CHAPTER – 6

CONCLUSION, IMPLICATIONS AND SUGGESTIONS

Introduction

6.1 Conclusion of the Survey Results

6.2 Implications for Indian Educational Institutions

   6.2-1 KM for Students

   6.2-2 KM for Faculties

   6.2-3 KM for Administration

   6.2-4 KM for Top Management

6.3 Suggestions for Exploiting the Benefits of KM

   6.3-1 Knowledge Management: An Individual Perspective

   6.3-2 Knowledge Management: An Organizational Perspective

   6.3-3 Knowledge Management: A Technological Perspective

6.4 Limitations

6.5 Scope for Future Research

Summary
**Introduction**

*Tom Steward in his book The Wealth of Knowledge was quoted as saying, “Connection, not collection; that is the essence of knowledge management.”* The findings from the present study reinforce this thought very significantly, both in statistical terms as well as in theoretical and argumentative terms. *The research, however, is done in the context of higher educational institutions in India, precisely in Delhi NCR region, but the implications of the findings can hold relevance for any organization in general. The present chapter talks about the summary of findings and results, their practical implications, and importance for different stakeholder of a higher educational institution. Limitations related to the study and scopes for future research have also been discussed briefly. Basically the chapter provides the concluding remarks with respect to the research carried out.*

### 6.1 Conclusion of the Survey Results

The role which knowledge management plays in any higher educational institutions (HEIs) is quite crucial in shaping and developing the effectiveness and better management of the institutions, be it a department of a university, or a research center, or even a university-affiliated college. It is imperative that in such turbulent environment until the flow of ideas, information and knowledge will be smoothened, it is always difficult for organization to prosper, share ideas, develop participative approach n working. Also organization should aim at identifying the drivers and barriers of knowledge management since it would to a large extent affect the organization culture and climate.
From the findings of the present study, we can conclude that the four main important building blocks under the three major dimensions (i.e. Knowledge Gathering, Knowledge Creation, and Knowledge Diffusion) of knowledge management (KM) in the Indian HEIs are strategic visionary leadership and commitment, technological advancement, organization Culture, and communication. These four major factors are amongst most important factors that help in designing KM environment in organization. Apart from this it was also found that there was significant difference with respect to selected demographic factors on importance attached to factors considered significant for KM. Thus, organization should strive hard to identify the supporting factors that promote KM culture in organization and plan strategies and policies and ways in such a manner which could lead to better knowledge gathering, creation, and diffusion across departments and individual which will help in building sound and participative based culture. Such culture promotes innovativeness autonomy, participation and better team work to further accelerate the growth.

The research has achieved its main goal of developing an integrated comprehensive KM model by following a process of research methodologies. The research has proved that the proposed KM model can successfully help construction organizations to enhance KM adoption. The achievements of this research can be summarized as follows:

1) The objective to identify the various areas of KM that may require more research and investigation has been achieved. This has been accomplished through conducting an extensive review of KM literature that highlights KM concepts and discusses individual, organizational and technological aspects of KM implementation. The research has started
with an investigation of important KM principles, methods, tools and techniques. Then the research has investigated the unique features of construction projects and discussed the associated motivations and challenges affecting KM adoption in the knowledge-intensive institutes and universities.

2) Objective to investigating scope of effective implementation of a knowledge management strategy has been successfully attained. It is consummated that success of any KM process largely depends of its effective implementation. Academic institutions are surveyed to analyse impact of KM implementation on faculty, students and administrative staff. Results identified willingness to share knowledge with colleagues, IT infrastructure and organizational culture are main factors.

3) The objective of investigating barriers and facilitators to knowledge gathering, creation and diffusion has been accomplished through an extensive review of sufficient number of KM processes in the literature. This has helped the researcher to investigate barriers of existing KM models and identify facilitators for improvements. The results have shown that many institutes/universities are facing a deficiencies of necessary components and processes of KM. Many institutions are fail to provide a structured method for KM adoption, while others lack successful methods and procedures for dealing with the different types of knowledge and fail to fulfill the requirements of end-users.

4) This study identified the key success factors in implementing knowledge management systems and three main KM processes are identified knowledge gathering, creation and diffusion. Institutions of higher learning are placed in the critical role of knowledge production. The knowledge so produced by individuals should be translated into organizational knowledge. This requires knowledge sharing. It is very significant, as most
academicians have agreed, in order to remain highly effective. Based on this research, knowledge sharing should be continuously promoted and barriers should be overcome. The strategies for promoting knowledge sharing may be organisation-specific. However, a strong support was found for linking knowledge sharing with rewards and performance appraisal. Support from the top management in encouraging academicians. More efforts must be made and awareness must be created to ensure that people understand the benefits of knowledge sharing.

