Knowledge Management Practices in Higher Education Institutions: a Systematic Literature Review

Jose Miguel Baptista Nunes
School of Information Management, Sun Yat- Sen University China.
E-mail address: miguelnunes@mail.sysu.edu.cn

Saima Kanwal
School of Information Management, Sun Yat- Sen University China.
E-mail address: saima@mail2.sysu.edu.cn

Muhammad Arif
School of Information Management, Sun Yat- Sen University China.
 E-mail address: arif3@mail.sysu.edu.cn

Abstract:

Across the globe, the role of Higher Educational institutions (HEIs) as knowledge providers has been scrutinized and challenged by the various stakeholders. Therefore, HEIs, especially in developing countries are putting efforts to manage their knowledge based strategic assets. To answer this challenge, knowledge management (KM) tools and techniques have been proposed to make use of HEIs knowledge assets in accordance with the demands of the time. The study reported in this paper intended to explore the research on KM in HEIs of South Asian countries and propose a conceptual framework. A systematic literature review (SLR) has been conducted to identify, select and retrieve relevant scholarly literature from well-established academic databases by following a precise protocol and a systematic data extraction strategy. The findings of the study shown that limited research on KM in the HEIs' context has been conducted in both theoretical aspects and empirical implementations. The findings also disclosed different factors that affect the main agents of KM in the context of their professional practices as faculty, administrative staff, librarians and information professionals in HEIs. As the result of the analysis of the literature review findings a conceptual framework is proposed in this paper which is expected to provide a good foundation for future research as well as pave the way towards more successful KM implementations in HEIs.

Keywords: Knowledge Management, Higher Educational Institutions, South Asia, Systematic Literature Review

Introduction

The importance of knowledge and its management has been established from many decades now, ever since Nonaka (1994) proposed his dynamic theory of organizational knowledge creation. Recently, knowledge is progressively considered as a critical component for organizations to be competitive, innovative and sustainable (Poonkothai, 2016). KM is meant

for the maximisation of the organization's knowledge assets and guarantee more effective knowledge practices, improved organizational behaviour and better performance through knowledge acquisition, creation, refinement, storage, transfer, sharing, and utilization (King, 2009). It is defined as "the effective learning processes associated with exploration, exploitation and sharing of human knowledge (tacit and explicit) that use appropriate technology and cultural environments to enhance an organization's intellectual capital and performance" (Ashok, 2004, p. 12). In the educational context, KM is explained as a set of practices that helps an institution to improve their teaching, research and administrative roles and encourage the use and sharing of data and information in decision making (Petrides & Nodine, 2003).

KM can be differentiated as tacit and explicit knowledge (King, 2009). People use their tacit and explicit knowledge in their own unique ways (Smith, 2001). Tacit knowledge is internally constructed by individuals during their professional activities and experiences. It resides in their heads and does not normally exist in explicit form (Nunes et al, 2006). However, it has a multidimensional structure which has specific and significant role in individual effectiveness in organizational settings (Koudouovoh, 2014). But it is difficult to access as it is often not codified and may not necessarily be easily expressed (Chugh, 2013) and if it remains in the heads of a few individuals in an organization then it can result in knowledge loss (Chugh, Wibowo, & Grandhi, 2015). So, the organizations need to develop strategies for the transformation of the tacit knowledge into explicit knowledge to derive maximum benefit from the organization's intellectual capital (Omotayo, 2015). Apart from tacit knowledge, organizations usually incorporate greater proportions of explicit knowledge (Venkitachalam & Busch, 2012) which comprised technical or academic data or information that is described in formal language (Smith, 2001).

In academic contexts, the main source of knowledge generation is human efforts which are developed through educational and research activities, innovation and learning (Dhamdhere, 2015). Knowledge in HEIs can be divided into academic and organizational (Coukos-Semmel, 2003) which are generated and consumed by faculty, students, administration, and researchers. To ensure success in HE, it is crucial that the knowledge created, stored and shared by each of the agents contributes to the effectiveness of the entire system (Rowley, 2000).

