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Significance of Knowledge Management in new business era

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Abstract

Alteration of the economic situation, social life variations determine the changes in organisations. Nowadays, leaders of regional, international markets focus on knowledge management, organisational learning, emphasizing that these are the crucial factors in shaping strategies for business organisations. New social and economic environment require flexible organizations. Organizations that are not flexible cannot respond to unpredictable changes and cannot be competitive. There is a realization that competitive advantage could be gained only through leveraging intellectual capital or knowledge residing in the mind of organizational workforce. The knowledge based business has become a major strategy of an organization in this competitive world to sustain its growth. An organization's capacity to improve its existing skills offers the most defensible competitive advantage of all. The decisive competitive factor in the knowledge society will be the acquisition and application of knowledge. Learning organization represents a type of organization that can quickly respond to changes. Major asset of learning organization is knowledge which means that learning organizations need proper knowledge management. This paper provides an introductory conceptual framework for knowledge management and also describes the study of knowledge management practices of certain fast growing organisations from the different sectors.

***Keywords**: Knowledge Management, Learning Organisation, Organisational learning, Web 2.0, Management Web 2.0, Innovation*

Introduction

KM can be defined as "a systematic discipline and set of approaches to enable information and knowledge to grow, flow and create value in an organisation. This involves people, information, and workflows, enabling tools, best practices, alliances and communities of practice." Present business landscape is marked by increasing economic and political turbulence a faster pace of innovation an inter networked organisational structure, a focus on intellectual capital and an increasing employee churn rate. Within this context, KM is being interpreted as a critical discipline for risk management, increasing productivity, knowledge retention and more efficient innovation. Knowledge management (KM) is the combination of organizational culture, strategic goals, individual needs, and the expertise of its people to create an atmosphere of learning and growth. Philosophically, knowledge management must be a vital part of corporate principles and individual jobs for knowledge sharing to succeed. It's through its conceptual components that knowledge management

becomes legitimate. Assessing and meeting each person's needs is essential to the process. Through the use of this knowledge, people and organizations can improve. As people improve, so do an organization's strategic goals. This paper presents introductory conceptual framework for knowledge management and explores KM practices in different organisations.

Concepts of Knowledge Management

Knowledge and information are increasingly becoming key assets for organizations. Three key terms to understand as the building blocks for knowledge management include data, information, and knowledge, as Groff and Jones (2003)and also (Davis , Olson 2007) explain: **Data:** The nature of data is raw and without context and can exist in any form, usable or not. For example, numbers in a spreadsheet are data. **Information:** Data that has been given meaning. Spreadsheets are often used to create information from a set of data, such as sales over a period of time, increases or decreases in sales, competitor trends, and so on. **Knowledge:** Information that when combined with understanding enables action. For example, a manager analyzing a declining sales trend may take action to identify issues and carry out strategies to change the trend. Think of the relationship of data, information, and knowledge as a hierarchy. Data gets turned into information, which then provides knowledge on which decisions are based. The key for organizations to harness the power of knowledge management is to turn information into accessible and reusable knowledge.

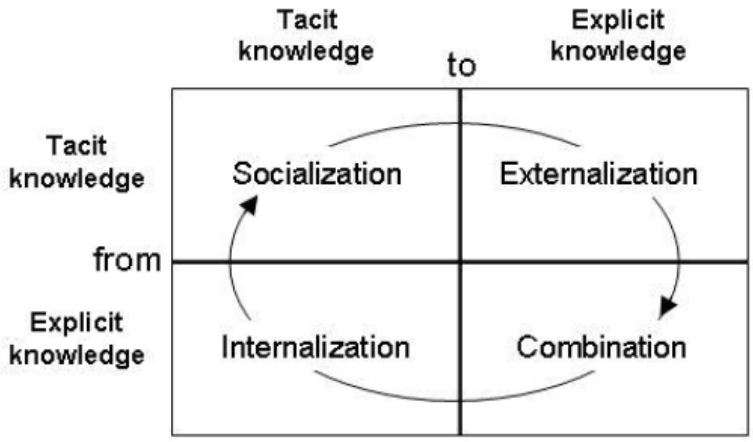
There are two main types of knowledge:

Tacit: This type of knowledge refers to personal knowledge in one's head—knowing how to do something based on experience. It includes judgment, insights, experience, know-how as well as personal beliefs and values. For example, when conducting web-based training for the first time, a trainer can read documented information about how to conduct this training but at this point lacks tacit knowledge—the know-how based on previous experience.

