

# Knowledge Management at Educational Institutions: Case of Pakistan

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*Abstract:* - The rapidly expanding use of technology in teaching and learning, and the transformed economic basis upon which universities are instituted, have caused universities to transform the ways in which knowledge is produced, stored, disseminated, and authorized. Knowledge is at the heart of much of today's global economy and managing knowledge has become vital to companies success. In the paper we focus on bringing some arguments that proper knowledge management is not only uplift the standards of universities in Pakistan but also essential for the better performance of industries, which definitely improve the economy of a country.

*Key-Words:* - Developing economies, knowledge management, educational institutions, Pakistan

## 1 Introduction

The rapidly expanding use of technology in teaching and learning, and the transformed economic basis upon which universities are instituted, have caused universities to transform the ways in which knowledge is produced, stored, disseminated, and authorized. The most successful organizations are those in which knowledge management is the part of everyone's job. Knowledge is at the heart of much of today's global economy and managing knowledge has become vital to companies success [7]. It is a fact that knowledge is power but effective use of this power is possible only by managing it properly. This can be done by knowledge management.

In this paper we focus on that proper knowledge management is not only uplift the standards of universities in Pakistan but also essential for the better performance of industries, which definitely improve the economy of a country. It is fact that throughout the history of Pakistan, both military regimes and civilian governments hardly focused on higher education with the objective of producing world-class graduates in the natural or social sciences. Nor did they think of higher education as an opportunity to train young men and women as leaders in vital areas of national life. Our ruling elites definitely lacked the vision that modernist elites in other comparable countries had. Those in positions of political power preferred to send their daughters and sons to foreign universities. Or, perhaps, they realized the limitations and inadequacies of higher education in Pakistan, and instead of owning this vital sector they sadly abandoned it by taking the escape route to foreign universities.

## 2 Development in Pakistan

When Pakistan was founded in 1947 as a result of the partition with India, the country had only one institution of higher education - the University of the Punjab. Over the next 20 years, many private and public schools and higher education institutions were established to help fuel the country's socio-economic development. In the early 1970s, all of Pakistan's educational institutions were nationalized. For the next decade, Pakistan's entire system of education was state-run. However, the growing demand for higher education fast outpaced the establishment of new public universities. During that period, the system could accommodate only 25 percent of the high school graduates who applied to higher education institutions. In 1979 a government commission reviewed the consequences of nationalization and concluded that in view of the poor participation rates at all levels of education, the public sector could no longer be the country's sole provider of education. By the mid-1980s, private educational institutions were allowed to operate on the condition that they comply with government-recognized standards. Until 1991, there were only two recognized private universities in Pakistan: Aga Khan University established in 1983; and Lahore University of Management Sciences established in 1985. By 1997, however, there were 10 private universities and in 2001-2002, this number had doubled to 20. In 2003-2004 Pakistan had a total of 53 private degree granting institutions, as of 2004 - 2005 Pakistan has 107 public and private degree granting institutions [1]. Because of the great need to fill the education gap, the government has made it relatively easy for the private sector to establish colleges and universities. According to latest

survey now there are 126 degree granting institutions in Pakistan [16].

The Higher Education Commission (HEC), formerly the University Grant Commission, is the primary regulator of higher education in Pakistan. It also facilitates the development of higher educational system in Pakistan. Its main purpose is to upgrade the Universities of Pakistan to be world-class centers of education, research and development. The HEC is also playing a leading role towards building a knowledge based economy in Pakistan by giving out hundreds of doctoral scholarships for education abroad every year. The above statistics and efforts showed that shortage of universities and other resources are not a problem for promoting higher education in Pakistan to the international standards but the real problem is that we are lacking because of inefficient performance of most of the universities, which definitely can improve by proper application of knowledge management approaches. The new world order requires us to prepare our children to face the challenges of the global economy. This involves a substantially different type of education to be imparted, focused not only on the mastery of subject matters but also on the ability to think critically, innovate, communicate, work effectively in teams, and develop entrepreneurship opportunities and flexibility. This would require a massive focused national effort. While investment towards development of high level science and technology manpower is necessary to meet the critical shortage of teachers and researchers, investment in skill development at technical education and management levels and provision of quality education to the majority of our population is equally important.

Nowadays, progress of a country heavily depends upon industries but industries cannot be flourished in long run without connection with universities, which definitely effect economy of a country. Therefore in developed and most of the developing countries knowledge management is considering being crucial for industries as well as universities. An effective knowledge management system requires every academician to practice appropriate management of knowledge in his/her teaching and learning activities, which includes generating, acquiring, storing and disseminating knowledge effectively to the users of knowledge, especially the students.

