Perspective of social media as an organisational KM tool: contemporary literature review

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Abstract: Organisational knowledge management (KM) has been well comprehended over the past couple of decades as a significant fragment of leading enterprises. Besides, it is deliberated as an integral module of a business organisation. Additionally, globalisation plays a significant role in how business is conducted leading to innovative technological trends. Social media (SM) tools such as blogs, Wikis, and other social networking platforms have taken the world by storm and are no longer a trivial phenomenon. SM has become a mainstream tool enabling people to connect, communicate, collaborate, producing new possibilities and challenges to facilitate easier, faster, and more widespread sharing of information through this energetic, and intricate information infrastructure. This paper reviews relevant literature on business motives for social software adoption, the benefits, related issues and mitigation of the said issues. Further, it critically analyses SM literature and its effects on KM to better understand the effective usage and potential of related tools and how these enhance business environment and sharing knowledge. This paper explored the relationship between national culture and social media enabled KM.

Keywords: knowledge; social media; SM; blogs; Facebook; culture.

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1 Introduction

Recently it is advocated that social media (SM) plays a role in KM as these support KM practices (Aisenberg Ferenhof et al., 2016). KM can be interpreted as the creation, sharing and use of knowledge in wider context (Chaudhry, 2017). Besides, SM supports the resource knowledge and assists in some way in disabling KM obstacles. The mass adoption of SM has changed communication behaviour turning the World Wide Web into an ever-growing social universe supporting the conception, sharing and management of data, information and knowledge. Lau (2017) focused on knowledge sharing using videos administrated in the YouTube and how these are effective. Mirza and Sundaram (2017) concluded that SM is the optimal tool that can be applied in modern communications.

Through SM, enterprises are exploring new ways to cultivate and exploit knowledge sharing with their customers, suppliers and partners in a more emergent manner both inside and outside organisational boundaries. Terms such as enterprise social software (ESS) (Leonardi et al., 2013; Kügler and Smolnik, 2013), social software-based knowledge management (KM) (Krogh, 2012) Enterprise 2.0 (Back and Koch, 2011) or social business, acknowledge the central role of collaboration and support of social processes for communication and managing knowledge in the modern enterprise. Zaffar and Ghazawneh (2012) in their study embodied a case study at IBM Company where they presented knowledge sharing and collaboration through SM effects. They investigated how Web 2.0 technologies are being used to overcome knowledge sharing and collaboration issues and introduced emergent social software platforms (ESSP's). Additionally, they proposed knowledge sharing cycle model, which has three main stages – internalisation, externalisation, and objectification.

The character of mass collaboration and its properties is mentioned in this paper. It has four principles namely peering, sharing, openness and acting globally. These are related to sharing knowledge, and generating new opportunities for development. Wikipedia is considered an example of successful mass collaboration project. InnoCentive, is another example of a mass collaboration project that is specifically created for the global community. Findings of their study introduced a new component to knowledge sharing cycle model namely intermediation, which connecting knowledge seekers with the knowledge source. In addition, at IBM Company, Wikis are the most suitable platform for the process of objectification. Employees in IBM engage in peering through communities, Wikis and blogs, among which Wiki is considered the most useful open source technology. SM features such as tagging and book marking are also available at IBM.

Other efforts were conducted by Picazo-Vela et al. (2012) as their study focused on the public sector of central Mexico to introduce SM numerous applications and associated benefits and risks. Blogs, microblogs or electronic social networks are different types of SM. They introduced that there are both benefits and risks from SM. Moreover, strategic elements to include SM in e-government policy and as a communication channel with citizens also introduced in this paper. In addition, they presented a conceptual framework that is useful to organise the perceptions of participants.

Web 2 technologies are very much related to SM as introduced by many scholars (Ryberg, 2008; Chang and Kanan, 2008). Moreover, SM sites that control the worldwide market, in terms of social networking and user matters, are Facebook, LinkedIn, YouTube and Twitter. Government also has contribution in SM uses. For instance, for recruiting activities, sharing information across government agencies.

Some of the paybacks that can be gained when using SM in governments are efficiency, transparency, accountability, and improved trust and democracy (Cromer, 2010). Other benefits are enhancing communication more efficiently with people which is better than using the traditional communication methods. Moreover, citizen involvement by increasing opportunities to participate and cooperate is another benefit for SM.