The study of Hawkins (2000) claimed that in HE, KM was considered as a function performed by librarians only. However, this is clearly a reductionist view that not only disregards tacit knowledge, but also assumes that all knowledge created in the HE is stored in the academic library. This is clearly not so and in nowadays' digital information age, this view needs to be changed and library professional biases put aside. There is a need to rethink meanings, review old paradigms and explore new KM players in academia, so that new KM frameworks can be proposed and explored. In contrast to business sector, few integrative studies have explored KM in academic institutions as a whole. So, in order to get benefit from the faculty and staff, sharing and dissemination of knowledge and its management, effective research and implementation of KM in HE is required (Toro & Joshi, 2013). HEIs create knowledge during their academic and administrative processes but still they find difficult to use the explicit and tacit knowledge as an integrated central resource to improve knowledge sharing and effective decision making (Kumar, 2015).

KM research is positioned at an emerging stage in developing countries (Asrar-ul-Haq & Anwar, 2016). Many authors pin-pointed that HEIs located in South Asian region, e.g., Bangladesh, India and Pakistan, are trying to make policies and encouraging the stakeholders of the institutions to take active part for minimizing the barriers and promoting successful

practices of KM (Islam, Agarwal, & Ikeda, 2014; Dhamdhere, 2015; Ranjan & Khalil, 2007; Bhusry & Ranjan, 2011b; Shreemali & Rathore, 2011; Abass et al., 2011; Islam et al., 2015).

The developed world comprehends the importance of organizational knowledge and applied innovative technology-based systems to manage it as a strategic asset. Nevertheless, the developing countries are far behind in research, understanding and actual implementation of effective KM practices. Bearing in mind the lack of integrative frameworks that can support the South Asian efforts to implement KM in HE, but acknowledging that there is a small but growing body of literature that emerges from the area, the study reported in this paper aimed a undertaking a systematic literature review of literature; describing the importance of knowledge as sustainable competitive advantage in the academic world in South Asia; and organizing the research identified and found relevant into a framework that may be useful to boost South Asian HE organizations in the contemporary global society.

Research Methodology and Design

Research Objectives

According to the aims stated above, the research reported in this paper aimed to achieve the following three specific objectives:
1. Explore the status of KM research in HEIs of South Asia region;
2. Explore the focus of KM research in HEIs in the region;
3. Explore the factors that have impact on KM in HEIs of the region.

Research Methodology

The research was conducted by following the systematic literature review general strategy proposed by Nunes *et. al* (2009) and specific protocol suggested by Jesson, Matheson and Lacey (2011). The approach adopted consists of the following steps:
1. Identification of keywords;
2. Production of search queries;
3. Definition of inclusion and exclusion criteria
4. Identification of relevant databases;
5. Query of databases and selection of relevant documents;
6. Analysis of the dataset selected.

Identification of Keywords and Production of Search Queries

As the focus of the present review was to identify KM research in HEIs, so the keywords; knowledge management, knowledge sharing, tacit knowledge, and explicit knowledge were selected. To these keywords South Asian specific keywords were added and search strings crated as shown Fig 1. In a first step, structured search was carried out in the following generally used and well-established databases: Web of Science, Scopus, ERIC, ProQuest, and Google Scholar.

Inclusion and Exclusion Criteria

Structured search was performed for the records published during the last decade, i.e., 2007-2016, during months of January-February 2017. Additionally, a manual search was conducted using backward and forward citations of the articles extracted during structured search. The