Explicit: This type of knowledge includes information that has been documented or can be shared with someone. For example, a trainer may not have conducted web – based training before, but based on what the trainer has read and heard from others, he or she may know the exact sequencing of steps to log in to the Web session and conduct the training. So what exactly is knowledge management? **Knowledge management** is the explicit and systematic management of intellectual capital and organizational knowledge as well as the associated processes of creating, gathering, organizing, retrieving, leveraging, and using intellectual capital for the purpose of improving organizations and the people in them. Through these processes, organizations capture and store data and information in a central or distributed electronic environment—often referred to as a **knowledge base**.

Many organizations are using knowledge bases to turn tacit knowledge (individual know-how) into explicit knowledge (documented information, steps, and processes). As noted by Groff and Jones, turning tacit knowledge into explicit knowledge is one of the key functions of a knowledge management strategy.

Knowledge Conversion Process Effective KM requires a continuous knowledge conversion process. According to Nonaka and Takeuchi, it represents a social process between individuals and not confined within an individual. Four different modes of knowledge conversion have been postulated (fig.1)



(Fig .1 - The knowledge conversion processes in a knowledge creating organization)

Externalization (tacit to explicit): is the process of conversion of tacit into explicit knowledge.

Combination (explicit to explicit): is the process of enriching the available explicit knowledge to produce new bodies of knowledge.

Internalization (explicit to tacit) : is the process of individual learning by repeatedly executing an activity applying some type of explicit knowledge, and absorbing the relationship between actions and results as new personal tacit knowledge.

Socialization (tacit to tacit): is the process of learning by sharing experiences that creates tacit knowledge as shared mental models and professional skills (e.g. apprentices learning process, or expert consensus achievement during medical meetings).

Learning Organization

Learning organization is an organization that works on similar principles as a living organism. As any living organism, learning organization is created from various parts. They are linked together with relations and bonds. Together all parts and relations create a bigger whole, a complex system. The difference between a learning organization and organization that does not learn is following:

• Learning organization can monitor its external and internal environment.

• Learning organization understands underlying principles of environmental dynamic.

• Learning organization can use these principles to address and initiate changes.

The cycle of monitoring, understanding, and responding (changing) is foundation of organizational learning. Peter Senge highlights five important aspects of learning organization in his famous book The Fifth Discipline. They are as follow (Senge, 1999):

• Personal mastery - the ability of individual to learn and develop. No learning organization can be created without individual learning and development.

• Mental models – unconscious deeply rooted personal images that influence our behavior.

• Shared vision – vision shared by employees is a torch that ignites the light on the way to future.

• Team learning – interaction of individuals and teams leads to acceleration of organizational learning.

• System thinking – explains basic principles and two types of feedback that create system dynamics.

Knowledge and Learning Organization

Knowledge serves as a type of glue in organizations. It holds its separated parts together and enable them communicate. If it were not for knowledge, organizations, especially the more complicated ones, would not exist. Companies which operate on highly competitive markets and have to innovate and make changes are often learning organizations. They understand importance of knowledge for their success and actively search for tools and methods that would helped them to increase the profitability of their knowledge. Many of them try to introduce knowledge management. Many of them unfortunately confuse knowledge with information or data which leads to waste of money and disappointment.

The Learning Organization Model

For organizations wishing to remain relevant and thrive, learning better and faster is critically important. Many organizations apply quick and easy fixes often driven by technology. Most are futile attempts to create organizational change. However, organizational learning is neither possible nor sustainable without understanding what drives it. Organization, People, Knowledge and Technology. Each subsystem supports the others in magnifying the learning as it permeates across the system.