5) Basically, teaching staff could enhance their knowledge sharing practices if their infrastructure is upgraded. There is a need to change their system from mechanistic to organic approach. Databases must be upgraded to encompass more relevant and variety of business database. Sharing of knowledge could also be enhanced if the administrates play a positive role by encouraging their teaching staff to share knowledge by organizing open discussions, forums, seminars. For providing suggestions for the future development of KM implementation and application at both organizational and individual levels are surveyed. Results have shown that organizations that have successfully encouraged knowledge sharing among employees, have exhibited improved organizational performance to promote knowledge sharing. The success of a KM is contingent not only on knowledge contribution but also on how well such knowledge is used or applied for the benefit of the organization.

KM literature has helped to refine and enhance the proposed KM implementation in terms of ease of use, comprehensiveness, usefulness, reliability, and applicability. The conducted research, the developed KM model and the achieved results and findings have received high interest from researchers and experts in the KM. Knowledge retention, as identified in the literature, is
important to protect the knowledge in organisations. It involves three activities: gathering, creation and diffusion. It presents a vehicle to cut down on errors and re-inventions, and to reduce costs associated with knowledge loss. In addition, knowledge sharing can be classified as an action that makes knowledge available to contribute to organisational operations and allow these operations to be sustainable through efficiency and effectiveness.

Determinants of barriers to knowledge gathering, creation and diffusion were identified, such as organizational culture, mutual trust, information sharing, supportive management and lack of sound technology. Factors were identified and need to be measured to prevent such barriers from occurring in an organisation. The lack of time and the lack of mentor training and understanding also prevent the transfer and sharing of knowledge, which results in continuous poor skill outcomes. Finally, a lack of trust can leads to poor decision-making and to poor service delivery.

6.2 Implications for Indian Educational Institutions

In every higher educational institution, exchange of ideas and opinions between professors and students would definitely increase the possibilities for successful results, consequences of KM for faculty, students and management. Furthering the argument provided by Tom Stewart in The Wealth of Knowledge that it’s the connection, not collection, of ideas, information and technology, that matters in today’s knowledge-intensive world. And this is precisely what a sound KM system does in any organization, even in educational institution for that matter. We report the implications for an effective and efficient KM system for various stakeholders in the Indian higher educational institutions as follows:
6.2-1 Knowledge Management for Students Learning

With the rapid changes in the use of technology, student learning has changed as there is a need for students to collect information from multiple resources. That information then has to be transformed into knowledge by each student. Because of vast amount of information, student collect that information whenever it is required, there is a need for them to organize their materials in a database, portal etc. That knowledge could be managed by good knowledge management strategies only. The primary emphasis on knowledge for pedagogical purposes may be for increasing students learning, which requires a feedback loop in which institutional performance is evaluated, corrective measures are taken, and improvements are made in the knowledge base and practices.

One of the tasks in this complex process of teaching and learning is to code knowledge and to disseminate this knowledge to students in classrooms or through e-learning systems. However, to what extent do students learn by acquiring the requisite knowledge in this way? This question can be addressed by the knowledge management system where knowledge or information concerning student learning and outcomes can be collected and shared amongst the teaching staff.

The knowledge gained by the teaching staff allows them to make appropriate decisions to ensure that their courses, topics, instructional materials, presentations, assignments, assessments, etc. are updated to improve the student learning outcomes.
6.2-2 Knowledge Management for Teachers

Faculty members and institutions discern the need to store the intellectual asset produced by faculty in the course of preparing their lectures and make it available for students and colleagues.

I. To add value to the lecture materials and textbook content it becomes significant to relate the content with research work, industry interfaces and projects to fully realize the significance and future prospects of subjects.

II. Availability of question banks, solutions, assignments, case studies, simulation games, role plays, brainstorming sessions, interview questions and frequently asked questions (FAQs) along with the theoretical knowledge will enhance comprehension amongst the students and facilitate them to attain improved knowledge of the subject.

III. The everyday materials that faculty use in their teaching process are notes, reading lists, power point presentations, slides, diagrams, data sets and sometimes videos and audios. If these can be made available as a knowledge pool in higher educational institutions, then all stakeholders can share it.

IV. Reusable academic material, teaching material and teaching aids on the web sites of publishers, e-learning programs are quickly available on the internet and are commonly utilized by faculty in course preparation.

