



APPLICATION OF KNOWLEDGE MANAGEMENT IN MANAGEMENT EDUCATION: A CONCEPTUAL FRAMEWORK

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ABSTRACT

The paper presents a conceptual framework in the context of Knowledge Management (KM) in Business Schools (B-schools) in India. We believe that if the framework is adopted in business schools, it will yield more benefits to increase the quality of knowledge sharing. There has been indeed a paradigm shift in management education in India. The new breed of management professionals need to be efficient to tackle problems from cross functional, cultural and ethical perspectives and equipped with skills to benchmark for global leadership positions. There has been a crying need to usher in a quality movement and to benchmark the same with world standards. We have made an attempt to support our framework by analyzing one of the Knowledge Management tools that was implemented in India's Test Institute of Management (TIM), (a pseudonym is given to mask the institution's name). This paper studies the knowledge management tool and features that are implemented in TIM and some problems that hindered knowledge management practices at TIM.

Key words: *knowledge management, business schools, education, faculty, students, courses.*

1. INTRODUCTION.

There have been many firms and organizations that have implemented KM principles, methods, practices or tools. However, academic institutions in particular management institutes (also called as business schools) have taken more interest recently in introducing KM approaches. From the academic learning point of view Knowledge Management (KM) by its nature especially is suitable. Business schools (B-schools) use information technology based tools for admissions, registrations, time table processing and performance evaluations of their faculty, students, staff and administrations.

However, a quick review of the Financial Times, The Economist, or virtually any magazine or newspaper that covers Business schools (B-schools) lead anybody to conclude that these institutions are under constant assault by industry, journalists, and academics alike (Sargenti Patrice, Lightfoot William and Kehal Mounir, 2006) to justify their existence, relevancy, and effectiveness, given the rapid rate of change in today's world. There are several studies conducted on KM principles and strategies towards

organizational learning (Earl, 2001; Easterby-Smith et. al, 2000; Grant, 1996; Hansen et. al, 1999; Bieber et. al, 2002; Duffy, 2000; Levine, 2001).

High quality research work is done on knowledge management in higher education (Bernborn, 1999; Kallick and Wilson, 2000; Kidwell et. al, 2000; Petrides and Guiney, 2002; Petrides, 2002; Serban and Luan, 2002). But few studies are devoted to institutional learning using KM practices. (Corbitt et. al, 2005) gives various factors influencing the use of KM tools in higher education.

Education today is subject to the pressures of the marketplace. According to (Brown and Duguid, 2000), profound changes in competition have made institutions think like business. The B-schools behave like educational markets and are becoming global to benchmark and internationalize their curricula. B-schools also have to adjust themselves and develop strategies to respond rapidly to the changes in technologies and increasing demands of stakeholders.



Many have turned to a new paradigm that merges conventional management education with computer and telecommunication technologies. The possible problem with management institutions is that information is held tacitly by individuals and it becomes very much difficult to share it institution-wide.

This paper presents an academic framework for the adoption of KM principles in management institutions. This paper will explore KM in business school context that is used to improve efficiency and effectiveness of creation and sharing of knowledge among people. Can we apply the concepts and tools from KM to solve the problems of business schools? Yes, This paper studies the provisions focusing on B-schools in which knowledge creation and sharing are essential elements by taking a specific example of Test Institute of Management (TIM) (a pseudonym to mask the institution's name) India.

The remainder of this paper has been organized into four sections. In the next section, background on management institutions in KM context is discussed. The subsequent sections focus on knowledge management's approaches in management education. The most substantive sections of framework and initiatives of KM at TIM are presented in section iv and v. In the final section interpretation and implications of KM is discussed and conclusive statements are made.

2. BACKGROUND.

Management institutions in India are always challenged to stay relevant both in terms of education and research. Management institutions generate information about students, courses, faculty and staff that includes managerial systems, organizational personnel, lectures details, quality research and so on. This useful information which serves as a strategic input is very useful to any management institution for improving the quality of education process. Research shows that many information technology implementations in educational institutions fail not because of technology but because of insufficient attention is paid to issues related to institution's culture (Levine, 2001; Friedman and Hoffman, 2001). Often there are several useful experience and studies (let us define this as knowledge) we come across in evaluations, courses, students' counseling, and admissions. This knowledge will enhance data sharing, analyze diversified student relationship management, increase the success of

student performances and programs etc. KM applies systematic approaches to find, understand, and use knowledge to create value (Probst, Raub and Romhardt, 2000; O'Leary, 1998; Mikulecký and Mikulecká, 1999).