According to Anantatmula and Kanungo (2010), technology makes it simple to collaborate, reduces both temporal and longitudinal barriers in transfer of knowledge, and recovers the different aspects of KM such as organisation, storage, archiving and retrieval. Significance of this study appears as it provides insight into the understanding of KM as a concept as perceived in public libraries and how these two libraries are using SM to manage both internal and external communication and knowledge.

This paper tries to revisit the contemporary literature on KM practices and link potential effects of SM which is considered as an organisational KM tool. To do this, authors reviewed the relevant contemporary studies of KM and SM including the tools of SM such as Facebook and Blogs. Further, the numerous benefits and aspects of KM are critically summarised in this paper to understand the existing gap in the literature regarding how SM affects the enterprises KM and how these are available in the enterprises in this competitive technology environment. These are still not answered clearly and there status are not discovered which opens the access for further investigation.

The structure of this paper as follows; it starts by reviewing the literature related to SM and KM, followed by methodology as it reflected in Section 3. Section 4 is

concerned with describing cloud SM for KM with respect to small and medium enterprises, barriers for adoption of cloud media. Section 5 is related to present the discussion, conclusion, implications, limitations, and the future agenda directions.

2 Literature review

In this paper the literature reviewed to understand the main themes of SM and KM. It comprises of the following sub sections.

2.1 SM concepts

"SM is the concept of SM is better defined as a group of internet-based application that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content" [Kaplan and Haenlein, (2010), p.61]. Blogging and Facebook have been regarded as two of the most commonly used SM technologies (AlAamri, 2009).

SM has recently emerged as a promising technology for KM (Yates and Paquette, 2011). Facebook and blogging could probably facilitate KM by capturing the narrative experiences and disseminating information and knowledge (Stiler and Philleo, 2003).

2.2 KM concept

KM It is a process that involves identifying, creating, capturing, organising, storing, representing and reusing knowledge to enhance organisational performance by effective and efficient use of organisational resources (Aharony, 2011). The objective of KM is "to maximize an enterprise's knowledge-related effectiveness and returns from knowledge assets" through "systematic, explicit and deliberate building, renewal and application of knowledge." Edosio (2014) considered that KM has no specific definition such that scholars and researchers define the term of KM based on their priorities and needs. Furthermore, Bouthillier and Shearer (2002) defined knowledge as the information application.

2.2.1 Managing knowledge: a collective perspective

Collective knowledge refers to knowledge that is common to all members of an organisation and can be defined as "knowledge of the unspoken, of the invisible structure" (Baumard, 1999). Collective knowledge is also often defined as knowledge of an environment of established rules, laws, and regulations (Newell et al., 2009). Collective knowledge can be associated with 'organisational knowledge' and/or with the organisational culture. From this organisational culture perspective, knowledge workers' minds on the basis of years of experience become a repository of 'how things work here'. Collective knowledge can be also defined as the result of individuals contributing their personal knowledge to 'best practices-lessons learned, repository-based' knowledge systems (King and Marks, 2008). From an organisational knowledge creation perspective, collective knowledge can be defined as "the process of making available and amplifying knowledge created by individuals as well as crystalizing and connecting it to an organizational knowledge system" (Nonaka and Von Krogh, 2009).

2.2.2   The articulation of personal and collective knowledge

Knowledge building can be understood as the interplay between individuals interacting in a collective place. The epistemology of practice, as introduced in the previous section, emphasises the social and collective dimensions of knowledge. In organisations, knowledge creation is often a social process that is context-dependent. Personal knowledge and collective knowledge are distinctive but interrelated; furthermore, one of the main constituents of organisational knowledge is 'interactions' (Bhatt, 2002). When levels of interaction are kept to a minimum, most of the knowledge remains in control of the individuals. Interactive processes (such as informal get-togethers) enable individuals to enrich their knowledge and to make a part of their knowledge available to organisations. Knowledge that is internalised through organisations is created through interaction, and not by one member alone. According to Bhatt (2002), organisations may use the expertise of individuals in finding solutions to organisation-related problems, but they cannot claim the right to individuals' knowledge. Within knowledge-creating organisations, new knowledge, learning, and innovation are created through interaction between individuals, and making tacit knowledge explicit is the key to knowledge-creating organisations, as described by Nonaka (2008).

2.3   KM and SM linkages

2.3.1   SM tools and effects

Currently numerous SM tools are used in different manners. It is proposed that these play a role in its link with KM.

