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# KNOWLEDGE MANAGEMENT (KM) RESEARCH IN ACADEMIC INSTITUTIONS OF INDIA: A REVIEW

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**Abstract** *The study aims to find out the status of Knowledge Management (KM) research in academic institutions of India through reviewing the Ph.D. theses on KM. The primary data was collected by survey and observation method from Shodhganga repository of Theses and Dissertations of INFLIBNET. The study found knowledge management research in academic sector of India has started since 2009 onward and it is increasing with the passes of time. Only a few institutions/universities all over India are contributing in KM research till now and universities are in leading position in KM research at present. The management and library science are the leading departments to conduct research in KM areas in the country. Majority of study among them have used survey method as their research methodology and output of these researches, 30% were proposed KM model and 75% did testing of hypothesis of their research findings.*

**Keywords:** *Knowledge Management, Knowledge Management Research, Academic Sector-India, Knowledge Management in Library*

## INTRODUCTION

We are living in the 21<sup>st</sup> century, the age of exponential growth of information and knowledge and recognized as powerful key resources in each and every sector of the knowledge society. Further, the rapid advancement in means of communication has changed the way of handling, storing and dissemination the information and it forces to the information professional to rethink in their way of information management practices and invent new tools and techniques to manage the information which are flowing like the superhighway in present knowledge based society. After a lot of debate, field experience and practical evaluation information professional suggest a way of managing information i.e. Knowledge Management to meet the challenges of the knowledge society. Knowledge Management (KM) is the most powerful means for any organizational success in a knowledge society. It is a management attitude, which unites streamline information management with the culture of organizational learning spirit and needs a systematic approach to develop the evolution of knowledge into a key organizational resource. Most importantly, effective knowledge management is now acknowledged as the key driver of new knowledge and ideas. Therefore, knowledge management has become a significant issue in all type of organizations across the world irrespective of profit-making or not-for-profit organizations.

The Academic institutions have also started to follow knowledge management practices to support every part of their goal. An institution's wide approach to knowledge management can direct enormous improvements in creation and sharing of knowledge within the academic fraternity. In fact, academics community is the greatest knowledge creator by their critical thinking, innovation, and research in their respective fields. In last two decades, many research has been conducted in India and abroad on knowledge management and these research help to improve the KM system. Thus it is interesting and challenging to evaluate research on Knowledge Management by academic institutions of India and it will help the information professionals working on KM areas.

The growth of the Internet and its applications has added new dimensions to scholarly communication. Academic publishing has been changed tremendously with the ability to published contents access and stores scholarly works in digitally (Campbell-Meier, 2008). As electronic communication is developing at the speed of light, academic research has also introduced new technologies and tools for research communication. Theses and dissertations are recognized as source of original research work. The University Grant Commission (UGC) took a revolutionary initiative for developing a repository for theses and dissertations under Shodhganga project of INFLIBNET and

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converted the hard copy of theses and dissertations available in Indian universities' library into digital form to put on this repository to make them accessible in globally for the benefit of the academic community around the world. At present, total 177787 theses and 3900 research synopses are uploaded by 310 Indian universities (as on 18.01.2017).

## Shodhganga

Shodhganga was created in the year 2009 by the Information and Library Network (INFLIBNET), an autonomous body promoted by the UGC. "Shodhganga" is the name coined to mention the digital repository of Indian Electronic Thesis and Dissertations. The word "Shodh" originates from Sanskrit and stands for research and discovery. The "Ganga" is the holiest, largest and longest of all rivers in the Indian subcontinent. Shodhganga is set up using open source digital repository software called DSpace developed by Massachusetts Institute of Technology in partnership between Hewlett-Packard (HP). UGC has made it mandatory to submit the electronic version of theses and dissertations by the research scholars of Indian universities. As per the UGC regulations, all universities are required to submit a soft copy of MPhil/PhD Thesis to the UGC within a period of 30 days from the announcement of the award of the degree, for hosting the same in Shodhganga. The Shodhganga has helped in raising the quality of research and to overcome the problem of duplication of research. Thus Shodhganga stands for the reservoir of Indian intellectual and research output to the academic community of worldwide by open access initiative.



