



Transforming Universities from Teaching Organizations to Learning Organizations by Implementing eKM: A Pakistani Public Sector University Scenario

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ABSTRACT

In modern era of globalization, Organizational Learning is considered as a powerful tool to enrich the performance of an organization. Learning helps to develop the ability to respond to modern organizational challenges in an efficient and more effective manner. Successful learning processes are nurtured by information sharing, communication and understanding. Educational institutes are considered as learning centers and play a vital role in the development of a country by producing skilled professionals. The need is to improve the traditional learning styles in higher education system, where budding professional are developed who would be facing the challenges of the modern dynamic environments. This paper will firstly review the theories and concepts of Learning Organizations(LO) and Teaching Organizations(TO). The discussion then moves on to why a university is considered a TO rather than a LO and how a university can become a LO by implementing efficient Knowledge Management system. Then the obstacles that create a hindrance in this process with suggestions to remove these obstacles are discussed. With these theoretical bases, then a generalized framework for implementing eKnowledge Management in public sector universities of Pakistan has been proposed. Finally, the implications of this eKM are discussed with directions for further research.

INTRODUCTION

In modern economies, as organizations pursuit for ways to remain competitive, they are shifting away from older "industrial" models to knowledge-driven learning organizations. Capitalizing on Knowledge Assets and continuous learning are considered as their Critical Success factors.

Senge[1], defines "Learning Organization" as:

Organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together

This shift of organizations towards learning organizations has enforced universities to act accordingly and train professionals required for creating and running LOs. Here, merely introducing LO, as subject is not sufficient. The need is to convert the university itself into a LO. This intern would contribute for the growth of the university, in terms of competitiveness.

Though, universities already are considered as learning centers but unfortunately many universities act more as "Teaching Organizations", where merely theoretical concepts are transferred to students. The need of the time is their conversion from traditional Teaching Organizations

to Learning Organizations, where not only theoretical concepts are transferred but emphasis is also given to provide an environment where budding professionals would get more exposure to practical knowledge. Thus the emphasis should be on managing the right knowledge.

KNOWLEDGE AND ITS TYPES

Knowledge[2] consists of data/information that have been organized and processed to convey understanding, experience, accumulated learning, and expertise as they apply to a current problem or activity.

Knowledge is categorized in two major groups:

- Explicit Knowledge
- Tacit Knowledge

According to Pearlson[3]:

Explicit knowledge can be easily collected, organized and transferred through digital means.

For example:

- Procedures listed in a manual
- Books and articles
- Information left over from past projects

Tacit knowledge is personal, context-specific and hard to formalize and communicate.

For example:

- Knowing how to identify the key issues necessary to solve a problem
- Applying similar experiences from past situations
- Estimating work required based on intuition & experience

KM IN A UNIVERSITY

As the basic ingredient of Learning is Knowledge, therefore, in order to convert a university to true LO, it needs to focus on Knowledge Management, so that the learning process can be managed well.

Lucas[4] defines KM as:

The task of creating, maintaining and utilizing all knowledge in the organization.

Figure 1. Transformation process of traditional university to true learning organization

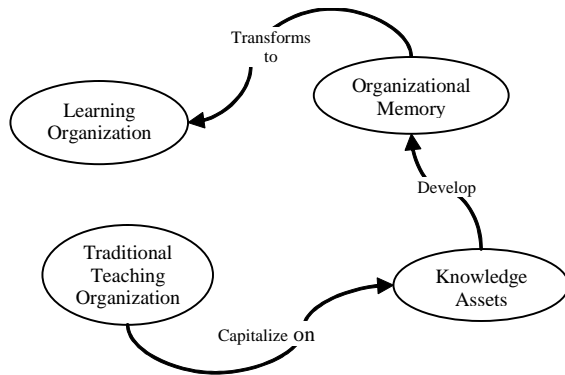
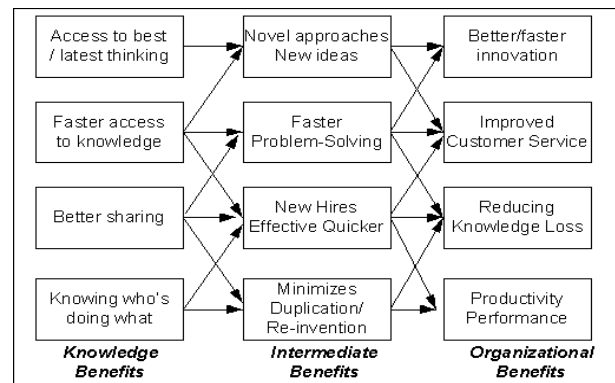


Figure 2. Knowledge Benefit Tree [7]



In a university the major activities that need KM are;

- Learning for students
- Research
- Learning for operations

KMS would help the learning process by:

- Evaluating the learning process and applying the measurement techniques for learning.
- Help design learning plans and roadmaps for effective learning.
- Leveraging theoretical learning process by providing appropriate tools & techniques, like making the proper theoretical apparatus & material available to students.
- Leveraging the practical learning process by providing appropriate tools to share experiences.
- Sharing and exchange of knowledge generated during daily activities.