2.3.1.1   Facebook and KM

Nowadays, there have been very few studies concerning the use of Facebook as a KM technology. One of the studies examined Facebook through the lens of community of practice (Wong et al., 2011) which encouraged "collaboration and sharing recourses in knowledge domain on the web." This study also found that Facebook, which emphasises interface, sharing and collaboration, is an interesting tool that fosters social learning. Phosaard and Wiriyapinit (2011) considered that Facebook can be an importance choice for KM and proposed a business, IT and KM strategic alignment model to be used almost off-the-selves to guide KM application on Facebook. The proposed model for Facebook and its linkage with KM as depicted in Figure 1 is illustrated by Huraira (2014) as considered Facebook (SNS) is being selected as the organisation for the analysis of learning and knowledge exploitation. He discussed how Facebook is integrating KM, organisational learning and the innovation. Besides, the conceptual model of Facebook proposed in Figure 1 is based on literature and the structure and functionality of the organisation. The model suggests that not only Facebook has identified itself a large pool of tacit and explicit knowledge but their exploitation of this knowledge is first class. Innovation at Facebook is largely dependent on its internal culture and external networks. By providing the external developers with the source code, Facebook has unearthed a consistent source of innovation that has played a pivotal role in Facebook's ever growing popularity providing it with an unmatched competitive advantage.

Figure 1 Facebook and its link to KM (see online version for colours)
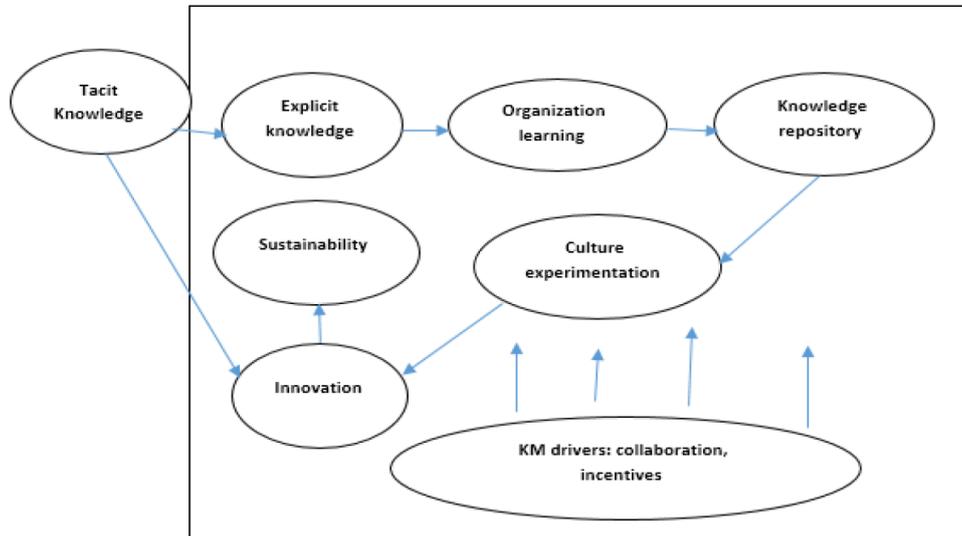
Source: Proposed by Huraira (2014)

2.3.1.2 *Blogging and KM*

Blogs have gained vast recognition as a KM tool, especially in business organisations (Ojala, 2005). Researchers perceived blogs as a relatively more advanced platform for effective information and knowledge allocation when compared to the more old-style technologies such as e-mails and discussion forums (Ferdig and Trammell, 2005). Scholars reported that university students can benefit from using blogs in helping them to manage and share knowledge gained from their specialised experiences (Chu et al., 2012). Additionally, the benefits of blogs for enhancing KM is administrated by Anggia and Sensuse (2013). As blog is a part of Web 2.0, it characterised by the fact of having numerous tools that enable the production, communication, and dissemination of information involving more users. Some of these tools are depicted in Table 1.

Table 1 Web 2 tools and utilities

Tool	Utility
Blog	Regular information publication commenting information
Wiki	Editing content collective intelligence
Social network	Creating online communities sharing files and opinions

Source: Anggia and Sensuse (2013)

3 Methodology

The literature review analysis is the methodology used in this paper. For reviewing existing literature on the benefits and challenges of knowledge sharing through social web tools in order to determine and identify key research gaps in the field. To accomplish

this, the chosen topic has been searched in popular online knowledge repositories and databases such as Science Direct, Elsevier, Emerald, ProQuest, EBSCOhost, Web of Science, and Google Scholar. A carefully chosen search query was executed to retrieve as much relevant literature as possible. Below is an example of search terms and combinations used:

- Tacit/implicit + knowledge + sharing/transfer/dissemination/exchange + web2.0/social web/social media/social networks/blogs/wikis/online/virtual communities, etc.