Knowledge Management synchronization is discussed in (Benbya et. al, 2004). (Kim, Chaudhury and Rao, 2002) give KM factors in enterprise systems. (Mack et. al, 2001) discuss the role and implementation of knowledge portals in digital workspaces. The role of knowledge workers is discussed in (Martin and Metcalfe, 2001). The results of these studies can be correlated to business school education.

The institutes have been making substantial investments into information technologies to meet their goals to increase the effectiveness of operations and information systems. All institutes are using the information about their students to gain insights into bigger issues like students' performance, placements, students' admissions and students' successes. The regulatory bodies, accreditation bodies are seeking more information to measure and evaluate the effectiveness of the institutes (this process is often termed as rating).

Unfortunately the management institutions are giving less importance to institutional structure, process and culture. However the rapid growth of emerging and cutting edge technologies coupled with knowledge management systems have led to the increased adoption of new applications that includes ranking the management institutes, assessing the quality of lecture delivery, assessing the programs and courses, measuring the performance of students and faculty, tracking research and developments and enhancing faculty development. The integration of above mentioned applications enable the sharing of knowledge that is necessary for any business school. Knowledge Management ensures effective allocation of resources and staff, increases productivity without increasing the cost.

3. KNOWLEDGE MANAGEMENT

Knowledge can be defined as (Awad and Ghaziri, 2004) the understanding that is obtained through the process of experience or appropriate study. The Knowledge management principles if applied to management education will enhance the quality of academic learning process. The term "Knowledge Management" (KM) is used to describe everything from the application of new



technology to harnessing of the intellectual capital of an organization (Sallis and Jones, 2002). (Rowley, 2000) describes the term KM as follows:

“Knowledge management is concerned with the exploitation and development of the knowledge assets of an organization with a view to furthering the organization’s objectives. The knowledge to be managed includes both explicit, documented knowledge, and tacit, subjective knowledge. Management entails all of those processes associated with the identification, sharing, and creation of knowledge. This requires systems for the creation and maintenance of knowledge repositories, and to cultivate and facilitate the sharing of knowledge and organizational learning. Organizations that succeed in knowledge management are likely to view knowledge as an asset and to develop organizational norms and values, which support the creation and sharing of knowledge” (Rowley, 2000).

From an organizational context, it has become fashionable to downplay the significance of an organization’s information processing and communication capabilities for the success of Knowledge Management (KM) (Cross and Baird, 2000). It is certainly true that KM’s salient issues go far beyond the infrastructure of information systems (King et. al., 2002). Several frameworks on organizational learning have been suggested (Akgun et. al, 2003; King, 2005). (Eisenhardt and Martin, 2000; Zollo and Winter, 2002) stress on improved levels of organizational performance. (Kim and Street, 2004) hint on the concept of analytical software for high performance in organizational learning. Though advances in computer and telecommunication technologies have linked people together, geography does matter in the new knowledge economy as per the evidence from research (Hansen et. al, 1999; Hildreth et al, 2000). (Davenport and Prusak, 2000) give examples on knowledge working culture in any organization.

In the recent years a wide range of business techniques, including performance management, quality assurance and total quality management, have had a direct or indirect impact on education, and KM is set to do the same (Sallis and Jones, 2002). ‘Perform or perish’ concept will enter to B-school education.

Most B-schools realize that they will improve performance if their staff works together.

However, building collaboration amongst people is not an easy task. KM practitioners apply many different approaches to develop the type of culture that builds the desire for teamwork and a collaborative working environment as described by (Senge, 1990; Nonaka and Takeuchi, 1995). Techniques such as meetings, forums and discussions are used extensively to create knowledge through the processes of social interaction and collaboration. Tools such as e-mail, video conferencing, use of interactive white boards, blogs and wikis, discussion forums, chat services and intranets are also used to encourage active collaboration among people in B-schools.

Today’s management education in the academic world is very demanding and very competitive. One has to sustain in the continuous knowledge flow. Issues and challenges in academics not only affect people within the institutions, but also other segments like environment, industry standards and demands, educational norms and growing business school competition. Knowledge management increases the ability of the management institutes to learn from its environment and incorporate knowledge into the academic processes by adapting to new tools and technologies. One has to tighten their strategies to sustain high level competition in education market. KM is used to examine the overlapping and ongoing relationships among faculty, students, course, and programs in any business school academic environment.