Similarly, KM helps in Research by:

- Creating an environment to facilitate innovative ideas
- Managing and sharing these innovative ideas
- Sharing experiences and best practices.
- Managing learning as discussed above

The important factors [3] that compel educational institutions to manage knowledge include:

- *Sharing Best Practice:* Sharing best practice means leveraging the knowledge gained by anyone in the organization. Problems often arise from employees who may be reluctant to share their knowledge. With Knowledge Management systems, the university can capture best practices to disseminate the experiences within the firm.
- *Globalization:* As universities are expanding globally, they need to manage their resources (including Knowledge) to compete in the global economy. Thus, the more organizations expand globally, the more need of Knowledge Management.
- *Rapid Change:* In modern dynamic economies, universities must be quick and adaptive to compete and for this they need to manage their knowledge well.

The process of transforming of traditional teaching university to a learning university using KM is shown in figure 01

eKNOWLEDGE MANAGEMENT

When electronic media is used for KM then it is termed as eKM. In a university eKM can help manage knowledge in a variety of ways, such as:

- Making the educational products easily assessable.
- *Developing a repository of course:* Every time a new course is introduced or an old course is taught again by a new instructor, this standardized course repository can be referred. The courses can be constantly updated and old/outdated courses can be easily identified.
- *Developing a question bank:* Every time an exam is conducted, the questions can be added in this bank. Students appearing in exam can solve these old question papers to assess their performance before appearing in the actual exam. This question bank would also help new faculty members to understand the standards for preparing questions paper.
- *Joint projects:* Students from different universities can jointly work on projects. This would bring in creative ideas from various learning environments.
- *Combine studies:* Students can easily interact with each other and faculty members. They can post questions on discussion boards and students/faculty from any university can reply.
- *Streamline Organizational Processes:* general processes, like admissions, declaration of results, etc. can be easily managed. Students seeking admissions can access detail information regarding admissions, ask queries and finally apply for admission, and check their admission confirmation, just by sitting in their home. Processes like, applying for fee discounts, requesting for course/semester dropping, requesting for leaving certificates, etc. can be completed in minimal time.
- *Managing Knowledge for Strategic Management:* Management can make timely decisions by accessing the knowledge repositories generated through these eLearning systems. For example; they can decide upon which courses to offer in which area by accessing the trends of course registrations in any particular discipline.
- *Standardizing Best Practices:* Various universities can participate and share their experiences, hence, knowledge about best practices can be developed and shared.

Thus objectives for ekm would be:

- To plan and employ a system in which education is imparted through a networked information system based on eKM
- A system where creating/sharing knowledge becomes a continuous activity.

Figure 02 shows the knowledge management benefit tree. If the university can demonstrate these links within their domain, they can become the champions.

IMPLEMENTING EKM IN THE UNIVERSITY

Designing strategy for implementing eKM for the university would be the first step towards converting traditional Teaching University to Learning University. Kamara, Anumba and Carrillo[5], have suggested that when deciding upon a strategy for implementing KMS, then a basic framework should be followed. The stages of this framework are shown in Figure 03.

Analysis of Current Situation

The first step in designing a strategy for the University's eKMS is to carry out a complete analysis of the current situation. This analysis should primarily consider:

- Services currently being provided
- Resources available for these services
- Types of knowledge available to people in the university
- tools/techniques being used for managing this knowledge

This would identify the gap between what is available and what is required.

Problem Definition

After gap analysis it would be easier for the university to identify problems in the system. Major problems associated with managing knowledge in a public sector universities of Pakistan are:

- Knowledge creation
- Knowledge sharing/transfer

Factors that lead to these problems are:

- **Knowledge leakage;** people leaving the university without sharing their knowledge.
- **Culture for not sharing their knowledge;** one of the major reasons behind this is fear of Job Security.
- **Technology illiteracy and manual working;** Many people in the organization are not able to use technology even for routine tasks.