Organization

A learning organization values the role that learning can play in developing organizational effectiveness. It demonstrates this by having an inspiring vision for learning and a learning strategy that will support the organization in achieving its vision. The leadership of a learning organization is committed to the importance of learning and clearly communicates that learning is critical to organizational success. The leadership recognizes the importance of providing the motive, means, and opportunity for learning: (i) the motive being the "why?"—the purpose and reason for learning; (ii) the means being the "how and what?"—the models, methods, and competencies required; and (iii) the opportunity being the "where and when?"— the spaces for learning. Adequate resources are allocated for learning in terms of time, space, specialist support staff, and budgets for knowledge management and learning infrastructure, formal and informal communities of practice[1] and other value networks (both internal and external)[2], and learning and development programs. Support to

[1] Communities of practice emerge in the social space between project teams and knowledge networks. They are groups of like-minded, interacting people who filter, analyze, invest and provide, convene, build, and learn and facilitate to ensure more effective creation and sharing of knowledge in their domain. What they know, who they are, and what they do define them.

[2] A value network is any web of relationships that generates both tangible and intangible value through complex dynamic exchanges. Value networks include communities of practice, knowledge networks, and networks of practice. Their growing importance requires that organizations pay more attention to their forms and functions, evolve principles of engagement, circumscribe and promote success factors, and monitor and evaluate performance with knowledge performance metrics.

communities of practice, for example, is extended in a structured manner throughout their life cycle[3].

People

A learning organization needs people who are intellectually curious about their work, who actively reflect on their experience, who develop experience-based theories of change and continuously test these in practice with colleagues, and who use their understanding and initiative to contribute to knowledge development. In short, it needs people who are reflective practitioners. Reflective practitioners understand their strengths and limitations and have a range of tools, methods, and approaches for knowledge management and learning, individually and in collaboration with others. Reflective practice flourishes when people experience a high level of psychological safety and trust, and it is undermined when people feel exposed to unfair negative criticism and when they believe that they cannot rely on colleagues. Teamwork is, therefore, a vital ingredient of a genuine learning organization.

Learning organizations ensure that time and effort spent on effective knowledge management and learning is recognized as core activities in the organization's time and performance management systems. Rewards for contributing to learning and knowledge development can be more conventional (e.g., career advancement, increased income, and greater formal status) or may be less conventional (e.g., informal peer status, time made available for study, or public acknowledgment for an innovative contribution made).

Knowledge

Knowledge is a critical asset in every learning organization. Because learning is both a product of knowledge and its source, a learning organization recognizes that the two are inextricably linked and manages them accordingly.

The units of knowledge production are both the individual and the collective. Learning organizations understand that while knowledge is created in the minds of individuals, knowledge development thrives in a rich web of social contact among individuals, groups, and organizations. A learning organization provides creative opportunities for this knowledge to be developed and shared with others through interpersonal contact and access to documentation.

An organization's main repositories of knowledge are the design and delivery of its products and services and the strategies, systems, and procedures it has developed to guide its decision making. Learning organizations know how best to take a learning approach to the development of this embedded knowledge by putting in place the necessary systems and infrastructure for knowledge management.[4]

Technology

Learning organizations know how to harness the power of information and communication technologies—without these technologies constraining knowledge management and learning. In a learning organization, information and communication technologies are used, among other purposes, to strengthen organizational identity; build and sustain learning communities; keep staff members, clients, and others

[3] The five stages of community development are potential, coalescing, maturing, stewardship, and transformation.

[4] See, for example, ADB. 008–. *Knowledge Showcase*. Manila: ADB. Available: www.adb.org/knowledgeshowcase/default.asp

informed and aware of corporate developments; create unexpected, helpful connections between people and provide access to their knowledge and ideas; encourage innovation and creativity; share and learn from good practices and unintended outcomes; strengthen relationships; develop and access organizational memory; share tools, methods, and approaches; celebrate successes; identify internal sources of expertise; and connect with the outside world.

The second session of this paper describes knowledge management practices of certain fast growing organisations from the different sectors.

KM in Management Institutes:

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.

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 (Liautaud and Hammond, 2001).

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

SOME KNOWLEDGE MANAGEMENT INITIATIVES AT MANAGEMENT INSTITUTES:

The Management Institutes have 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).

About OLTA:

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 submit faculty feedback, assignments online to their faculty directly or submit to academic program office.

• Students verify attendance records for any course or program.

• Student handbook, time table and course outlines are available through this interface in the intranet server.

• Faculties assign marks and award grades to students.

• 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.

• 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.

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 .KM 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.