studies which include the keywords; 'higher education institution, university, 'university administrative staff', 'staff', 'employees', 'faculty members', 'faculty, 'library', 'information professionals' and 'librarians', and published in English language were included in the review. The literature from a student's perspective and was deemed not to fit the study scope and were excluded during the review. The SLR adopted the specified period mentioned above and, as such, studies published before or after that boundary were not included. Figure 2 illustrates the studies selection procedure. After screening the titles, keywords, abstracts, and duplication check, SLR identified 50 full texts that are potentially relevant to this research.
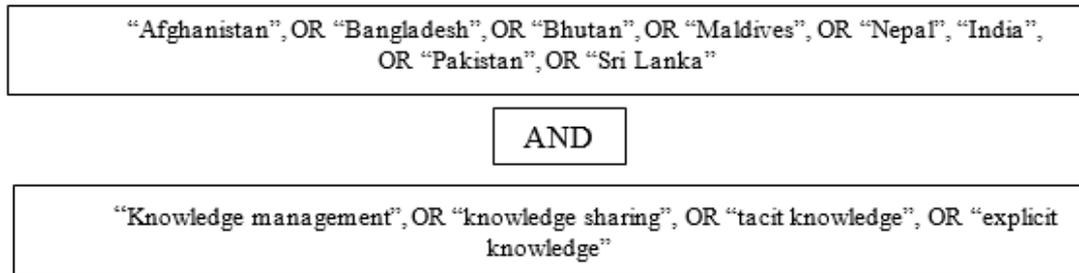
Figure 1. Research Keywords and Queries
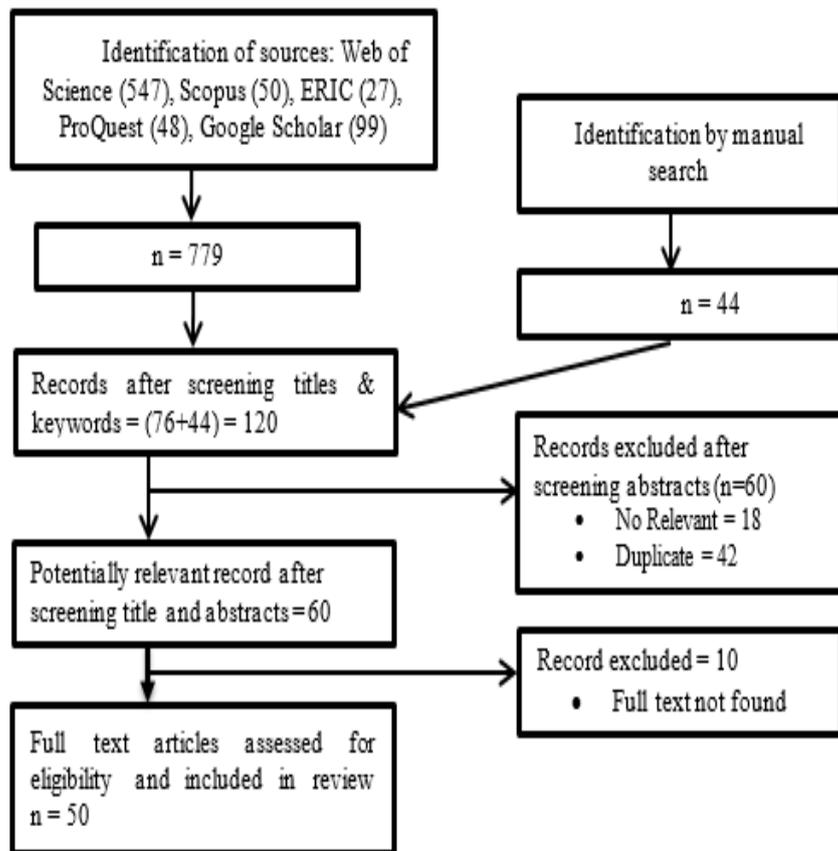
"Afghanistan", OR "Bangladesh", OR "Bhutan", OR "Maldives", OR "Nepal", "India", OR "Pakistan", OR "Sri Lanka"

AND

"Knowledge management", OR "knowledge sharing", OR "tacit knowledge", OR "explicit knowledge"

**Figure 2. Flow Diagram of Studies Selection Procedure**

Discussion of Findings

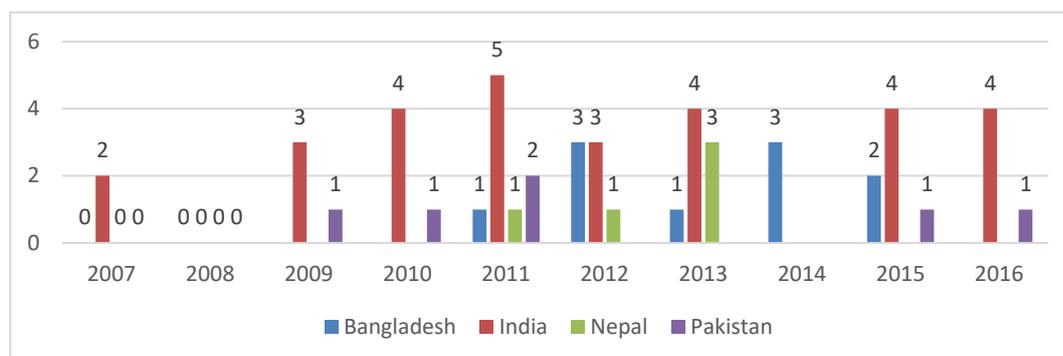Descriptive Discussion of Findings

To achieve objective 1 as stated above, the results of the structured and manual search were analysed, as shown in Figs 3 and 4. It was found that the trend in KM research was increasing until 2011, with an unexplained exception of 2008. After 2012 the numbers of published research seem to stabilise.