Identification of Needs

The next stage is to identify the organizational needs for the problem:

- **Needs Associated with Knowledge Creation;** define procedures for creating tacit and explicit knowledge both.
- **Needs Associated with Knowledge Sharing/Transfer;** identify types of knowledge to be shared/transferred, from where and to whom. Specifically, emphasizing on sharing tacit knowledge so that it is not leaked out with the person leaving the university.

Identification of Organizational Enablers/Resistors

Organizational enablers or resistors, one way or the other affect the eKM process; hence they need to be tackled accordingly. Some common resistors and enablers for these universities are identified as:

i. Resistors

Resistors are all those people, situations, issues, etc. that act as barriers in the eKMS. Few examples are:

Rank Disparity: It is human nature that if anyone junior in status tries to explain something then the senior doesn't like to listen because they think that they are more experienced, hence knowledgeable, so they don't need any further knowledge sharing. This trait is quite common in these universities.

Source of Knowledge not known: users do not know where the required piece of knowledge would be available.

Gap in Location or Time: knowledge transferor and transferee both are located at farther locations.

Organizational Dimensions: In very large universities, situations arise where the appropriate knowledge is not available when required due to mismanagement.

ii. Enablers

Enablers are those people, situations, issues, etc. that facilitates the knowledge creation/sharing process. Few examples that may exist in Pakistani public sector universities are:

Small Organizational Dimensions: In small universities, having less number of employees, it would be easier to manage knowledge.

Well Recognized Knowledge Sources: people would know exactly when and where their required knowledge would be available. This hastens the knowledge creation/sharing process.

Donor Readiness: donor/supplier of the knowledge is well prepared and willing to take part in knowledge creation/sharing.

Appropriate Tools & Techniques: choice of appropriate KM tools/techniques play a vital role in proper knowledge dissemination.

Selection of Techniques/Strategies

Public-sector universities in Pakistan are usually low on budgets. However, they do get government grants but still as compared to private sector universities, the public sector universities have less monetary resources. Based on this situation the techniques recommended are:

i. Shared Communication

Communication among university members gives way to knowledge creation & sharing particularly tacit knowledge. If they are provided intranet communication tools then this would enhance the process.

ii. The Knowledge Spiral (SECI Process):

In a university, tacit knowledge needs to be converted to explicit and explicit again converted to tacit in a cyclic manner. For this the SECI knowledge spiral can be used to promote a knowledge creation & sharing culture at all levels.

Nonaka[6] has suggested the SECI model for this conversion through following techniques: Figure 04[6]

- **Socialization:** from tacit to tacit - sharing experiences, such as; shared mental models, technical skills, observations, imitation, and practices, to create tacit knowledge.
- **Internalization:** from explicit to tacit - knowledge is verbalized or diagrammed into documents or oral stories.
- **Externalization:** from tacit to explicit - quintessential process of articulating tacit knowledge into explicit concepts through metaphors, analogies, concepts, hypothesis, or models.
- **Combination:** from explicit to explicit - process of systemizing concepts into a knowledge system. Individuals exchange and combine knowledge through media, such as documents, meetings, and conversations. Formal education and many training programs work this way.

Figure 3. Framework for implementing eKM [5]

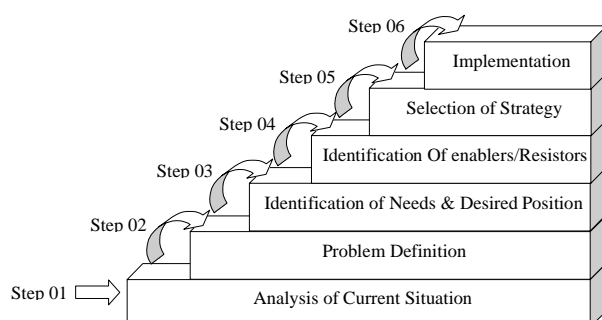
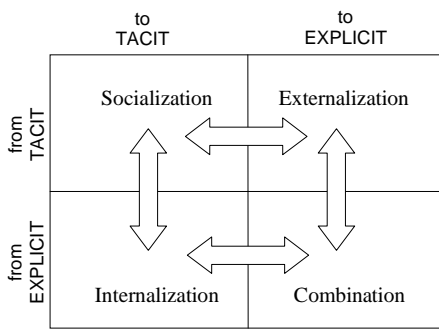


Figure 4. The Knowledge Spiral (SECI Process) [9]



iii. Employee Assurance

If people within the university be assured that sharing knowledge would enhance their knowledge and also provide growth opportunities, then they would not hesitate to share knowledge and also not switch over to other universities. Thus the university can prevent knowledge leakages.