**Fig. 1: Shodhganga Repository**

Source: <http://shodhganga.inflibnet.ac.in/>

## REVIEW OF LITERATURE

Liao (2003) measured the knowledge management literature growth on by review of literature during 1995-2002 by using the seven categories as: KM framework, knowledge-based systems, data mining, information and communication technology, artificial intelligence/expert systems, database technology, and modeling, together with their applications for different research and problem domains and found 234 papers on knowledge management. He concluded his analysis with four suggestions for future development

KM technology. Guo and Sheffield (2006) examined KM research in Influential Journal from 2000-2004 on the basis of 160 KM papers published during this period in top information systems and information management journals on the basis of their research paradigm application in KM research and found that KM research in information system journals differs from information management journal. Sheffie (2008) stated that knowledge management is a heterogeneous field and argued the simultaneous application of multiple perspectives or pluralism for managing the richness of knowledge phenomena. During the literature search, he identified more than 50 frame work but out of that only three that are pluralistic and concluded that KM literature as a whole favors single system perspective. Dwivedi et. al (2011) reviewed 1,043 articles on KM, published in peer-reviewed journals from 1974–2008 and found that a combination of positivist, empirical, conceptual/descriptive, and multi-method approaches have been predominantly used in KM research area. Organizational, systems and environmental context-based KM research were found to be the most widely published topics within the KM research domain. Authors also identified literature gaps that require more exploration and conceptual refinement in the context of knowledge management research. Iqbal and Mahmood (2012) reviewed the knowledge management literature from Information System Management journal from 1999-2011 found that conceptual and descriptive method have been dominated KM research and there is lesser collaboration exists in research between academia and industry. The "knowledge strategy" has been found as most widely published topics under KM research. Boh and Wong (2013) analyzed the different dimensions of organizational climate on knowledge sharing to facilitate the acquisition, storage and sharing of knowledge with the assumption that organization perceptions of organizational climate can influence employees' for knowledge sharing. They concluded that organization's climate plays a significant role in influencing knowledge sharing attitudes among employees.

Pattanaik (2017) examined the participation of Indian universities initiatives towards open access on the basis of availability of Ph.D. research output in the form of ETDs and also measured the ETDs citation impact and concluded that there is significant growth in contribution of Indian universities towards open access movement during 2001-2010 in ETDs and also estimation has made that when theses put on open access in form of ETDs they received more citations. Devi and Verma (2017) made an assessment by measuring the contribution in sodhganga by central universities of the north east and found that out of 9 central universities; only 7 are contributing their Ph.D. theses in sodhganga. The Assam University has contributed the highest contribution (985) followed by Manipur University (657) and Botany department of NEHU, Shillong has highest contribution as individual department among all central Universities of North East states.

## SIGNIFICANCE AND SCOPE OF STUDY

Knowledge Management (KM) is an emerging area in present digital society and many type of research have been conducted in this area in India as well as around the world and huge amount of research literature was published on the basis of these research. Many studies have been already conducted to measure the KM literature by many authors like Liao (2003), Guo and Sheffield (2006) Iqbal and Mahmood (2007), Dwivedi et al. (2009) and many more as mention in review of literature but all these studies are based on journal publications analysis only. There is no single study was found to be the examined trend of growth and development of KM research literature by universities in the form of Ph.D. theses which are the important primary source of information and innovation and a majority of publications are the byproduct of these research only. Thus the aim of this paper is to analyze the research on KM as Ph.D. theses in Indian universities. The finding of this study will help to analyze KM research work trend and also predict the future outcome of KM research from India.

The scope of the present study is limited to evaluate the research on KM by Indian universities. The further scope

is limited to examine the theses available on Sodhganga repository of INFLIBNET.

## METHODOLOGY

The aim of this research is to evaluate and analyse the accumulated knowledge on KM research in the form of Ph.D. theses by different universities of India. The primary data was collected from Sodhganga- A digital repository of ETDS awarded by Indian universities. To identify the specific research work related to the topic, simple search terms and keywords were used. The search criteria include keywords: "Knowledge Management" OR "KM" and further search are restricted to appeared these keywords in the title of theses only to avoid the locating search result appearance of key words in the theses used of general purpose as part of main text only. Later on the search result is restricted to the criteria that their unit of analysis must be academic sector or they must be related to Library and Information Science. Moreover, the literature search was completed during the first week of August, 2017. The search resulted in total 20 published theses (Listed in Table-1) by various universities of India and available on the sodhganaga repository. All 20 theses were examined manually to crosscheck and confirm the relevancy of search results.