Two limitations were applied to the search query:

1   *language:* limited to English

2   *date of publication:* which was limited to 2011–2016, due to rapid pace of change in technology and social web, which would render older publications less relevant.

After reviewing the abstracts of sources and ensuring their quality (published in reputable peer-reviewed publications), about 20 articles sources, were ultimately selected for an in-depth analysis. However, to provide a discussion on the research gap there was a need to review KM literature in the areas of ICT support for knowledge sharing as well as the literature on enabling conditions for knowledge sharing, which ultimately led to the review of more sources. The resources were read carefully to determine the research gap and also to develop a conceptual connection between past KM literature in the area of ICT contribution to knowledge sharing and the potentials of current social web tools.

4   Enabling KM for SMES

Making the most from their knowledge is every organisation's ultimate dream. Some organisations design their approaches to accomplish this KM objective while others turn to experts who are able to take advantage of technological IT advances and possess the appropriate tools and technologies. KM experts often commands a considerable degree of commitment and tends to be employed by large organisations that posses the economic means to cope with its resource implications. Hence, many of the current enterprise KM systems (KMS) were often developed for large organisations that can afford to buy them and cope with their maintenance and operations (Sultan, 2013). According to Nunes et al. (2006) core to KMS activities, such as designing taxonomies, classifying information, and monitoring functionality, require an amount of effort that is often disproportionate to the resource capacity of most small to medium enterprises (SMEs).

Cloud computing has garnered a great deal of attention from many authors, consultants, technology analysts, companies, etc., since its emergence in 2007. Sultan and Sultan (2012) define cloud computing as; a modality, that uses advances in ICTs such as virtualisation and grid computing to deliver a range of ICT services through software, and virtual hardware delivered remotely according to user demands and requirements through public, private networks or a mix (i.e., hybrid) of the two delivery methods. These ICT services are:

- *software as a service (SaaS):* business software and programs

- *infrastructure as a service (IaaS):* fast and large processing capabilities and storage facilities that are seemingly unlimited

- *platform as a service (PaaS):* for clients who prefer to create and manage their own web applications development a set of tools and hosting options are available.

Cloud computing services can be provided through *public cloud* data centres owned by cloud vendors, *private clouds* (own data centres installed with cloud software) belonging to end users such as client organisations or *hybrid clouds* that uses a mix of onsite, private cloud and third-party, public cloud services with orchestration between the two platforms. Sultan and Sultan (2012) draw attention to *community clouds* as well. These sorts of cloud can oftentimes be provided (by one organisation), and consumed by groups of organisations in similar business or professional sector.

As we can see from the above review, there is a very important factor that affects SM as a KM tool which is cloud computing. We further explain in the review about how important cloud computing is, and how it will affect KM.

4.1 Key drivers of cloud SM for KM by SMES

Some recent studies have emphasised that SM can help knowledge conversion and team performance (Janhonen and Johanson, 2011), and highlight that it can improve collaboration and communication within most companies (Huang et al., 2013); other studies have explored the dynamics of user belief in software application adoption (Lee et al., 2011).

The benefits of cloud computing solutions are numerous, especially for smaller companies, the main drivers for cloud-computing adoption are associated with economics or simplification of software delivery and operation. Cloud-based solutions give SME the opportunity to reduce some of the traditional liabilities faced as opposed to larger organisations. The key drivers of cloud adoption by SMEs found from the literature are as follows.

4.1.1 Cost reduction

Cloud computing can contribute to a significant cost reduction, as the enterprise does not need to make large initial investments in computing resources and maintenance as it only needs to pay for the computing resources and services it uses. This represents an opportunity for smaller enterprises as they can benefit from compute-intensive business analytics available only to larger companies in the past (Ghaffari et al., 2015).

4.1.2 Scalability and on-demand structure

Another benefit of the cloud that can drive smaller enterprises towards adoption is the scalability/on demand structure, as the cloud can make it easier for SMEs to scale their services up or down ac-cording to their demand (Ghaffari et al., 2015).