Knowledge management increases the ability to learn from its environment and to incorporate knowledge into the business processes by adapting to new tools and technologies (Liataud and Hammond, 2001). While it is generally understood that a robust technological infrastructure plays a crucial role in helping educational institutions gather and analyze data to improve outcomes, the barriers to successful technology and information systems implementation (Oblinger and Rush, 1997) in educational institutions can be attributed to a narrow understanding of just how these systems and technologies manifest themselves within organizations.

4 APPROACHES OF KM IN MANAGEMENT EDUCATION.

All approaches to KM essentially look at the methods to manage the human interactions better. The KM approach is conscious integration of all human resources involved, all the academic

processes and the technological advancements involved in designing, capturing and implementing the intellectual infrastructure of any management institution. The approach supports in shaping and managing the academic rigor to learn by balancing among various entities in an academic environment. (Fermie et al, 2003) examines the issues on engaging the individual in any approach at sharing knowledge as the notion of knowledge can not be separated from the user. However the emphasis has to be on KM at the institutional level, not at the individual level. Studies have shown that (Telem, 1996) technology tools alone can not be used to address discordant organizational information. Institutional obstacles include (Petrides, 2004) factors like data access, data integrity and technological incompatibility.

4.1 Reasons for applying KM principles in business school education.

The main reasons for KM in Management Education is

- All Management institutes possess a state of the art modern information infrastructure.
- Sharing knowledge among faculty, staff, students, course, programs, placements and administration is usually done in all management institutes.

- The academic environment in general is considered trustful in the sense that no one is hesitating nor being afraid of publishing knowledge.
- Any management institute will look forward for its abreast strategic position in their continuous ratings by news papers and business magazines for competitive advantage.
- Each institute wants its internal documentation management and the level of information and knowledge sharing to improve.
- There is an increased demand for new strategies that help management institutions meet external and internal demands.

Justifying the above mentioned claims will be discussed in later part of our paper.

4.2 Framework.

Figure 1 presents the dimensions of knowledge in management institutions. It is necessary to capture, store and analyze knowledge. (Chou and Tsai, 2004) stress on the importance of organizational knowledge for creating activities rather than individual knowledge for creating activities.

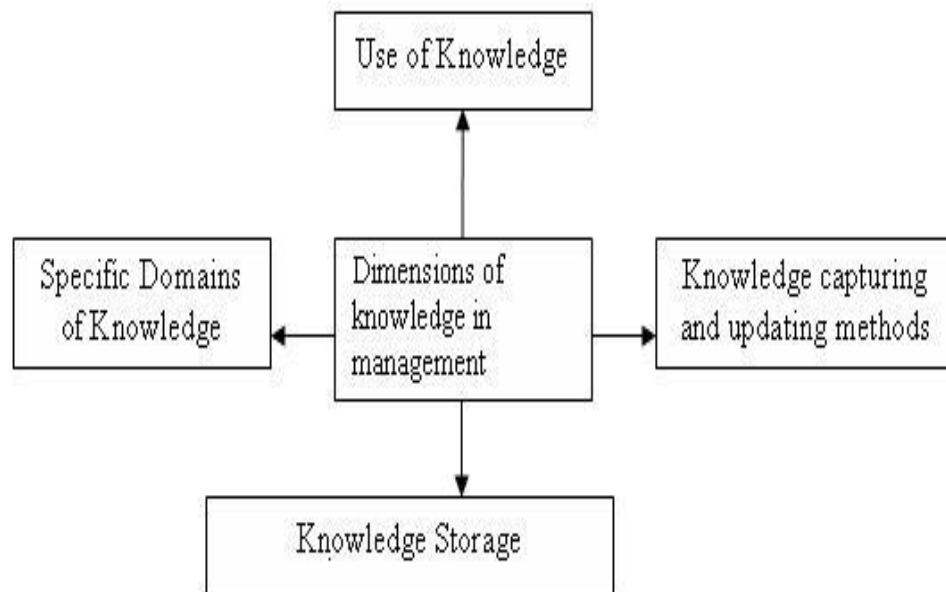


Fig.1 The dimensions of knowledge in management institutions

Interaction, transfer and sharing of knowledge are very much critical to success of any management institution. Fig.2 presents the conceptual framework of knowledge resources in any management institution. Students acquire knowledge through their interactions with faculty, in side and outside of class rooms. Faculty share knowledge with students while

administration reports and improves the interaction. The administration process shares the knowledge with key stakeholders. There should be more cohesive processing in all the entities.