**Table 1: List of Theses Reviewed and Analyzed**

Sl. No.	Researcher	Title	Year
1	Agarwal, Anjali	Perceptions of library professionals towards knowledge management practices a study of select universities of Jammu and Kashmir NCT of Delhi Haryana and Punjab	2016
2	Alex, D.	Knowledge management research: A scientometric analysis.	2012
3	Anand Kumar N V	Design and development of meta-model for knowledge management in higher education domain	2011
4	Anandaram, K. S.	A study of knowledge management applications and consequent advantages to business schools.	2013
5	Indra, P.	Performance and efficiency analysis based on learning organization culture and knowledge management in Indian higher education institutions.	2015
6	Jahagirdar, Gopal Shrinivas	Knowledge transmission and knowledge management with special reference to IT faculty members of colleges under University of Pune at Pune Region.	2016
7	Joseph, Denish	Study of factors influencing knowledge sharing and community promotion in virtual communities of practice	2017
8	Kalaiselvi, K.	A knowledge management approach for sharing and transferring tacit knowledge in higher education domain.	2014
9	Kirdpibal,Oratai	A study of knowledge management practices of primary schools in relation to certain variables	2013
10	Krishnamurthy, V.	Awareness of knowledge management process among librarians of engineering colleges affiliated to Anna University of Technology Coimbatore: A Study	2013
11	Nirmala, K.	An empirical study of collaborative knowledge sharing strategy to enhance organizational learning with special reference to IT education under management faculty of University of Pune.	2009

Sl. No.	Researcher	Title	Year
12	Pooranachandran, C.	Knowledge sharing in web based learning environment- a social computing perspective.	2011
13	Renu	Knowledge management practices in educational institutions with reference to select universities and business schools in Delhi and NCR	2014
14	Sayed, Shahid Mohamed	Knowledge management in the Indian corporate sector role of library and information professionals.	2013
15	Senthil kumaran V.	A semantic approach for enhancing Knowledge management based e-learning services	2014
16	Shanthi, S.	A unified model to maximize learning through best practices in knowledge management.	2013
17	Shiroor, Amita Arun	A study of knowledge management applications and consequent advantages to business schools.	2010
18	Srikanth, R.	A study on knowledge management among self-financing engineering colleges in and around Chennai.	2011
19	Tiwari, Jyoti	Harnessing knowledge management through ICT	2013
20	Ulka Ramchandra Toro	The role of knowledge management for the implementation of information and communication technology in higher education: A study of shivaji university	2014

## OBJECTIVES OF THE STUDY

The aim of this paper is to find out the status of Knowledge Management (KM) research in academic sector of India by analyzing the Ph.D. theses on KM. The objectives of the study are to:

- Analyze the year wise growth and development in KM research.
- Find out institutions and departments which carried out research in KM areas.
- Examine the research methods and data collection tools used in KM research.
- Analyze the research outcome of KM research.

## DATA ANALYSIS AND FINDINGS

The theses selected were analyzed along a number of dimensions. Each of the dimensions is discussed in parts below.

### KM Research Published Year Wise

The first analysis of this study has been undertaken on the basis of year wise KM publications. The details of the yearly publications are included in Fig. 2 and results show that total 20 research works has been completed till now in KM area of research in the field of academic sector in India. The first PhD has been awarded in 2009 and the highest number of research completed in the year 2013 (30%) followed by the year 2014 and 2011 with 20% of the total KM research in the field of academic sector in India. The finding shows that research on KM is in initial stage and very less work has been completed till now.