4.1.3 Accessibility and flexibility

Cloud computing provides quick accessibility and flexibility as resources can be set up in very short time and companies can manage their entire IT resources through a simple

web-based interface that allows for ubiquitous access from multiple devices (Ghaffari et al., 2015).

4.1.4 Innovation

The cloud is argued to have a significant role in encouraging entrepreneurship and innovation. By using the cloud effectively, SMEs can convey innovative services quicker, thus they can compete with anyone, anytime, anywhere and of any size (Ghaffari et al., 2015; Sahandi et al., 2013).

4.1.5 Access to better resources

Migration to the cloud can offer better resource utilisation and grant access to a large pool of computing services that could not be accessed with traditional on premise models (Ghaffari et al., 2015; Trigueros-Preciado et al., 2013).

4.1.6 International orientation

Cloud technologies boost the SME's ability to take advantage of business opportunities across national borders and penetrate global markets, as cloud technologies are not limited by geography (Ross and Blumenstein, 2015).

4.2 Barriers to the adoption of cloud services by SMEs

Despite the advantages presented above, small enterprises should also be aware of the related risks and vulnerabilities before adopting cloud-based services for sensitive information. The main reasons for not considering cloud services by SMEs mostly prevalent in the literature are.

4.2.1 Data security and privacy

These are two of the most indicated barriers for implementing cloud by SMEs. Security includes data loss, phishing, cyber-attacks, etc., (Trigueros-Preciado et al., 2013) but is also connected to the in-security of using a service that is relatively new (Ghaffari et al., 2015). In terms of privacy, the customer of cloud has to comply with the law requirements regarding privacy, access, protection and data location, therefore has to make sure that the cloud provider complies. This is not always an easy job as there is usually some ambiguity about the accurate place of data and the level of its privacy, as well as a lack of standardisation and regulation in different parts of the world (Ghaffari et al., 2015; Sahandi et al., 2013). As stated by the authors, it is very crucial to protect the data sent to the cloud because if this data is corrupted or attacked by hackers it will not be easy to get back all the files and some important information will be lost.

4.2.2 Availability and quality of service

For enterprises using the cloud it is important that the services are always available and with adequate quality (Trigueros-Preciado et al., 2013). If the service is not available the users will find it very frustrating because the will not be able to complete their work.

4.2.3   Data lock-in

Data lock-in refers to the lack of interoperability between different cloud providers, which makes it difficult for customers to change from one provider to another (Trigueros-Preciado et al., 2013). This will limit the customer to use only one provider.

4.2.4   The control loss of the data

Data ownership issues make it difficult to transfer data to another cloud vendor. SMEs, which usually have little bargaining power with large cloud providers, will generally have to accept the terms and conditions offered by the service level agreements (SLAs) (Trigueros-Preciado et al., 2013). This will force the user to join only one vendor which will be difficult to handle the data as it has a big size and it requires more space.

4.2.5   Connectivity and open access

Sahandi et al. (2013) argue that the full realisation of cloud computing is dependent on the availability of high-speed access for all employees. Low speed will make the process of data transfer slower and it will delay the work.

   After the paper reviewed about cloud computing and its importance, it now reviews how culture can affect in KM and the barriers that culture will bring to KM.

4.3   Cultural barriers to KM processes

4.3.1   Individualism

According to Hofstede (2001) in highly individualistic cultures, it is believed that employees perform best as individuals and the decisions made by individuals are of higher quality than decisions made by groups.

   Common SM tools can be used to alleviate the reviewed cultural barriers to KM. As a result, individuals from a high individualistic culture will have lower knowledge sharing within their work groups as compared to individuals from a low individualistic (collectivistic) culture. The knowledge barriers in this case can be emphasis on self and reluctance to work in groups and need for recognition with low emphasis on collective potential.

4.3.2   Power distance

High power distance cultures are often tradition driven. In terms of work culture, employees from high power distance cultures often experience and accept inequality in distribution of power (Hofstede, 2001). Bosses tightly control employees and people fear speaking openly. High level of inequality between individuals in such culture will result in low sharing of knowledge. The knowledge barriers in this case will arise from emphasis on centralised decision making and authoritative leadership leading to fear of openly expressing opinions as well as negative evaluation.