According to [2] new knowledge, particularly knowledge related to technology, drives economic system. Economic agents, including firms and government, are forced to adapt to technical change in order to survive in a competitive environment, while government should act as facilitator of technology capabilities in enterprises. This will only be possible if we strengthen our universities, research and development organizations, and create effective linkages

between universities and industries. It will be the increasing use of knowledge in the production processes and service industry which will determine the growth of our gross domestic product (GDP). Our ability to compete or survive in the globalization of economic systems depends on our commitment to developing our human capital and ensuring a continuous learning process within the government institutions and enterprises to create a culture of innovation. Innovation is concerned with enhancing national productivity and national competitive performance. Dynamic innovation systems involve interplay between a number of different parts of society which include the government, private sector, universities, and research institutions. The transition of our economy from an agriculture-based economy to a knowledge-based economy involves a mosaic of complex interactions between a large numbers of players. Universities will need to play a central part in this transition through the creation, use, and diffusion of new knowledge into the society through the establishment of technology parks, business incubators, access to venture capital, and other such schemes.

According to [11] an efficient and effective knowledge management typically requires an appropriate combination of organizational, social and managerial initiatives along with the development of appropriate technology. Those organizations which adopt knowledge management principles, methods or tools are progressing rapidly. We are deeply convinced that using of knowledge management approaches is beneficial not only in the case of large enterprises, but also in universities and it is important for the universities that they must focusing themselves more “on doing the right thing” instead of “doing things right”.

### 3 Knowledge Management Practice

#### 3.1 Knowledge

Knowledge is something which only humans can possess. People know things, computers can't know things. Traditionally in our schooling system knowledge is seen as a personal possession. Knowledge gives us the ability to take action. Knowledge is based on experience; it requires instruction, and it involves the application of theory or heuristics (either consciously or unconsciously). We can define knowledge as the understanding gained by experience and study or the outcome of the collection and assimilation of information through learning. Knowledge acquisition involves complex cognitive processes: perception, learning, communication, association and reasoning. The term knowledge is also used to mean the confident understanding of a subject with the ability to use it for a

specific purpose if appropriate where as knowledge process can be divided into three broad categories, knowledge creation/application, knowledge sharing/integration and codification and Knowledge may be accessed at three stages: before, during, or after knowledge-related activities.

According to [8] knowledge can be divided into know-who (or where to go to for the necessary knowledge to enable action); know-what (to do); know-why (to do it); and know-how (to do things). Polanyi [17] divided knowledge into codified and tacit knowledge. Codified knowledge is that knowledge which can be relatively easily expressed verbally, in text, computer programs, blueprints etc. It can easily be captured and interpreted through symbolic codes, and its meaning is relatively unproblematic. It may be more useful to us to think of explicit rather than codified knowledge. Explicit knowledge is that which is easily explained, rather than just codified, and shared within particular social groups. Tacit knowledge, on the other hand, is that which is not easily captured in codes. These are the 'soft' knowledge's – values, beliefs, practical skills and 'tricks of the trade' – that are so vital to practical action.

### 3.1.1 Knowledge Environment

An alternative to treating knowledge as a "thing" is to change the focus from knowledge artifacts to knowledge environments. Here, social networks and networks of knowledge can become the focus of attention. This is a position that requires looking outside the usual knowledge management, organizational learning, and innovation management literature and examining new areas in history, philosophy and consciousness studies.

### 3.1.2 The Knowledge Life Cycle

The ability to share knowledge across an organization can be a critical organization asset. Information technologies are used in modern organizations to facilitate corporate communications store corporate information, and support corporate transactions. These capabilities, among others, allow corporate information technologies to assist in storing, organizing, and accessing the corporation's collective knowledge. Recollection of past events using an automated information system can help users understand the context of activities and learn how the organization has operated under past circumstances. Thus, they are better able to conduct themselves and make decisions in the context of the pervaded knowledge. Managing knowledge in an organizations includes capturing, Storing, filtering, and disseminating information that can be actualized into valuable organizational know – how.

## 3.2 Knowledge Management and its Practices

Knowledge management is a management theory which emerged in the 1990s. It seeks to understand the way in which knowledge is created, used and shared within organizations. A significant part of Knowledge Management theory and practice aligns two models: (i) the DIKW model, which places data, information, knowledge and wisdom into an increasingly useful pyramid. (ii) Nonaka's reformulation of Polanyi's distinction between tacit and explicit knowledge. Both of these models are increasingly under challenge with different schools of thought emerging which are more fully described and referenced in the main article.