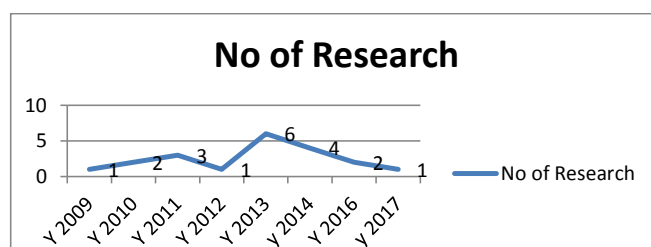


Fig. 2: Year Wise Growth in KM Research

### Institutions Wise Analysis Of KM Research

Table 2 displayed the details of universities/institutions of India carried out research on KM in the academic sector it was found that majority of institutes conducted only one research on KM. The highest number of research was done by Pune University (4) followed by Anna University (3) and Banasthali University (2).

Table 2: Institution Wise KM Researches

Institutions	No. of Research
Anna University	3
Banasthali Univesity	2
Bharathiar University	1
Bharathidasan University	1
ICFAI Foundation for Higher Education	1
Jawaharlal Nehru Technological University	1
Kurukshetra University	1
Manonmaniam Sundaranar University	1
Pune University	4
Sardar Patel University	2
Tilak Maharashtra Vidyapeeth	1
University of Jammu	1
Shivaji University	1

## Department Wise Analysis Of KM Research

KM management is multi-disciplinary area and many departments are also conducting research in this area. Table 3 shows the details about leading departments of Indian universities who did research in KM area and found that Management Science, Library Science and computer science is leading department to conduct KM research among Indian universities. The management sciences have total 30% share while Library science and computer science have 25% and 20% share respectively in KM research in form of Ph.D. theses. There are five other departments who conducted one research and they are commerce, Information science and technology, media sciences, education and electrical and electronic engineering departments and their total contribution is 25% in KM research.

**Table 3: Department Wise KM Researches**

Departments	No. of Research
Department of Computer Science	4
Management Science	6
Department of Commerce	1
Information Science and Technology	1
Media Sciences	1
Department of Education	1
Department of Library and Information Sciences	5
Electrical and Electronics Engineering	1

## Unit of Analysis in KM Research

Dwivedi et al. (2011) in his paper analyzed KM research according to the unit of analysis and highlighted on high unit KM research has undertaken and they identified 11 sectors in which KM research has conducted. This is an important analysis because KM can be applied to multiple units and sector due to its multidisciplinary nature. Ofcourse for this study the selected research reports are restricted to the point that their unit of analysis must be academic sector. Within academic sector there are different sub-sectors. The selected research reports under this paper are analyzed on the basis of this criteria and result was shown in table 4. After analysis, It is found that in KM research, a significant research (50%) conducted to use 'University' as the unit of analysis while on 15% research was conducted on 'Libraries' and 'Colleges' separately and 10% are conducted on "Business School/Management Schools". One study was conducted on "school" as unit and one is review based study. This analysis proved that maximum research in KM field was done by the universities on the university.

**Table 4: KM Research According to Unit of Analysis**

Unit of Analysis	No. of Research
University	10
Colleges	3
Business School/Management School	2
School	1
Library	3
Literature Review	1

## Topics Under KM Research

Many earlier studies (Liao, 2003; Dwivedi et. al, 2011; Iqbal & Mahmood, 2012) mentioned that KM literature have major demographic and meta-subject specialization categorizations and they also gave the insight to the specific nature of KM research and core topics in their analysis to established the core area of KM research. Table 5 shows the topic wise analysis of the select KM research in India and found that highest research conducted on the topic KM practices (40%) followed by KM applications (20%). There is one study on KM model and one on scientometrics analysis of KM while separately three studies were conducted on KM & ICT and KM & library professionals individually.

**Table 5: Topic Wise KM Research**

Topics of KM research	No. of Research
KM Practices	8
KM Application	4
KM and ICT	3
KM and Library Professionals	3
KM Models	1
Scientometrics analysis	1

## KM Research According to Research Method

Due to multidisciplinary nature and wide applications of KM, all the branches academia like- science, engineering, social sciences etc. are doing research on KM. This is also a general trend that each discipline has its own method of research. Table 6 shows the research methods used in the select KM research theses and found that 60% researchers used survey method in their research. 15% researchers used case study method followed by experimental and descriptive research.