KM IN HEALTH CARE INDUSTRY:

Healthcare organisations are facing many challenges due to the changes taking place in global healthcare systems. Spiraling costs, financial constraints and increased emphasis on accountability and transparency, changes in education, growing complexities of biomedical research, new partnership in healthcare and great advances in IT suggests that predominant paradigm shift is occurring. This shift is necessitating a focus on interaction, collaboration and increased sharing of information and knowledge which is inturn healthcare organisations to embrace the techniques of knowledge management in order to create and sustain optimal healthcare organisations.

Healthcare can be considered as a knowledge – based business, which means that doctors use huge amount of information to manage their patients. It is estimated that about a third of doctor's time is spent recording and combining information, and a third of the cost of a healthcare provider are spent on personal and professional communication.

Medical practice can be considered as an activity suffering from information overload and the receivers have neither the time nor the capability for absorbing and memorizing all the information. In addition to the increasing information flow, doctors also face greater demands from their patients. It is not only clinicians who receive new information constantly, but also their patients who also search for medical knowledge, often on the internet. Such consumers are increasingly interested in treatment quality issues and are also more aware of the different treatment choices and care possibilities. To be able to answer all these challenges, the doctors need access to quality information in a framework of knowledge management. Several healthcare providers have already established an easy access to information for their staff in electronic form.

The key areas in hospital environment in which KM can create the greatest impact include medical, para medical, CME, Quality circles, Customer Relationship Management, Patient Education Programmes, Rehabilitation programmes, and Hospital Programmes

KM in hospitals can help:

1. Foster innovation by encouraging the free flow of ideas
2. Improve patient care by streamlining response time
3. Enhance employee retention rates by recognising the value of employee's knowledge and rewarding them for it.
4. Streamlining operations and reduce costs by eliminating redundant or unnecessary processes.

KM via Internet:

The Interest in using Internet in medical practice has arisen from the ever greater demand of meeting the needs of patients by drawing on the knowledge accumulated by medicine over thousands of years. Continued learning is vital to the bottom line and function of every healthcare enterprise. The information doctors find online has an impact on medical decisions about diagnoses and treatment. The forms of continued medical education include workshops, conferences organized by different, leisurely weekend courses, and seminars, symposiums etc.

Internet has also empowered patients with appropriate online support and self – care through information and knowledge in alliance with the doctors. There is a paradigm shift from medical care to managed e-health care. The other areas internet has the potential to create a large impact include interaction with the community (E-mail, Chat), communication of medical information, drug information, profession association communications, financial news, continuing medical education, patient education, lab test results/ Medical records etc.

KM Tools and Technologies:

The paraphernalia of the information revolution – computers, communications networks, and compact discs, imaging systems and so on – are now widely expected to make vital contribution to helping doctors and other medical professionals do their work better (Gokee, 2002).

New information technologies in healthcare include:

- Electronic patient records, which are more up to date, easier to access and more complete than paper ones:
- Standardised Medical terminologies and languages, both within and across natural communities.
- Methods and tools to support faster dissemination of information via internet that leads to new scientific understanding of diseases and their treatment:
- More timely and reliable methods and tools to support better communication and co-ordination among the members of healthcare teams.

A creative approach to KM can result in improved efficiency, higher productivity and increased revenues in practically any business function.

KM IN PHARMACEUTICAL COMPANIES

Pharmaceutical companies offer wide array of solutions on numerous platforms (e.g. bioinformatics, combinatorial chemistry) to a diverse range of customers (e.g. pharmacies, hospitals, specialists, patients) in several therapeutic categories (e.g. respiratory, cardiovascular). Deployed KM tools and activities in the Pharma Industry range from document libraries and mobile solutions to expert networks and e-mail mining. Quite a few notable successes have already emerged on the KM front in the pharmaceutical industry in terms of efficiency, process integration and innovation.

Solvay has implemented an expert finder solution called X - Fert (called fertilization) for almost 500 employees. It has over 3000 personal pages. Thirty five global communities of practice are connected to X – Fert. Solvay also has implemented a "KM oriented document writing method" to reenter document creation on the strategic content of industrial processes.

KM projects at Solvay fall into ten types: benchmarking, competitive intelligence, workflow, communities of practice, organisational modeling, learning, portals, skills, knowledge based system and idea box system.