Figure 3. KM Research Trend
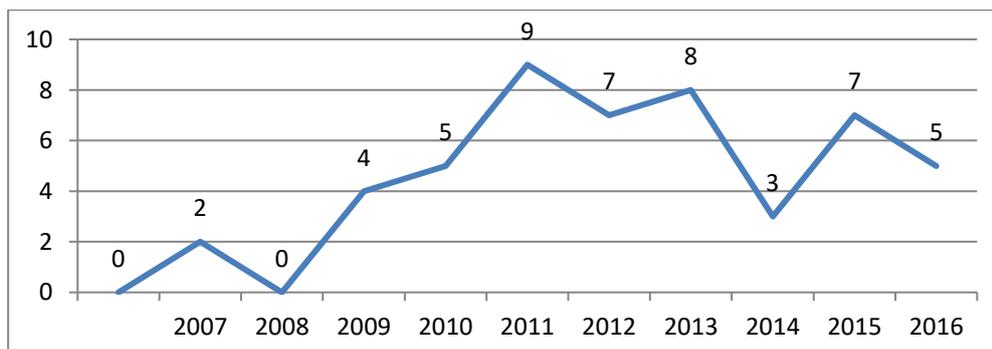
Out of 50, more than half (29) of the studies were conducted in Indian HEIs as compared to Bangladesh (10) and Pakistan (9) while only two studies were reported from Nepal. No study was found from Afghanistan, Bhutan, Maldives and Sri Lanka. Year-wise detail of the studies is also presented in Figure 4.

Figure 4. KM research status in HEIs of South Asian Countries

Analytical Discussion of Findings

To achieve objective 2, the locus and focus of studies was explored. Firstly, the locus of the studies was identified, that is, whether the phenomenon under investigation was pertinent to faculty, employees, librarian or institutional policies. This analysis revealed that the majority of studies were conducted on knowledge sharing and knowledge management topics focusing on librarians (24), followed by the faculty members (12), institutional context (8), administrative staff (3) and finally faculty and staff (3) (please see Table 1).

Table 1. KM Research Locus

Research subjects	References
Faculty Members	Santosh & Panda, 2016; Shaikh & Akhtarasha, 2016; Shahzadi, Hameed & Kashif, 2015; Munir, Rehman & Nazir, 2013; Islam et al., 2013; Agarwal, Kiran & Verma, 2012; Gautam, 2012; Mamta & Jayanthi, 2012; Pudashine & Rana, 2011; Lodhi & Ahmad, 2010; Madan & Khanka, 2010; Doctor & Ranachandran, 2007
Administrative staff/Employees	Iqbal, 2016; Iqbal, 2015; Abbass et al., 2011
Librarians	Poonkothai, 2016; Rao, 2016; Dhamdhere, 2015; Mostafa & Mezbah-ul-Islama, 2015; Islam et al., 2015; Ali & Khan, 2015; Khan, 2014; Islam & Khan, 2014; Islam et al., 2014; Shah & Mahmood, 2013; Nazim & Mukherjee , 2013b; Nazim & Mukherjee, 2013a; Yadagiri & Kumar, 2013; Hoq & Akter, 2012; Mostofa, 2012; Siddike & Munshi, 2012; Sheeja, 2012; Siddike & Islam, 2011; Nazim & Mukherje, 2011; Gaikwad, Desmukh, & Chavan, 2011; Rali et al., 2010; Aswath & Gupta, 2009; Raja, Ahmad, & Sinha, 2009; Shahid, 2009
Faculty & staff	Bhusry & Ranjan, 2011b; Khan et al., 2013; Bhusry & Ranjan, 2011a
HEIs	Kumar, 2015; Sagar & Kim, 2015; Bakshi, 2013; Ranjan, 2011; Shreemali & Rathore, 2011; Adhikar, 2010; Mikulecky & Lodhi, 2009; Ranjan & Khalil, 2007

Secondly, an analysis of the focus of the studies was undertaken. The most successful organizations are those in which KM is the part of everyone's job (Mikulecky & Lodhi, 2009). Successful KM practices in HEIs can result in the development of sustainable competitive advantage in market (Madan & Khanka, 2010). Researchers has also exposed that the status of the literature on KS behaviour of university academia still show scarcity (Shahzadi, Hameed, & Kashif, 2015).