4.4   SM: the antidote to cultural barriers

4.4.1   Wikis

Wikis can be used to create an informally structured body of knowledge. They can facilitate the knowledge conversion from tacit to explicit and thus increase knowledge dissemination. They can be adopted by key decision makers to ensure wide adoption in high power distance cultures. This will lead to greater acceptance and use of Wikis as a knowledge repository. Wikis can also be used as a community building exercise where individuals can contribute in their area of expertise. This will also create a social network driven by expertise, enabling tacit-to-tacit knowledge transfer using the socialisation process. Contributions to the Wiki can be recognised and rewarded thus incentivising the sharing of knowledge (Ray, 2015).

4.4.2   Enterprise social networks

Social networks and online communities will help create relationships and connect individuals who may have expertise. Communities of practice using work groups within the organisation can be used to transfer knowledge among employees. This will be useful for low uncertainty avoidance cultures which often look to their network for knowledge (Ray, 2015). Liking the posts (as similar to other social networks) on the enterprise network will lead to contributors gaining reputation as an expert (Ray, 2015). This will be valued as it will attach importance to self. This will help highly individualistic cultures to emphasise and value contribution, thus increasing knowledge sharing. Online forums could also reward incentives to posts that have been highly rated by peers. Successful SM tools could leverage crowd opinion and incorporate rewards into the KM system, thus making it appealing to the competitive spirit of highly masculine cultures. Online communities with anonymous participation can also be used to discuss in an environment free from judgment and fear of loss of face. This will help high power distance cultures to share and talk freely (Ray, 2015).

For both segments, it is also important to recognise that SM can only help up to a particular point. Web 2.0 tools can only empower a knowledge worker within the boundaries imposed by the models of corporate governance within that organisation (Schneckenberg, 2009).

5   Discussion

Authors in this paper are trying to focus on hot issue currently numerous organisations, services, enterprises, and individuals are utilising in their daily activities. The proposition that SM supports and enhances KM is considered among the priorities here. It is assumed that there is misunderstandings for explanation of the role of SM on the practices of KM and how this could be effectively utilised to develop and create a useful business models that enterprises can implement which leads to their successes on the long run and ensure their sustainable environment in this technological and competitive market. On the other

hand, this can affects the available barriers for KM as it introduces the tools and mechanisms for the solution.

5.1 Conclusions and implications

This paper serves as a motivation for further investigations into how blogs and Facebook can be utilised to facilitate individuals' KM in diverse organisational contexts. SM platforms also referred to as enterprise SM can enhance work practices and enable new ways of KM inside enterprises, and thereby increase their competitiveness. Many systems dedicated to managing organisational knowledge have relied on the idea of extracting knowledge from people and making it available to the group, ignoring the very personal nature of knowledge and the individual needs of knowledge workers. Here, we argue that the management of knowledge may be constructed collaboratively using SM, and can potentially make the management of knowledge less cumbersome through the synergetic articulation of personal and collective knowledge. The paper has introduced and explored a new perspective on leveraging SM in an organisational context and, in particular, has analysed two distinct dimensions of knowledge: the personal and the collective perspective and their potential synergy through the adoption of SM (Razmerita et al., 2014). In the 21st century, most of us are knowledge workers and KM is of interest to many researchers and in many organisations. The phenomena of SM can and is linked to KM as both shares the concept of connecting people and sharing knowledge between them. Even though SM has been found to be very successful, only few organisations have fully implemented it in organisations, in order to leverage their KM processes and efforts. This study suggested a new conception of how SM can be implemented in organisations serving KM needs. One of the important factors that will affect KM needs is cloud computing, it has numerous benefits as well as drawbacks. Researchers suggest that adopting cloud-based services may be particularly suitable for SMEs (Ghaffari et al., 2015; Sahandi et al., 2013; Sultan, 2011). The cloud can play a major role to the growth and competitiveness of such organisations and can help them lower the amount of complexity, reduce costs and strengthen organisational agility in various areas and KM is no exception (Sahandi et al., 2013; Kochut et al., 2011).

5.2 Limitations and future direction

Similar to other studies in the field, this paper suffer from limitations, which can open the door for further improvement and developments. As it shown above from observing the theoretical aspects and boundaries of SM, the relevant associated tools; still there is a need for further research to empirically explore the usefulness and applicability of these tools. Future scholars and academics can introduce these themes to further understand the terminologies related to SM and KM paradigm. The second limitation can be identified concerned the missing link for exploring the interrelationships amongst SM and KM. Till now this link is not further explored and critically investigated especially in the context of the developing countries. However, how this influence the other sides and how these are linked needs additional inquiries.

Acknowledgements

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