

National Conference on Advances in Knowledge Management (NCAKM – 2010)
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“The goal of mankind is knowledge ... Now this knowledge is inherent in man. No knowledge comes from outside: it is all inside. What we say a man 'knows', should, in strict psychological language, be what he 'discovers' or 'unveils'; what man 'learns' is really what he discovers by taking the cover off his own soul, which is a mine of infinite knowledge.” This beautiful edict by Swami Vivekananda rightly describes the essence and charisma knowledge holds.

The core competence of any engineering and manufacturing enterprise increasingly depends on the quality of its intellectual resources and how these resources are used. In the 1990s an in-depth understanding awakened that professional engineering knowledge has a value in itself, specially for those who design and create new concepts of products. Engineers started to realize that their own knowledge resources and abilities have a direct impact on the creation of new products for the market. It became obvious that those who possess the wider knowledge are faster with bringing out new products. As a consequence professional engineering knowledge became one of the most important company resources. Researchers noticed that when creating a new product the wealth of knowledge is more important than engineering methods. Because of that decision makers came to the conclusion that knowledge once acquired should not be lost as it can be used again. So companies set about to store the knowledge for internal use and built storage and management systems which kept their processes, procedures, corporation rules, realized projects, standard documents etc.

The storing and delivering of knowledge became the basic functions of such systems. It didn't take long and the necessity to cover all engineering domains by those systems became evident. But the acquisition of engineering knowledge turned out to be very difficult and time consuming. The kind of knowledge needed for engineering concepts, its storage, the changes it undergoes with the engineer's professional career and the possibility to pass on the knowledge of an experienced engineer to a novice have been the subject of numerous researches.

Every new design task is decisively guided by the engineer's experience, i.e. by the understanding he acquired in earlier works. This fact does not only influence the knowledge itself but also the way the process is arranged. Each engineering process can cause a new impulse which may become the basis for a new knowledge element. In general, the engineer's knowledge is expressed in the following categories: activities, tasks, plans, knowledge sources. When an engineer describes details of his works he uses representations which are specific for his domain. Consequently, there is a difference between describing the geometric modelling process of a car body and performing specific calculations. The most popular of all the

categories mentioned above is the activity. Each activity has its sustaining knowledge sources. These knowledge sources evolve and as a result the activities evolve as well. The activities are employed to develop plans. At first glance the plan represents a number of activities which have to be carried out and which then evolve and undergo different stages of development in the course of the design process. But the plan also depicts the engineer's individual style of work and his actual state of knowledge.

Now if engineering process is the result of team work then the final design rationale can be found in different knowledge components belonging to different members. If knowledge is an important factor in any organization, Knowledge Management is intended to capture an organization's collective expertise and distribute it to "wherever it can achieve the biggest payoff". Knowledge Management is about storing and sharing the accumulated collective understanding and expertise within an organization regarding its processes, techniques and operations. The essence of Knowledge Management then, is the need to have designated 'knowledge developers' to design the computer software to control the knowledge database, and the 'learning options' that will guide users in finding, at any given time, information that will serve their personal development and work needs.

The move from an industrially-based economy to knowledge -based one in the 21st Century is nothing less than historic renaissance movement. It demands a top-notch knowledge management system to secure a competitive edge and a capacity for learning. It is very appropriate to say that the new source of wealth is knowledge, and not labor, land, or financial capital. It is the intangible, intellectual assets that must be managed. The key challenge posed by knowledge economy is to foster innovation.

It can be comprehended that for several decades the world's best-known forecaster of societal change has predicted the emergence of a new economy in which brainpower is the critical resource, not machine power. But the future has already turned into the present, and the era of knowledge has arrived.

One of the key building blocks for developing and advancing this field of knowledge management is artificial intelligence, which many knowledge management practitioners and theorists are overlooking. It is a well known fact that theory without experiment is empty, experiment without theory is blind. Therefore to address the crucial questions about the effective knowledge management, the psychological experiments need to be interpretable within a theoretical framework that postulates mental representations and procedures mainly because mind presents the best example of perfect knowledge management. One of the best ways of developing theoretical frameworks is by forming and testing computational models

intended to be analogous to mental operations. Designing, building, and experimenting with computational models is the central method of artificial intelligence (AI), the branch of computer science concerned with intelligent systems.

Knowledge Management is an exhilarating, energetic field of practice. Full of challenges and surprises. It comprises of cross-disciplinary submissions and the want for innovation. It is also a field struggling to find its nitty-gritty in an ocean of connections, demands, and differing interests, not all of which are unswerving with the need to find a prolific discipline based on both speculation and practice.

The conference was inaugurated by Hon'ble Chancellor Prof. G. V. K. Sinha. Prof. Khurram Mustafa, Jamia Millia Islamia, Prof. Mukhopadhyay, Pro- and Acting Vice Chancellor, Lingaya's University, Prof. Pratap Singh, Director LIMAT, were also present on the dais.

This is the second time that the Lingaya's University has organized a Technical Event of this magnitude. The Conference was organized jointly by the Dept. of Computer Sc. & Engineering and Library Science Centre. It is since about a year that the planning started for organizing a Conference to bring people together to discuss on issues that will have major impact in the future.

164 papers were received in a very short time of two months. Out of these papers, as many as 58 papers could not be considered for presentation due to various reasons. The remaining papers have been grouped into 09 parallel tracks. It is a matter of honour that Director Prof. Pratap Singh also presented his scholarly work in the field of knowledge management. All the papers were reviewed by seven external reviewers and the comments were provided to the authors for consideration. 151 persons registered for the Conference from all parts of the nation. The participants and authors are mostly from academics, and consist of members from teaching fraternity and students.

Though the area is relatively very new, the knowledge management field is common for scientists, researchers and academicians working in computer sciences, information technology, electrical engineering, electronics engineering, mathematics, physics, etc. In subsequent sessions, you will get to hear what the experts have to say about the importance of advances in knowledge management. There are two sessions for invited talks also, which are no-miss sessions for everyone wanting to know in deep about research and application in the field of knowledge management. We as academicians must agree to the famous saying by Confucius -

“When you know a thing, to hold that you know it; and when you do not know a thing, to allow that you do not know it - this is knowledge.”

Dr. M. Natarajan, NISCAIR, Dr. Khurram Mustafa, Jamia Millia Islamia, Dr. M. Hanumandlu, IIT Delhi, Dr. Ramesh Gaur, IGNCA, and Dr. H. S. Sai, Manav Rachna International University were some of the eminent speakers who delivered invited lectures on application of knowledge management in various facets of life.

Prof. Hanumandlu, IIT Delhi chaired the valedictory function on the second day. Prof. Mukhopadhyay, Pro- and Acting Vice Chancellor, Lingaya’s University, Prof. Pratap Singh, Director LIMAT, were also present on the dais.