Implementation

Based on the size & culture of Pakistani public sector universities, few implementation techniques/strategies suggested are:

- **Promoting a culture for Informal & Self Organizing Group Discussions:** In case of public sector universities their existing culture might not encourage such activities but the need is to develop this culture where knowledge creation and sharing both would occur. Initially formal group discussions can be created and once people realize the benefit then informal groups would automatically be formed.
- **Formal Group Discussion with Industry Experts:** Individuals having experience in industry can be invited to participate in formal group discussions by using tools like internet chats. This would particularly promote transfer of tacit knowledge.
- **Categorizing Learning Program/styles:** Categorizing learning programs/styles according to different types of learners would improve learning. Learning styles, like online/classroom type, passive/active, audio/visual, proactive/reactive, individual/collaborative, etc. can be adopted.
- **Knowledge Preserving And Drilling:** Knowledge shared by formal/informal groups should be preserved by making use of technology, e.g., preserved in data warehouses, then by using data mining techniques it can be drilled out when needed. For preserving knowledge three type of knowledge repositories are suggested for these universities:
 - **External Knowledge Repository:** store external knowledge, like competitive intelligence, industry standards, best practices, etc.
 - **Formal Internal Repository:** preserve knowledge internal to the university, like; company policies, marketing materials, report generated by students, research report generated by students or faculty members, etc.
 - **Informal Internal Repository:** preserve knowledge that is created informally within the university, like outcomes of informal groups discussions
- **Videoconferencing:** Videoconferencing techniques can be used to promote knowledge sharing among geographically dispersed group members. For example; an industry expert residing at a distant place can participate in discussions through video conferencing. Though this is an expensive technique but it can be implemented if proper infrastructure is available and in the long run the benefits would overrun the cost.

- **Virtual Classrooms:** Virtual classrooms help deliver the knowledge to the doorstep of the learner. Learning is carried out by broadcasting and viewing the lectures/training material through the use of web based technology. Students can interact with the trainer, ask questions, discuss and avail all similar benefits that they get during classroom learning. One of the biggest advantages of this is that busy individuals working in industry can be asked to conduct classes without physically visiting the university. They can transfer tacit knowledge by actually demonstrating the working procedures in the actual environment. Thus the university can involve in global learning and sharing of knowledge.
- **Corporate Intranet:** A corporate Intranet acts as a central point where every member of the university can share and exchange knowledge. Universities can put loads of information like, company policies, recruitment policies, salary structures, benefits/allowances, etc. on the intranet. This would reduce a lot of paper work, improve productivity and operational efficiency, and at the same time, flow of knowledge would also be facilitated.
- **Web Portal:** All Pakistani public sector universities do have an official website but it is suggested that they should also maintain a web portal which would include information for:
 - [People requiring admission](#)
 - [Alumni](#)
 - [Industry people](#)
 - [Organizations requiring corporate training, etc.](#)
- This portal would act as a single point of communication between various entities of the university.
- **Blogs:** Blog is normally a single web page of entries containing entries/links to special topics which the whole world can access and view. People within the university, especially the faculty members, or special interest group members can create blogs. These blogs will serve as a useful tool for sharing knowledge.
- **Online Knowledge Banks(KB):** Create separate knowledge banks for different subjects, accessible by students, faculty, and researchers. As compared to search engines, these KBs would provide "Single-click access" to locate related knowledge quickly without wasting large amount of time searching on the net.
- **Involvement in Industry Practices:** Close association with the industry would help gain tacit knowledge. For this reason, universities can develop contracts with organizations/business firms, through which the organizations can allow students to gain tacit knowledge by spending training period of a particular course in the organization. Students would learn by working with industry people and by observing what they do and how do they perform in specific situations.

CONCLUSION

Efficient management of Knowledge is considered as one of the key success factor for organizations. The aim of this research was to study eKM as a strategic tool and propose a knowledge-centered approach to the management of education in Pakistani public sector universities. But thinking, speculating, and wishing is not the same as doing and quite different form doing it successfully. In order to be a true LO and apply eKM, public sector universities in Pakistan should first become ready to do so. This means re-engineering of organization and exploring how technology can be put to work, keeping in view the bottlenecks. Bottlenecks related to the application of eKMS in the university environment are likely of a cognitive nature: information overload, technical, and logistic complexity, the necessity to overview distributed processes and so on.

As all over the world, universities are expanding their services globally and becoming networked organizations, therefore there is a need to further research in this area to find out how networked universities can be made more effective and flexible in terms of the services they provide, by effectively managing their knowledge assets.

The paper concludes that eKM can be successfully implemented in Pakistani public sector universities. The need is to convert the tradi-

tional teaching university into a learning university. Hence, developing a culture where economic value is derived principally from intellectual capital.

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