An objective of mainstream knowledge management is to ensure that the right information is delivered to the right person just in time, in order to take the most appropriate decision. In that sense, knowledge management is not interested in managing knowledge, but to relate knowledge and its usage. This leads to Organizational Memory Systems. More recent developments have focused on managing networks (the flow of knowledge rather than knowledge itself) and narrative forms of knowledge exchange.

Knowledge management is a discipline within an organization which ensures that intellectual capabilities of an organization are shared, maintained and institutionalized, while knowledge management practices consist of generation, acquisition, storage and dissemination of knowledge. Knowledge management applies systematic approach to find, understand and use knowledge to create values [15]. Davenport and Prusak concluded [5] that the shift from seeing knowledge as personal property, to seeing knowledge as communal property, is at the heart of knowledge management. According to [6] knowledge management is fundamentally a systematic approach for optimizing the access, for individuals and teams within an organization, to relevant actionable advice, knowledge and experience from elsewhere. According to [9] knowledge management is defined as that process established to capture and use knowledge in an organization for the purpose of improving organizational performance.

Therefore we can say that the ultimate goal of a knowledge management effort in an organization is to collect all organizational knowledge (explicit and tacit) and to make it available, sharable - throughout the organization. In [7] it is suggested that one of the key characteristics of knowledge-intensive firms should be "their capacity to solve complex problems through the development of creative and innovative solutions". Universities are seemed to be natural knowledge organizations and a university environment is by its nature suitable for the application of knowledge management principles and methods. In fact knowledge management is not a radically new idea; it is a new way

of looking at how higher education institutions could operate more dynamically and effectively in the twenty first century. One can say it is an approach enabling us to stress and exploit the knowledge nature of universities making thus these institutions to be more attractive.

#### 4 Role of Universities

According to [14] organizational learning is the capacity or process within an organization to maintain or improve performance based on experience. The traditional functions of universities are teaching and research. In their teaching activities, universities provide the professional training for high-level jobs, as well as the education necessary for the development of the personality. University research increased the body of theoretical knowledge as well as its application to practical problems. There are also many good practices that support the important role of the university as an institution for critical thinking where knowledge is developed and disseminate widely throughout the organization as a source of value creation. The knowledge management system can be implemented in the working environment without much interpretation of ongoing activities. According to [13] “by its nature university environment is suitable for the application of knowledge management principles and methods, because universities usually possess modern information’s infrastructure, knowledge sharing with others in natural for lecturers and the desire of students is to acquire knowledge from accessible sources as fast as possible”. According to [12], three major missions of universities are:

- Teaching – to prepare students to become successful lifelong learners;
- Research – to expand the frontiers of human knowledge and to promote creativity;
- Services – to serve on communities and in leadership positions within the university and in professional organization, and to participate in outreach activities that serve the local, national, and international communities.

With the rapid changing economic environment, the role of universities or higher education institutions as knowledge providers has been scrutinized and challenged by the various stakeholders, including the public. To answer this challenge, knowledge management ideas and principles have been proposed to be employed by universities for the purpose of doing fundamental and applied research, teaching suitable curricular program, utilization of knowledge for management decision support to improve internal document management and exploitation to increase the level of knowledge dissemination, and utilization of knowledge for qualitative change in the educational

process. Another important role of the university is as a learning organization such as to support the learning process and utilize this learning to the advantage of the organization, through having an organizational environment which encourages experimentation, risk taking and open dialogue.

According to [15] knowledge management applies systematic approaches to find, understand, and use knowledge to create value. Another interesting view about universities performance is given by [18]: “Universities operate like renaissance quartets based on live performances. But orchestras and musicians have found ways to obtain financial rewards through reusing the content they generate. Universities need to do the same.” Davenport and Prusak stated [5] that the knowledge assets and the learning capacity of an organization are viewed as the main source of competitive advantage.

In our viewpoint it is easy for the universities to adopt knowledge management principles and approaches because universities usually possesses a modern infrastructure, to acquire knowledge from accessible source can be done fastly and easily, sharing knowledge is natural in universities, and also availability of trustful atmosphere at universities is more as compared to any other organization. Moreover as modern universities are very much also business organizations with a lot of business activities on the “educational market,” any method of increasing their competitive advantage might be very useful and interesting for them; knowledge management is one of the emerging approaches which can perform an essential role to raise their standard. It is also essential that each officer in a university must act as a knowledge worker, i. e. someone whose work is primarily intellectual, creative and non – routine in nature, involving both utilization and creation of knowledge.