V. At the same time, it is an important requirement to develop integrated repositories at institutional level to cater to the needs of stakeholders within a more focused domain. Institutional repository as a database with a set of services to capture, store, index, preserve and redistribute an institution’s scholarly research outputs in digital formats.
VI. A set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institution and its community members with long term preservation as well as organization and access or distribution.

So, it can be concluded that portal, repositories could be used for collection of teaching material for specific subjects, research references, project details, industry inputs, question banks, solutions, assignments, interview questions, case studies, role plays, presentations, videos and FAQs that can be mapped and disseminated to users according to their requirement of knowledge. Storing knowledge in a central repository ensures ease of access and transfer, enhanced validity of knowledge and easy identification of the source of knowledge. The internal stakeholders as well as the external stakeholder can make this knowledge available for utilization, such repositories will explore entire new forms of scholarly communication for short- and long-term accessibility. This knowledge asset can be used both by faculty and the students and requires collaborative effort of the faculty, researchers, experts, professionals and students.

Faculty in preparing and delivering the course material makes a large amount of repeated effort. However, there is not much effort to preserve, improve and reuse the course content prepared by a faculty. Knowledge produced in the process of course preparation and delivery is colossal and it is required that collaborative effort is pooled in to maintain this knowledge as an institutional resource. This will facilitate not only new faculty in preparing for a course, but also help students to augment their knowledge. Learning for reuse in the teaching process is a common phenomenon in academia. The most common methodology employed for such reusable learning
is the identification of suitable resources on the web through search engines and the cut and paste technique to produce the teaching material.

6.2-3 Knowledge Management For Administration

Hayes’ (2003) suggestion of an advisory group could be used to recommend and establish some KM policies and procedures.

I. Administrative work could become more easy if input and reviews of the administrative sections of the KM advisory group form the basis for establishing priorities for all KM operational projects that are brought before the committee.

II. The advisory group participates in the development of KM standards, guidelines and procedures related to KM functions and helps facilitate communication across the campus on all KM-related matters.

III. The advisory group comprising the provost’s office, representatives from the schools and colleges and staff senate would advise the university’s leadership on KM uses related to operational procedures when needed to determine the best interests of the departments or for innovative uses of KM systems to support university functions.

IV. KM educational processes for KM as a means of reviewing, revising, and effecting stronger curriculum development processes, interdepartmental assessments, department portfolios or program reviews.

V. Creating a plan for regular assessment of student learning outcomes; evaluating current programs for relevancy and currency.

VI. Incorporating effective strategies partnerships among resource centers, faculty and staff.
6.2-4 Knowledge Management for Top Management

KM is the systematic management of the knowledge processes by which knowledge is created, identified, gathered, shared and applied. Top management commitment becomes a reality when dean, director of an institute or division accepts the responsibility for the successful implementation of the business plan. Knowledge management could be beneficial for top level management for below mention reasons:

A. Economics and Strategic Planning

For an organization to anticipate its future technology needs, it is extremely important to do long-range strategic planning. Many researchers found that most enterprises pursue one or more of the following Knowledge Management strategies:

a) Knowledge strategy as business strategy
b) Intellectual asset management strategy
c) Personal knowledge asset responsibility strategy
d) Knowledge creation strategy
e) Knowledge transfer strategy

The choice of which KM strategy to pursue is typically based on other strategic thrusts and the value discipline that the enterprise pursues, challenges it faces, and opportunities it wishes to act upon.

B. Training

It is safe to claim that “people” should be the main driver of KM. If a KM system is anywhere on the organization’s horizon, human resources should being training
knowledge engineering. In terms of human resource training, the focus is placed on developing people who are capable of tapping internal and external information and turning it into useful organizational knowledge.

C. **Compensation and Reward**

Domain experts must be recognized and rewarded in ways that make them feel it is worth their time to cooperate. The compensation and reward system focuses on promoting knowledge exchange and group collaboration.

D. **Performance Appraisal**

The performance appraisal apart from providing the input to KM activities, also aims at bringing organizational improvement through effective directing of the employee’s behavior.

The director should get involved and add the expertise and special talent. Top management commitment includes activities such as communicating institute’s quality value, reinforcing quality messages meeting with the work force and the customers giving formal and informal recognition, receiving training and training others. Top managers develop and facilitate the achievement of the mission and vision, develop values required for long term success and implement these via appropriate action and behaviors, and are personally involved in ensuring that the organizations management system is developed and implemented.