In the context of faculty, authors analysed the status, needs and methods of KM in practice in HEIs. Authors have argued that these institutions should develop KM policies to enable effective sharing and management of knowledge. Faculty members are seen to play a pivotal role in HE in respect to publishing research, teaching and producing teaching materials, providing consultation and conducting other professional activities (Santosh & Panda, 2016; Islam et al., 2013). Increasingly, use of technology in teaching and learning have caused universities to transform the ways in which explicit knowledge is produced, stored, disseminated and appropriated by the organisation. Researchers also highlighted that faculty members were fully aware of the importance of knowledge sharing, but they were mainly focused teaching activities and sharing of learning resources (Shahzadi et al., 2015; Islam et al., 2013). In terms of research, a multitude of methods associated with publishing seems to be in use, such as books, journals articles, conference presentations and papers, informal discussion and sharing of research findings, as well as the sharing of teaching learning materials (Santosh & Panda, 2016).

Regarding the organizational aspects, authors reported that knowledge sharing has positive impact on organizational effectiveness (Munir et al., 2013) but has strong statistical correlation with organizational policies (Lodhi & Ahmad, 2010). Human resource management practices also play constructive role in the process of knowledge acquisition, knowledge distribution, knowledge interpretation and organizational memory (Shaikh & Aktharsha, 2016). Studies that examined employees perceptions on KS and found that human resource management practices, employees trust and collaborative practices have positive impact on knowledge sharing behaviour (Iqbal, 2015 & Iqbal, 2016). Abass et al. (2011) pointed out that rewards and organization culture also provide opportunity for the communication of ideas and knowledge.

Furthermore, researchers proposed specific factors relevant to individual behaviour, group behaviour and organizational policies, which play a central role in shaping positive behaviour towards sharing of knowledge (Agarwal et al., 2012; Mamta & Jayanthi, 2012; Lodhi & Ahmad, 2010; Islam et al., 2013; Gautam, 2012).

Research in the context of libraries were mainly focused on examining LIS professionals perceptions of KM, its concept, potential application, benefits and major challenges confronting academics libraries today (Nazim & Mukherjee, 2013b; Shah & Mahmood, 2013). The studies demonstrated that it is essential for the LIS professionals to take an interest in KM and its application in order to be able to develop better information services and facilitate improved retrieval and transfer of information (Dhamdhere, 2015; Siddike & Munshi, 2012; Petrides & Nodine; Yadagiri & Kumar 2013; Nazim & Mukherjee, 2013b). It was proposed that the potential areas of KM applications in libraries are reference and information services, policy and decision making, administrative services and planning of information service (Nazim & Mukherjee, 2013b).

Multiple technological, organizational, environmental, and individual factors impact KS practices of academic librarians (Islam & Khan, 2014; Nazim & Mukherjee, 2013; Nazim &Mukerjee, 2011; Sheeja , 2012). LIS professionals possess adequate knowledge about KM that will put them in a better position to improve their practice, namely in library services, library productivity, library user satisfaction and reaction to the current information explosion (Rao, 2016; Mostofa & Mezbah-ul-Islam, 2015; Islam , 2015; Yadagiri & Kumar 2013; Khan 2014; Mostafa , 2012; Raja et al., 2009). Use and experience of KM is associated with increased job opportunities (Ali & Khan, 2015; Kahan 2014) and better future prospects (Nazim & Mukherjee, 2013b). KM in context of HE libraries can be achieved through brain storming, open discussions, sharing of ideas, organizing workshops, conferences, mentoring, and identification and collectively addressing problems and finding solution (Poonkothai, 2016; Raja et al.,2009; Khan, 2014; Aswath & Gupta , 2009). Moreover, a number of technological solutions are seen to be crucial for knowledge sharing in the academic libraries world, namely portals, gateway websites, intranets, telephones, instant messenger, groupware, digital warehouses, and web conferencing (Islam, 2015). Finally, academic librarians are seen to play a fundamental role in the training of all HE staff, including their own staff in skills that are perceived to be related to KM, such as information literacy, IT skills and information services use (Gaikwad, 2011; Raja et al., 2009).

According to authors such as Bhusry and Ranjan (2011a) and Khan et al. (2013), faculty members and administrative staff seem to attribute impact and success of KM implementation primarily to effective use information. Bhusry and Ranjan (2011b) developed a KM framework that enables HEIs to better capture, structure and disseminate institutional knowledge. This framework is based on targeting KM to functional domains (e.g. planning and development, research, placement services, teaching and learning process, performance evaluation of faculty, administrative services, students affairs).