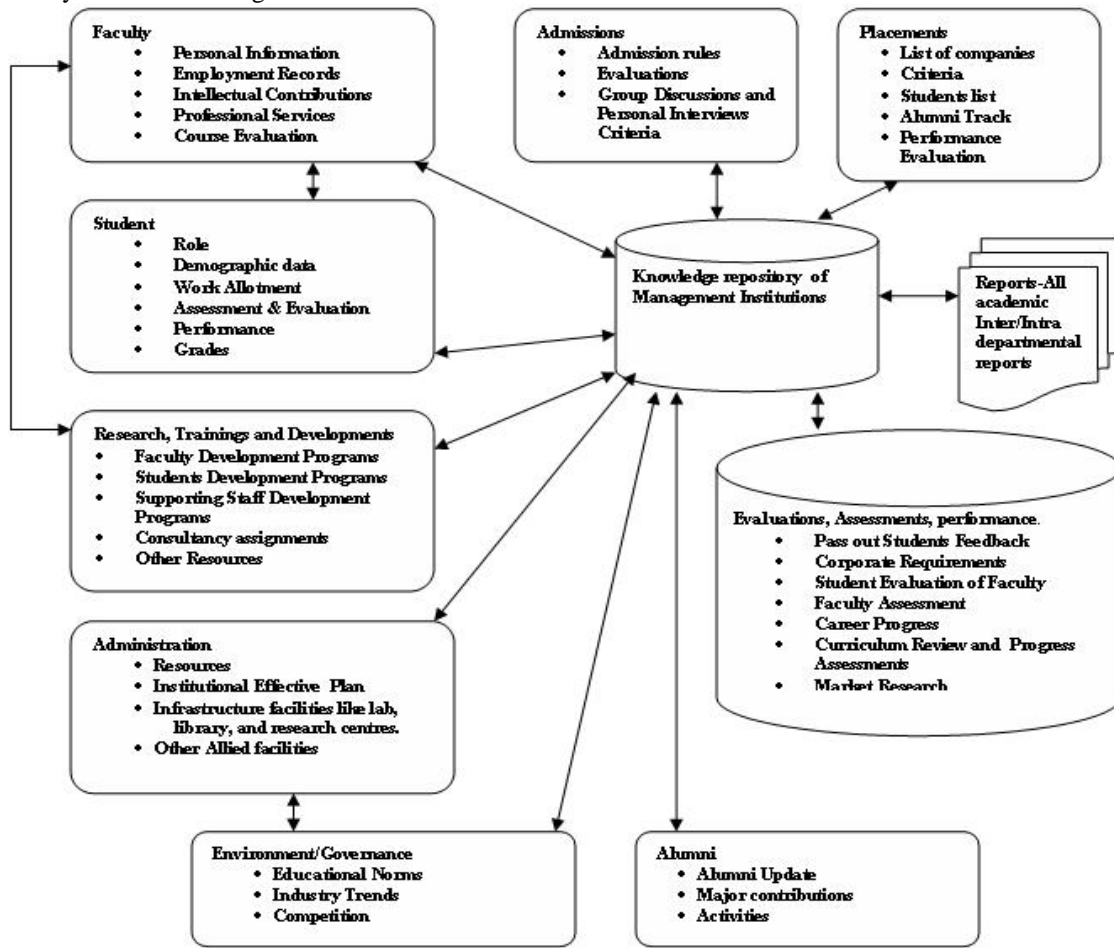


Fig.2 Conceptual framework of knowledge Resources in Business Schools.

An online evaluation system is necessary in any business school to adopt the framework to have cohesive integrated approach. The data, information and knowledge that are spread amongst students, faculty and courses can be represented as in Table 1.0. The different representations of students data, faculty data, courses and research data are tabulated in

context of data, information and knowledge and their relevance. Regardless of the reasons, the management institutions are faced with rapid change and increased call for more effective use of knowledge and resources. Developing an online model that allows for the successful adoption of a KM system can be critical to the success of any management institution.



