

**KNOWLEDGE MANAGEMENT PRACTICES IN
INSTITUTES OF HIGHER LEARNING
IN INDIA**

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INSTITUTES OF HIGHER LEARNING
IN INDIA**

by

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CERTIFICATE

This is to certify that the thesis entitled "KNOWLEDGE MANAGEMENT PRACTICES IN TECHNOLOGICAL INSTITUTIONS OF HIGHER LEARNING IN INDIA", being submitted by Mr. KALYAN KUMAR BHATTACHARJEE to the Indian Institute of Technology Delhi, for the award of the degree of DOCTOR OF PHILOSOPHY (Ph.D.), is a record of bona fide research work carried out by him. He has worked under our supervision, and has fulfilled the requirements for the submission of this thesis, which is in accordance with the standards required for a Ph.D. degree of the Institute. The results contained in it have not been submitted in part or full to any other university or Institute for award of any degree / diploma.



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ABSTRACT

Knowledge Management (KM) emulates different meaning to different people and organizations, and is most probably used within many institutions of higher learnings (IHLs) in one way or another. There are various definitions of KM. Some believe that “KM does not start with technology but with the business objectives and processes and a recognition of the need to share information”; others believe that “KM is nothing more than managing the information flow, getting the right information to the people who need it so that they can act quickly, thereby increasing institutional or corporate IQ” (Gates, 1999). Still others believe that “KM is something much more than just managing information, and involves the management of both tacit as well as explicit knowledge” (Nonaka, 2007). KM might not be a common term used in IHLs but it probably is implemented in different ways.

In this thesis, an attempt has been made to develop a deeper insight into Knowledge Management (KM) practice in Institutes of Higher Learning in Technology (IHLTs) in India, by identifying enablers of KM, knowledge creation process through externalization of knowledge and a model for knowledge transfer.

IHLTs in India in general, are multifaceted organizations, characterized by a distinctive philosophy, specific history, mission, shape and size, generally autonomous, yet bound together by the identical challenges of competitiveness. These are facing many challenges in recent times such as the emergence of growing accountability imposed by the Indian Government, a greater emphasis on students’ satisfaction, globalization, the knowledge economy and advances in Information and Communications Technologies (ICT). Knowledge Management (KM) and strategic management of knowledge assets can provide competitive advantage that they need, as well as provide a solution to address some of these challenges. However, many research questions prevail in this area. Have Indian IHLTs adopted Knowledge Management at an institutional level to enhance their competitive advantage? What are the perceptions and practices of KM that prevail within the Indian IHLTs? What is the status of knowledge creation through publication of research papers, patent filing and collaborative research publications as compared with other countries of the world? What are the contributing factors that hinder or

promote the use of KM within the IHLT? What is the appropriate model for KM implication at Indian IHLTs? How IHLTs can explore the possibility of extending knowledge transfer to a larger group of stake-holders through E-Learning and KM implementation? Literature review could not answer these questions and hence, this thesis embodies a sequential and quantitative-qualitative approach using mixed-methodology and multiple case studies to investigate these questions within the context of the IHLTs. In this research the entire study has been presented in the following six phases and attempts have been made to answer the above questions.

The first phase is an overview of the state of knowledge externalization through research publications, patenting and research collaboration at Indian IHLTs. This study is based on the analysis of on-line SCOPUS database of research publications. This study compares Indian vis-à-vis global status of knowledge externalization. The second phase is a case study at a premier Indian IHLT exploring the status of knowledge transfer to the students' community. The study reveals important factors for KM implementation at an Indian IHLT. The study further analyses various parameters influencing different performance indicators of academic institutions. Relationships among knowledge transfer factors and various performance parameters have been studied. In the third phase, the status of KM practices adopted in the top 15 Indian IHLTs has been studied and responses of a questionnaire-based survey have been analyzed. Hypothesis have been formulated and tested in this study. Key observations from survey responses have been reported and discussed. Perceptions of academicians on the status of KM implementation in IHLTs have been presented in this study and relationship among factors and different performance parameters measuring KM implementation at IHLTs have been explored. The fourth phase is a case study for knowledge transfer through E-Learning at a premier Indian IHLT. Working professional enrolled for courses are the Unit of analysis of this study. Inputs from the working professionals undergoing studies through E-Learning were obtained, analyzed and presented. Factors affecting smooth knowledge transfer have been identified. The model presented in this study is helpful to the top management to decide the important factors affecting KM implementation through e-learning. The fifth phase is a case study of NPTEL portal (offering technology and management courses at global level) for knowledge transfer. A conceptual value propositions model for Indian IHLTs has been developed. The portal has been studied under SAP-LAP framework and SWOT tool. The analysis reveals that the NPTEL portal

helps the society at large by spreading technology education to the masses and at the same time it has created opportunity for all the teachers to pool their collective knowledge for the benefit of every learner and, thereby, helped to bridge the gap of digital divide. In the sixth phase the key knowledge enablers for IHLTs have been identified and hierarchical relationships have been developed using Interpretive Structural Modeling (ISM) methodology.

KM aspects of E-Learning have been studied at three levels based on knowledge facilitation according to three generations of knowledge management (KM1, KM2 and KM3) which is linked to three levels of web generation (Web0, Web1 and Web2) (Garcia, 2008). A conceptual framework of E-Learning for KM implementation has been proposed which can enable an institute to choose the most efficient, useful and cost effective E-Learning model. Based on above, the type of KM strategy needed for an IHLT depends on the nature of its academic activity and availability of resources.

The research outcome suggests that KM tools and techniques are being practiced at Indian IHLTs at a very basic level. It is implemented in isolation and in a fragmented manner. IHLTs are giving emphasis to Information Management but are not fully committed to KM. The main contributing factors for KM implementation at IHLTs are top administrative support, trust-based institutional culture, reward system. The research in this thesis, presents a substantive picture for KM practices in Indian IHLTs, and has contributed to the field of Knowledge Management.

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