**Table 6: KM Research According to Research Method**

Research Method	No. of Research
Survey	12
Case Study	3
Descriptive/Theoretical	2
Experimental	2
Mixed	1

### KM Research According to Data Collection Tool

Data collection tool is an important instrument of research to collect primary data and there are many data collection tools are available and researchers are using these tools according to need and suitability of research. Table 7 shows the data analysis based on data collection tools utilized in KM research in this study and it found that questionnaire is most common data collection tool and 50% of total KM research theses, researchers used this tool to collect their research data. 15% of research is based on experimental and secondary data analysis separately while other researchers used more than one tool in combined forms like questionnaire and interview; observation and questionnaire and observation, questionnaire and interview to collect their research data.

**Table 7: KM Research According to Data Collection Tool**

Data Collection Tool	No of Research
Questionnaire	10
Questionnaire and Interview	2
Observation and Questionnaire	1
Observation, Questionnaire and Interview	1
Experimental	3
Secondary Data	3

### Hypothesis Testing Trends in KM Research

All the basic research is based on assumptions and these assumptions are named as hypothesis in research language. Normally in the beginning of research, we set some hypothesis and it is tested with the finding of research and this process is called hypothesis testing. Table 8 shows about the testing of hypothesis in the select KM research and it was found that majority of KM researchers (75%) under study have tested hypotheses in their research work.

**Table 8: KM Research and Hypothesis Testing**

Hypothesis Testing	No of research
Hypothesis Tested	15
Hypothesis Not Tested	5

### KM Model Suggested in KM Research

The KM research in academic sectors are analyzed on the basis of KM model suggested in their research for implementation and further research. Table 9 shows the result and found that only 30% of KM research, researchers suggested some models as their research output to apply in KM system or further research however 70% studies were not given any model in form of their research output.

**Table 9: KM Research According to KM Model Development**

KM Model Development	No. of Research
KM Model Suggested	6
KM Model Not Suggested	14

## DISCUSSION AND CONCLUSION

In this review, the main focus was to provide an overview of current KM research in academic sectors of India through reviewing the theses submitted to the shodhganga repository on KM. This review contributed to not only the analysis of existing KM research by revealing trends in KM research in academic sectors, it also highlighted the key areas covered in the KM field. The analysis included in this study is along a series of dimensions like duration/era that published a significant amount of KM research, active institutes in the field of KM research, dominated departments of KM research have been considered. And last but not least the prevailing research methodologies and techniques are explored.

The concentration of attention behind all the analysis is to identify the gaps in the KM research in academic sectors and to uncover the lacking areas. In this regard, some important trends are identified. The first one is related to the KM research era. In this study it is revealed that from 2009 KM research in the field of the academic sector has started in India, and it is increasing with the passes of time. It illustrates that academic sectors are gradually diverting their focuses towards this intellectual capital of 'knowledge' and secondly only a few institutions/universities are contributing to KM research. In our list only thirteen universities all over India have participated in KM research in academic sectors and same trends was observed about departments

because only eight departments have contributed in which management and library science are in leading position. The universities are getting priority as a unit of study of KM research in comparison to other academic sectors. As far as the research methods are concerned the survey method has dominated and questionnaire method is used in most of the select studies as data collection tool. Moreover, in major research topics category, 'KM practice' and 'KM application' are in leading position. An important contribution of this study is identifying and exploring the hypothesis testing and proposed KM model. Here it is found that majority of the studies have tested hypotheses in their research but contrary less number of studies have proposed KM model in their research reports which are very important to implement KM as well as for further research in KM field.

In overall, universities have to pay more attention to KM research and may make it an important part of their academic education and research to improve the KM research outcome from the country. It is anticipated that this research will act as a useful source in the context of KM research in the academic sector. Further comprehensive and useful insights into the current research gaps can be identified which may set the future research directions.

## SCOPE FOR FUTURE STUDY

We concede that this study has some limitations like only Ph.D. theses are considered to evaluate the KM research trend in India and only one repository of theses is considered for literature search on KM. More supplementary research is required to establish the point of the influence of such factors in future. Even then we forecast that this paper will be very useful for readers and researchers who are doing or plan to do research on KM by knowing the approach, method, and models used by earlier research.

## NOTE

<http://shodhganga.inflibnet.ac.in/>

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