Know-why	Ability to deal with anomalies, interactive effects; use intranet based group support systems for assignments seminars, webinars and video conferences	Faculty communities of practice, personal assistance, group support systems, conference/seminars for sharing knowledge.	Analysis of New programs, new courses, interdisciplinary research	Research communities of practice, group support system, virtual workspaces. Path analysis on research and publications, interdisciplinary research.
Know-how	Ability to diagnose students failures; Multi variate analysis of Variance using Statistics	Ability to diagnose faculty attrition, analyze complex relationships using expert systems, Multi variate analysis of Variance using Statistics. Build competency and	Ability to diagnose, analyze complex relationships using expert systems, Multi variate analysis of Variance using Statistics	Ability of know and learn from facts. Ability to discover new research and thrust areas.
Know-what	Ability to respond to a query; ability to assess symptoms of students' performance; correlations using statistics.	Ability to respond to a query; ability to assess symptoms of faculty performance; correlations using statistics; identifying the best practice using	Ability to respond to a query; ability to assess symptoms of courses cancelled, correlations using statistics.	Ability to respond to a query; ability to assess role of Research and Publications
Knowledge	data showing interesting relationships or out of control categories; showing effectiveness in these data;	data showing interesting relationships or out of control categories; showing effectiveness in these data;	data showing interesting relationships or out of control categories; showing	Relationships of various authors in various publications, effectiveness of publications, interesting relationships among the data.
Information	Students data-cross classified by top performance, by course name, by specializations, by year.	Faculty data cross classified by year, by course, by research project, by top performance, by publications.	Course and specializations data cross classified by year, by course, by faculty, by	Research and Publications data: Year wise, author wise, topic wise
Data	Students Data	Faculty data	Courses and specialization data	Research and Publications
Process	Processing Knowledge in Business Schools			

Table 1.0 Representation of Data, Information, and Knowledge in Business Schools



5. SOME KNOWLEDGE MANAGEMENT INITIATIVES AT TIM.

Related to the contemplation presented in above sections, the institute Test Institute of Management (TIM) has started with some attempts in its management decision support by introducing a web based intranet application that can share knowledge regarding courses, programs, research, all academic related information between faculty, students and administration. These initiatives are included below as Online Learning Teaching Application (OLTA).

5.1. Features and benefits of OLTA at TIM.

OLTA integrates academic, fee, hostel and administration modules. It provides a means for faculty, students, academic program officers, administrators and accounts managers to access and develop online resources to enhance learning and teaching.

- Students query for the marks subject wise or program wise in a term.
- Students submit faculty feedback, select the elective courses for various terms or take online quiz.
- Students submit assignments online to their faculty directly or submit to academic program office.
- Students verify attendance records for any course or program.
- Students access timetables term to term.
- Student handbook, time table and course outlines are available through this interface in the intranet server.
- Faculties assign marks and award grades to students.
- Grades are visualized by line, pie and bar charts.
- Faculty build questions bank to design and conduct on line quizzes. Quiz is evaluated automatically and marks are submitted. Notices regarding schedule of quizzes are mentioned.
- Faculties check the feedback for their respective courses.
- Students and faculty can view complete reports pertaining to subject marks, term marks, program marks year wise, course wise, term/semester wise.

- Faculty teaching guidelines, course outlines, lecture notes and lecture materials are available in the application.
- Students can verify subject credits and topics of subjects.
- The invigilation guidelines for examinations are available.
- The facility of messengers and group mailing system is available between staff, students and faculty.
- This application is integrated with campus intranet.
- Only students, faculty, academic program officers, administrators and accounts-managers use this application.
- Online counseling information regarding registration – like number of seats filled, number of seats available etc can be viewed.
- Students pay mess, hostel fees, term fees and tuition fees to accounts-managers.

The experience of people at TIM as per our knowledge using this KM based academic learning model is positive and satisfactory. The OLTA is maintained by academic program office.

5.2 Observations and Discussion.

In the introduction of paper, some optimistic claims and views concerning the business schools for the application of knowledge management was given. Let us see these aspects.

The claim, that management institutes possess a state of the art modern information infrastructure may be true locally. The recording of computer usages by students at labs, security control systems at main entrance for incoming/out going of vehicles, registration forms for various courses, salary slips generation for faculty and staff and intra and inter department circulars and notices are based on paper document with very little Information Technology (IT) support. The paper strongly believes that a good IT infrastructure is an inevitable precondition for any successful introduction of knowledge management approaches, methods, as well as tools into a business school environment.

A workflow system for electronic preparation, sharing, storing and intelligent retrieval of relevant



business school documents should be implemented and available in electronic form. This will address user groups with a stronger focus on management, faculty and staff as a permanent workforce.

Further, the view about knowledge dissemination by faculty presented as a positive feature of B-school environment can be considered optimistically. It may be true with regard to domain knowledge that is transferred in lectures, seminars etc in any B-schools.