6.3 **Suggestions for Exploiting the Benefits of KM**

Although KM can be focused on operating an organization, the effects of KM in an HEI’s processes have not been fully examined. KM is a means by which institutions could learn what
kinds of roles, skills, tools and processes the institution already possesses in order to help individuals in the organization find the knowledge that is already available and move the organization to act on the experiences of the faculty and staff. Perhaps management processes could create a workplace that fosters teamwork, professionalism and practice that achieves a high degree of innovation, efficiency, effectiveness and quality of service through the utilization of KM initiatives. Technology could play very important role for KM implementation. So it has been seen that individual and technology can effect organisation. For building better environment in organisation, it is necessary to change individual behavior whether it is related to faculty, students, administrative staff or top level management. There is daubt, sound technology is always enhancing work culture, knowledge sharing system, which is first need for growth of any organization especially in academia. Individuals share their learning in ways that enable the organization to learn by transferring knowledge and integrating the learning into organizational routines and actions. Knowledge generation and sharing is always helpful in creating and moving knowledge quickly so that the knowledge can be easily accessible. A culture of learning can be improved by rewarded, supported and promoted through various performance systems from the top down. Knowledge-users should be encouraged to utilize productive reasoning skills systemically in order to link various concepts. Knowledge-users should be free to experiment, innovate and explore new ideas.

6.3-1 Knowledge Management: An Individual Perspective

Synder and Wilson (1997) stated that KM efforts are not sustainable unless the organization implements a means of enhancing individual learning through the individual’s own
contributions. Results are showing that individuals in an organization can learn in order to possess the requisite knowledge by perform tasks that are important to the organization.

KM initiatives are sustainable in order to achieve the organization’s goals. KM aims at harnessing existing knowledge in the organization to focus on increasing the institution’s efficiency and effectiveness. KM ensures that the organization should develops and plans resource allocation and distribution among departments or divisions, including faculty and staff, equipment and other resources, uses KM procedures where shifts in resource allocation have a significant impact on the KM initiatives. Human resources could conduct staff and faculty development and act as a valuable support system in the university. It could be considered a training ground where learning could be captured and assimilated into the knowledge base of the whole organization.

6.3-2 Knowledge Management: An Organizational Perspective

This result also explains that organizations adapting information technology can effects on strengthening the knowledge management processes, so the availability of these dimensions contribute to the domination of interaction and dialogue among individuals, the existence of cooperation and harmony among them and the administration, giving the opportunity to grow, develop, achieve the aspirations of individual, and facilitating ways and methods of work, in order to ensure benefit from the energy and potential of individuals and employees of the organization; to achieve the interest of the organization and the individual together, this result also interpreted that the employees need to create a consensus on the vision and mission of the
organization, the values and goals that it seeks to achieve. When clarifying the vision and mission of the Organization for workers, they undoubtedly feel possessing the ability to act freely in their work instead of waiting for orders and instructions. Organisations should introduce knowledge intensive repositories, such repositories will explore entire new forms of scholarly communication for short- and long-term accessibility. They will facilitate not only inter faculty knowledge sharing, but also sharing of knowledge with researchers, professionals and experts and pooling in of knowledge across institutions.

The phenomenal rise of people connecting, creating and distributing information via social network site has led to organisations, corporations and even government institutions for a presence but also promoting themselves via these environments. Increasingly, these organisations are transacting and communicating with employees, customers, stakeholders, business partners and third-party companies via social networks such as: LinkedIn.com, Facebook, Research gate, Orkut.com etc.

6.3-3 Knowledge Management: A Technological Perspective

In the area of technology, organizations handling high volumes of data and this data and its adaptations can be managed with efficient Knowledge Management Systems (KMS). Knowledge management systems deploys KM through online KMS deploying intranet functions such as online forums and chat to help connect. The KMS would facilitate knowledge users to collect, share and apply knowledge among individuals and communities. E-learning could improve the process of teaching students as studying could be easy and entertaining, like surfing the Internet, use a web browser, Internet-based studies. Technology transfer could be excellent alternative for
universities in the diffusion of innovation to ensure the protection of generated knowledge. Nonetheless, knowledge sharing technology can give a noticeable representation of administration’s sustenance intended for knowledge sharing. Technology can make the tasks of people easier to access and retrieved and sought a more reliable willingness to transport knowledge especially when they are busy in terms of their working conditions. Survey result explains that the availability of the characteristics of information technology in B-schools will improve the using of knowledge, helps the use of modern information systems to facilitate administrative procedures, increase efficiency of their employees, improve output, and saves time and money. The integration of these systems is designed to more understanding and accurate interpretation of management information, ensuring integration and removes the contradiction of the information obtained by the decision maker from external sources and those obtained from internal sources, also it provides the organization with methods that enable them to draw the necessary plans to strengthen the knowledge management processes to achieve the primary and secondary objectives through the use of human resources and information.