There are actually three basic possibilities how universities can exploit the knowledge management ideas and principles:

- To teach them in a suitable study program;
- To use it for its management decisions, support to improve the internal document management and exploitation, to increase the level of information and knowledge dissemination;
- To make use of it for a qualitative change in the educational process.

Therefore it is advisable for universities that up to possible extent they should think about all the above described directions of the knowledge management application.

A knowledge environment has a social dimension (the relational context); a socio-cognitive dimension (the interpretive context); an individual dimension (the knower); and a situation in which these processes are

located. University managers need to align their strategies in relation to these dimensions. It is very important for university managers to create trust-worthy environment in the university because the key converter from hoarding knowledge to sharing knowledge is trust, which must be the first priority of every organization. Trust refers to the belief that people have about the likely behavior of others, and the assumption that they will honour their obligations (not acting opportunistically). A trusting relationship is based on an expectation of reciprocity or mutual benefit. It is also important for the university managers to create an environment which improve the organizational commitment among the university employers because this sense of emotional attachment that people feel to the organizations they work for, which may reflected in value alignment and common goals.

## 5 The Case of Pakistan

Knowledge Management programs are typically tied to organizational objectives such as improved performance, competitive advantage, innovation, developmental processes, lessons learnt transfer (for example between projects) and the general development of collaborative practices. Knowledge Management is frequently linked and related to what has become known as the learning organization, lifelong learning and continuous improvement. Knowledge Management may be distinguished from Organizational Learning by a greater focus on the management of knowledge as an asset and the development and cultivation of the channels through which knowledge, information and signal flow.

By this paper we did not mean that all universities in Pakistan are not using the knowledge management approaches. In fact some universities and degree awarding institutions in Pakistan are using knowledge management ideas and produced excellent results. Very much it is true about many non-academic institutions in Pakistan, see eg. [10]. On the other hand, the present societal culture in Pakistan does not support open sharing of knowledge because sharing knowledge is considered akin to sharing of power.

In what follows, we can take as an example the COMSATS University of Information and Technology, though COMSATS is a rather newly established university. From very start it adopts the concept of knowledge management and now COMSATS is one of the top three leading universities of Pakistan [3]. A couple of the knowledge management approaches are listed below which are continuously performed at COMSATS [4]:

- Upgrading to up-to date IT infrastructure throughout the whole organization.
- Use of information portal.

- Implementing a knowledge-based course planner and timetabling system.
- Introducing an internet-based document management system.
- Building knowledge sharing repositories.
- Supporting distance learning program.
- MILES (Managing Innovation, Leadership, Entrepreneurship and Strategies) is the gathering of students, faculty, practitioners, and entrepreneurs for interaction and exposure within their community at national level by sharing the latest trends in the field of management sciences.
- Realizing the need to bridge the gap between local industry and software culture, COMSATS came up with an idea to provide a common platform for software vendors and customers. COMSATS had the privilege to successfully organize CSE (Conference of Software Enterprises) 2007 last year. Thirty six different companies participated in the event from all over Pakistan. The participants exhibited their projects and products which were highly appreciated by visitors from the local industry, universities, colleges, banks, hospitals and NGOs.
- 7th COMSATS Workshop on Research and Computing (CWRC) was held at Lahore campus in Juni 2008.

## 6 Conclusion

In this paper we aimed to show that knowledge is the most important asset of the university and its proper application is extremely important. Universities have to live up to expectation of global society, in order to achieve the higher level of attractiveness of universities. One of the most promising ways is to make use of their knowledge resources in accordance with the demand of the time. The ability to adeptly manage the diverse types of knowledge used by both academics and non – academics in a particular decision making, is crucial for the sustainable improvement in the performance of the university as a whole. Knowledge management is concerned a range of practices used by organizations to generate, store and disseminate knowledge for reuse, especially in research, teaching, decision making and others. The role of universities particularly in Pakistan should be like that to use knowledge management principles and approaches to improve their standards and also acts as knowledge repositories for corporate, by doing so universities can improve there performance at national as well as at international level. Just like the business economy where goal is how to maximize the profit and minimize the input cost the goal knowledge economy is to push employees towards greater efficiency and productivity by making better use of the

knowledge.

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