add a new knowledge and share that knowledge accordingly.

From the technological viewpoints, Watjatrakul (2013) stated that existing knowledge of individuals about a particular technology enhances their capabilities to comprehend the IS usage and features, identify the system difficulties, and to reinforce their attitudes toward the system usage. Moreover, it is indicated that KM processes are the essential elements for improving the capabilities of a particular technology, and the successful implementation of such technology

increasingly depends on the efficient use of these processes (Lee et al., 2007). KM processes are considered as the fundamental processes for the successful adoption and implementation of a new IS (Chong, Chan, Goh, & Tiwari, 2013; Lin & Lee, 2005; Migdadi et al., 2016). Information systems can be employed to leverage the KM processes of acquiring, storing, sharing, and applying a particular knowledge (Turban, Sharda, & Delen, 2011). Similarly, Mitchell (2003) demonstrated that information technologies could serve as a facilitator of KM. Additionally, it is believed that KM is mainly related to support IS processes.

With regard to KM processes review studies, Edvardsson and Durst (2014) carried out a systematic review to analyze studies related to KM processes outsourcing attempting to build a comprehensive source for scholars and to identify the gaps in the existing literature. Costa and Monteiro (2016) conducted a systematic review to analyze KM processes studies taking into account their relationship with innovation. Meese and McMahon (2012) carried out a study to systematically review and analyze knowledge sharing studies related to sustainable development aiming to understand the main knowledge sharing concepts and research strategies that were used in the civil engineering discipline. Yiu and Law (2014) conducted a systematic review to analyze KM and knowledge sharing studies aiming to address the main concepts of knowledge, KM, and knowledge sharing in the tourism sector. Charband and Navimipour (2016) conducted a systematic review to analyze studies related to the main knowledge sharing techniques applied in online environments. Asrar-ul-Haq and Anwar (2016) carried out a systematic review to analyze studies related to KM and knowledge sharing aiming to highlight and analyze the factors that hinder or facilitate KM in organizations. Zahedi, Shahin, and Babar (2016) carried out a systematic review to analyze knowledge sharing studies considering their relationship with global software development aiming to determine and synthesize the main practices and challenges of knowledge sharing.

Based on the existing literature, none of the above review studies have considered the relationship between KM processes and ISs. Nevertheless, different studies were carried out in the past years, each of which affording substantial information for scholars to well comprehend the impact of KM processes on ISs. It has been noticed that research has neglected the review of studies related to KM processes impact on ISs acceptance, adoption, and implementation. That is the purpose that encouraged us to carry out this systematic review. The present review study tries to add value to the extant body of literature by covering an up-to-date synthesis of KM processes research studies that were mainly focused on the impact of these processes on ISs acceptance, adoption, and implementation.

3. Method

A critical literature review is an important stage before conducting any research study (Al-Emran, Mezhyuev, & Kamaludin, 2018c). It establishes the groundwork for knowledge accumulation, which in turn enables the theories' extensions and developments, closes the gaps existing in research, and uncovers areas where previous research has missed (Marangunić & Granić, 2015). A literature review can be viewed as a systematic literature review only when the review is based on explicit research questions, determines and analyzes relevant research studies, and evaluates their quality based on specified criteria (Khan, Kunz, Kleijnen, & Antes, 2003). In this review study, Kitchenham and Charters's guidelines (Kitchenham & Charters, 2007) for conducting a systematic review were followed in addition to the procedures of other systematic reviews that were carried out in the KM context (Costa & Monteiro, 2016; Zahedi et al., 2016). In that, the review was conducted in four distinct phases: the identification of inclusion and exclusion criteria, data sources and search strategies, quality assessment, and data coding and analysis. The details of these phases are demonstrated in the following sub-sections.

Download English Version:

<https://daneshyari.com/en/article/7428950>

Download Persian Version:

<https://daneshyari.com/article/7428950>

[Daneshyari.com](https://daneshyari.com)