Studies focused holistically on institutional contexts, indicated that it is important to manage diverse types of knowledge used by both academics and non–academics for the sustainable improvement in the university performance (Mikulecky & Lodhi 2009). HEIs should produce and adopt policies that integrate administrative and academic KM approaches using people, processes and technology (Kumar, 2015; Shreemali & Rathore, 2011). According to the research reviewed, the main issues and challenges related to KM in South Asian HEIs are related to organizational support, individual's motivation, supportive culture, and technological infrastructure (Sager & Kim, 2015; Bakshi, 2013; Adhikar, 2010). The studies of Ranjan (2011) and Ranjan and Khalil (2007) also added HEIs require the integration and involvement of all human agents (students, faculty, administrator etc.), knowledge processes and technological infrastructure in designing and implementing KM.

To address the 3rd objective, an analysis of the factors that have an impact on the success of KM in HEIs of the South Asia region was undertaken. The results of that analysis are presented in Table 2. Once identified these factors were clustered into three main categories: individual, organisational and technological.

Table 2: KM practices factors

Sr. No	Factors	References	Count
	Individual		
1.	Attitude, Intention	Shahzadi et al., 2015; Mostofa & Mezbah-ul-Islam, 2015; Santosh & Panda, 2016; Islam & Khan, 2014; Yadagiri & Kumar, 2013; Kumar, 2015	6
2.	Awareness of KM	Mostofa & Mezbah-ul-Islam, 2015; Islam et al., 2015; Khan, 2014; Nazim & Mukherjee, 2013b	4
3.	Trust in KM	Santosh & Panda, 2016; Khan, 2014	2
4.	Self-efficacy & Self-esteem	Shahzadi et al., 2015; Shah & Mahmood, 2013	2
5.	Individual Motivation	Shahzadi et al., 2015	1
6.	Job Security	Khan, 2014	1
7.	Enjoyment in Helping Others	Shahzadi et al., 2015	1
8.	Willingness for Cooperation and Collaboration	Mostofa & Mezbah-ul-Islam, 2015; Islam & Khan, 2014; Kumar, 2015; Santosh & Panda, 2016	3
9.	Capacity to Deal with Change	Nazim & Mukherjee, 2013b;Kumar, 2015	2
10.	Capacity to deal with Information Overload	Mostofa & Mezbah-ul-Islam, 2015	1
11.	Capacity to Capture Knowledge	Poonkothai, 2016	1
12.	Adequate Expertise	Mostofa & Mezbah-ul-Islam, 2015; Poonkothai, 2016	2
13.	Management skills	Khan, 2014	1
	Organisational		
1.	Organizational Structure	Agarwal et al., 2012; Siddike & Islam, 2011;Kumar 2015	3

2.	Culture	Agarwal et al., 2012; Santosh & Panda, 2016; Mostofa & Mezbah-ul-Islam, 2015; Hoq & Akter, 2012; Siddike & Islam, 2011	5
3.	Qualified and Skilled Staff	Mostofa & Mezbah-ul-Islam, 2015; Islam et al., 2015; Islam & Khan, 2014; Yadagiri & Kumar, 2013, Rao, 2016; Kumar 2015	6
4.	Leadership and Management Support	Khan, 2014; Kumar, 2015; Shreemali & Rathore, 2011; Agarwal et al., 2012; Khan, 2014	5
5.	Adequate Reward Schemes	Gautam, 2012; Santosh & Panda, 2016; Khan, 2014; Kumar, 2015	4
6.	Training Schemes	Mostofa & Mezbah-ul-Islam, 2015; Islam et al., 2015; Khan, 2014; Nazim & Mukherjee, 2013b	4
7.	Adequate Budgets	Mostofa & Mezbah-ul-Islam, 2015; Islam et al., 2015	2
8.	Organizational Initiatives	Mostofa & Mezbah-ul-Islam, 2015; Siddike & Islam, 2011	2
9.	Existence of Opportunities to Share Knowledge	Gautam, 2012	1
10.	Clear KM Policies and Strategies	Agarwal et al., 2012; Gautam, 2012; Dhamdhere, 2015; Shreemali & Rathore, 2011; Poonkothai, 2016; Namdev Dhamdhere, 2015	6
11.	Adequate HRM Practices	Siddike & Islam, 2011; Iqbal 2015	2
12.	Outcome expectations	Shahzadi et al., 2015	1
	Technological		
1.	IT Infrastructure	Agarwal et al., 2012; Poonkothai, 2016; Mostofa & Mezbah-ul-Islam, 2015; Islam et al., 2015; Khan, 2014; Islam & Khan, 2014; Yadagiri & Kumar, 2013; Hoq & Akter, 2012; Siddike & Islam, 2011; Shreemali & Rathore, 2011	10
2.	Communication Channels	Santosh & Panda, 2016; Islam et al., 2015; Khan, 2014; Islam & Khan, 2014	4
3.	Technical Support	Gautam, 2012; Islam & Khan, 2014; Santosh & Panda, 2016	3