6.4 Limitations

Like any other research study, this study also suffers from some limitations as follows:

i. The Sample respondents to the survey were concentrated to a small geographical location, i.e. Delhi-NCR. Covering larger sample respondents will certainly bring more authentic results.

ii. The study also relies on data collected from the business schools and management departments of selected universities and colleges, hence making the data polarized. This
might create some biasness in responses and the final outcome is, therefore, more relevant and applicable in the context of higher educational institutions offering management courses, compared to any other institutions. A survey with wider scope covering all types of universities and colleges might reveal more generalizable findings.

iii. The data collected through survey was also small. This can be explained by the researcher’s lack of infrastructure for handling larger survey/primary datasets. Financial as well as physical constraint was also one of the roadblocks for using larger dataset in this study.

iv. The present study assumes faculty members’ response to a structured survey questionnaire as proxy for their perception, beliefs and choices, supported by many previous studies of similar nature. More relevant and representative variables may be available for measuring individual behavior, such as experimental approach, but the researcher’s lack of experience in conducting large scale behavioural surveys leads me to use a survey tool for collecting data in this study.

6.5 Scope for Future Research

Lord Buddha says, “Through zeal, knowledge is gotten, through lack of zeal, knowledge is lost; let a man who knows the double path of gain and loss thus place himself that knowledge may grow”

Following this philosophy, the present research explores the factors and determinants that theoretically and empirically explains the users’ perceptions, beliefs, and experiences in an efficient (or may be not so efficient) knowledge management system in the context of select
higher educational institutions in India. A survey of more than 350 users of KM systems is conducted using structured questionnaire. The survey participants have been chosen randomly from the academic departments of select universities and colleges, along with other management institutions. The survey results reveal that three different and distinct dimensions, namely individual, organizational, and technological aspects, of users perceptions and processes that determine the efficiency and effectiveness of any knowledge management system in the context of higher educational institutions in India. The results and findings have very important implications for all the stakeholders of the organizations.

Given that the present research study suffers from certain theoretical and technical limitations, there are always possibilities for improvements, over and above the statistical significance of the present results and implications. Though the results and findings of the study carry practical relevance for all academic institutions, following issues could be some of the interesting points to take forward the issues that have been addressed in here:

1) *Meta Analysis for KM Studies*: A sound and intensive meta analysis of the literature prevailing across the world in different dimensions of Knowledge Management appears to be the need of the hour, more particularly in the Indian context. Of course it requires concentrated efforts from the researchers, that seems to be lacking, but it does have high scope for any serious researcher in the area of Knowledge Management.

2) *Big Data Applications*: Big data is the buzzword nowadays, and rightly so! It is basically an approach that is high on data, low on modeling, and high on results. Using high quality user-generated contents (UGCs) through various social and professional networks, and other sources can lead to more deep insights into the KM practices and
processes, only to improve the KM systems. Though it requires researchers to have high and sophisticated level of data analysis skills, as it’s a bit high on technical side, it yields superb results that add strong value to the decision-making in any organizations.

3) *Experimental Approach for Modeling an Efficient KM System:* Unlike survey-based research, experimental studies involve online or offline experiments carried out over the users of a KM system as subjects. It is very much different from surveys as it brings in instant results of changes in perceptions and beliefs of the subjects. Hence, these results would be more relevant and reliable. This approach is widely spreading from psychology to other disciplines such as Economics and Finance. Using experimental approach to study the efficiency and effectiveness of knowledge management processes and system would contribute to the KM literature more than anything else.

In scope for future research, the researcher hopes to further pursue more elaborated efforts to understand the distinct aspects of knowledge management practices in organizations through empirically and scientifically assessed behavioural models. Some of such issues would be studying the impact of reinforcement learning bias on adopting a KM system, and psychometric analysis of user-adaptability of KM processes. More concentrated and representing variable of individual behaviour towards an open, efficient, and effective KM system can be considered for further research studies.

**Benjamin Franklin’s idea of an investment in knowledge paying the best returns best summarizes the crux of the present study,** implying that investment for turning a KM system into efficient and effective knowledge management system is a win-win for all the stakeholders of any organization in general and in the context of Indian higher educational institutions in particular.