However valuable knowledge can also be found in the experiences related to research grants/projects proposals, research and publication, writing of well structured research papers, reviewing and discussing new courses, new research areas, organizing international events and recording the same etc. Generally it is assumed that dissemination of knowledge would eliminate 'competitive advantage' of faculty member. Compare this situation with other types of business organizations where experts are encouraged and motivated to contribute their expert knowledge to the organizational memory with the goal (mission) to make knowledge accessible for others. The mindset of people from "my knowledge" should definitely change to "our knowledge". People should not be dogmatic. As a matter of fact, sharing knowledge in business schools is easier than business organizations. After observing the KM model at TIM the authors' recommend that a strong mentoring (counseling) system will enhance knowledge sharing. The essence of teaching lies in creating an insatiable love for knowledge in the students, a love for knowledge that will not die when they leave educational institutions, but will continue to influence them till the end of their lives.

The successful KM initiatives in business school education are the sharing of all forms of knowledge, both explicit and tacit. Explicit knowledge comes in a wide range of media such as computer files, emails, videotapes, CD-ROMs, digital libraries and textbooks. It can be the result of the work of individuals or project groups, recorded and stored within any type of media so that it can be accessed and used when needed. This type of knowledge is very common but is still important in learning. (Scheepers and Rose, 2001) discuss the role of intranets and the role of people sharing information through the intranets. However, tacit knowledge is equally valuable. Tacit knowledge is personal and deeply rooted in

an individual's experiences, values and cultures, thus making it difficult to capture, codify, store, and share to other people. Although this type of knowledge is intangible, it must not be overlooked as it is regarded as central to innovation in learning.

5.3 Future directions.

The topic of this paper as per our belief is undoubtedly an interesting and important topic, as KM would enhance teaching and learning process. Though it is clearly interesting and important, more work is needed. We need to study the problems of KM initiatives based on actual case studies and experiences from various business schools. We need to explore KM tools and techniques further and evaluate the results.

The Test Institute of Management (TIM), India is looking forward to update this OLTA with discussion forums, online debatable forums for students and faculty with robust information systems infrastructure. It also wishes to include healthy blogs and wikis with interactive whiteboard connectivity for lectures. Features like cross functional decision making, rewards and incentives based on performance evaluations, increased responsiveness to student needs and interdisciplinary research initiatives are planned. Within a KM structure, one can search for trends and patterns of data and share with others.

5.4 Limitations.

OLTA means there are less social opportunities for people to engage in face-to-face meeting; it may also involve social, cultural and language differences. There is some amount of loss of contextual cues between teachers and students. These problems may result in a lack of trust, making people unwilling and hesitating to share knowledge and collaborate with others in contrast to the earlier generation of sharing knowledge between faculty and student communities before Internet era.

All the difficulties associated with measuring intangible assets in industry would be relevant in a B-school environment with its own peculiar characteristics adding to the level of difficulty. B-schools are not of uniform quality or size and there are huge gaps among the different levels of schools that we find in India. Some schools are primary government owned and private trust owned. Government ownership translates into direct ministry led schools and private ownership



include those affiliated to university and those that are deemed to be universities themselves or autonomous schools, all of which affiliated to nation's technical body for quality education - All India Council for Technical Education (AICTE). Then there are schools that are outside the system which are owned and operated as professional institutions not within the purview of AICTE or UGC. These ownership factors severely restrict the investments for KM tools. Disclosure of financial figures by the B-schools is not transparent nor is it complete which may lead to difficulties in computation of revenue and expenditure flows severely.

6. CONCLUSION.

For developing strategic internal alliances the business schools have to more effectively use their resources and infrastructure to reap more benefit from their investments in both people and technology. This KM approach will enable business schools to quickly respond to its goals and objectives and in some cases preempt staff and faculty demands and needs. To build and develop a robust and thriving knowledge environment in business schools, the institutions need to look beyond technology and develop the overall culture of accessing, sharing and managing knowledge.

In this paper, a conceptual framework of how knowledge resources are shared by different entities in any business school is discussed and presented. The paper also demonstrated the successful implementation of new knowledge management system implemented at Test Institute of Management (TIM), India. Finally I would like to conclude that the real success of KM in B-schools lies in helping the students grow into worthy human beings with courage to face the problems with an inner strength. Every institutional initiative requires time, money, energy and resources so that it may mature and suit to the business schools. Let us hope that in the coming years KM would prove a good step in the right direction of all Indian educational institutions.

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