Synthesis of Findings

A careful analysis of the study findings resulted in the proposition that the success of KM in HEIs of the South Asia region seems to be based on three main aspects: (1) pre-requisites, (2) processes and (3) outcomes. Pre-requisites are essential to support the necessary KM processes to achieved the desired outcomes. Pre-requisites are composed of all the three types of factors presented in Table 2. Processes and Outcomes are the well discussed and established in both South Asian and World literature. However, it is pertinent to mention that this three tier framework can only work with the support from governments and HE regulatory bodies. Fig 4 presents a diagrammatic representation of this synthesis and is a significant theoretical output of this research.

Figure 4. Proposed KM Conceptual Framework
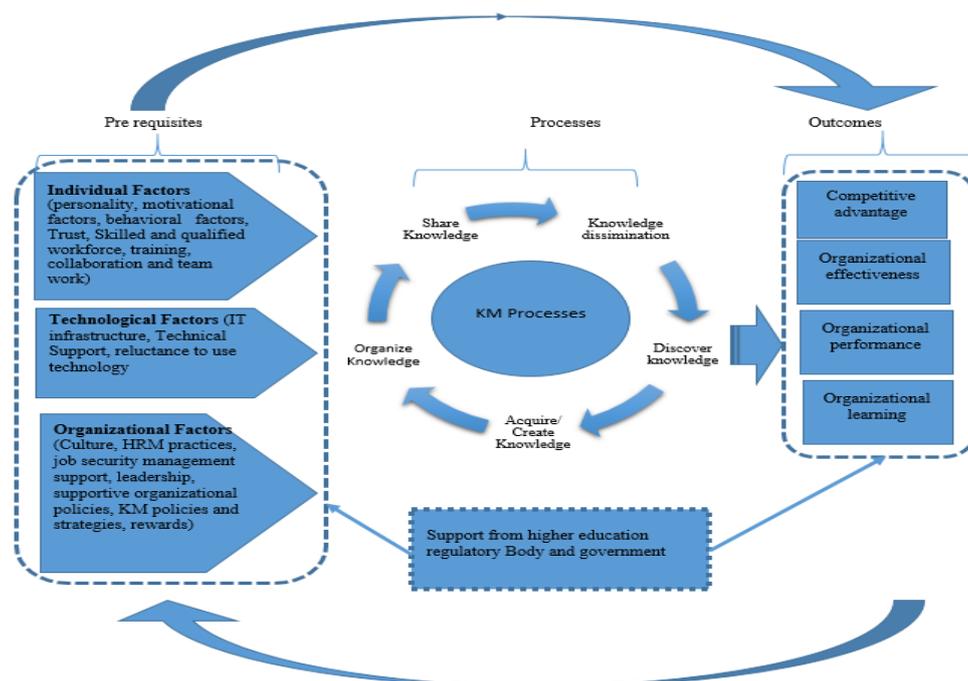
Conclusion

This study explored KM practices in HEIs of South Asia region by adopting a SLR approach. The findings of the research reveal that there is a clear awareness in academic, institutional and government circles of the importance of KM in HE. However, it is obvious from the members of articles found and presented above, that there is only limited researcher being done in this field in the South Asia area. From the very interesting and incisive research found it is clear that it is crucial to integrate all HE institutional stakeholders (academic faculty, administrative staff and LIS experts) into the effort of KM, not just the academic librarians. Different enabling factors were identified and divided into three categories: individual, organisational and technological. A synthesis of the findings of the SLR resulted in a conceptual framework that intends to provide a general understanding of successful KM practice and implementation in the academic institutions of developing countries' perspective. This framework is also expected to provide direction and focus to future research in this area.

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