KM at **Bayer** is facilitated via its knowledge portal called KIBIT (KM in Bayer's intranet) hosted on its Bay Net Intranet. Over five million documents are downloaded each month.

KM IN IT COMPANIES:

Through good times and bad, KM practices have been at the core of the more successful IT firms. Global IT firms are successfully leveraging KM to capture best practices, improve project management, nurture innovation, enhance customer service, reuse software code, and expand across boundaries of technology generations and varying maturity levels of markets. In fact, IT companies feature very prominently in the list of winners of awards like the annual MAKE awards, conducted by Teleos in association with The KNOW Network. In the IT sector, software is often called the "quintessential knowledge industry".

EDS has a vast architecture for knowledge sharing and innovation across its global force, which includes the Techlore technical knowledge repository and 114 communities of practice with over 28,000 members. **EMC**'s secure Web portal, Powerlink, facilitates collaboration between thousands of customer service agents who access more than 21,000 knowledge articles in the EMC Knowledgebase.

KM at **Fujitsu Consulting** is powered by the Knowledge Access System (KAS) portal and tools like ProjectFinder; it uses handheld wireless devices in the spread of KM at multiple "trigger points." **i2**'s Knowledge Base and Project Workbench help product developers and marketers in India and the United States improve upon software quality for their products and supply chain performance for their customers.

i-flex's KM initiative is heavily based on process automation, as per the Capability Maturity Model (CMM) framework developed by the Software Engineering Institute (SEI) at Carnegie-Mellon University. i-flex has unveiled a plethora of schemes and tools on its i-Share KM portal, like the QuBase repository of methodologies, the Promotr project tracking tool, Project Closure Documents (PCD), the i-CleaR corporate learning repository, i-Suggest process improvement suggestion scheme, K-Forum for employees to seek solutions on unresolved issues, business intelligence monitoring contextualized with respect to i-flex's positioning, and K-Webcast conferences with i-flex experts hosted on the intranet called i-Opener.

Infosys Technologies, headquartered in Bangalore, India, is one of the world's largest software development contractors, The Company has a long history of trying to leverage knowledge created by its employees for corporate advantage. Its adage "learn once, use anywhere" reinforces the continual learning and reflection required for knowledge accumulation and reuse. It also draws attention to a core belief that knowledge belongs not only to those employees who create it, but also to the entire company. Today Infosys is the World – class enterprise including TCS and Wipro (Nilekani, 2008, Navi Radjon , 2008) Infosys began efforts to transform its employees' knowledge into an organizationwide resource in the early 1990s. In 1999, a central knowledge management (KM) group was created to facilitate a companywide KM program, including the creation of an intranet knowledge portal called 'KShop' for the accumulation and reuse of organizational knowledge. Business Integration has become a critical enterprise IT domains that is capable of providing agile and scalable backbone to an enterprise's information system. Enterprises need an integration framework that can adopt the environmental and business changes and simultaneously achieve their business objectives. Hence, business integration should not only focus on integrating internal enterprise assets like business functions, people, infrastructure etc, but also encompass the extended enterprise environment that includes the B2B eco-system. Infosys has created a strong services portfolio that includes consulting, product development, and implementation, upgrade and support

services to clients across industry verticals from all geographies. Infosys service offering has evolved over the years based on strong foundations of Knowledge Management, extensive training, domain and technical competencies, integrated delivery model and robust quality management.

- **Integration Business Solution:** Helps to establish capabilities for complete integration needs of an organisation from people, process and technology perspectives (viz. governance model, funding model, processes and tools, architecture and technical frameworks)
- **Manufacturing Execution Solution (MES):** A pre-delivered solution to integrate manufacturing information and control systems.
- **New Account Opening Solution:** The solution reduces the cycle time to open new accounts. It improves customer satisfaction and reduces the risk and cost associated with customer abandonment during account opening.
- **Inventor Visibility & Control Solution:** This solution aims at providing inventory visibility across the extended supply chain through a highly interactive graphical user interface.
- **Global Payment Systems:** SOA based offering in Payment processing space. It provides for a centralized hub based solution with business and operation portals to provide for increased visibility in payment processing. It makes use of existing core payment products and integrates them as required by a payment process.

Infosys excels on creating best value for its customers through cross-technology best-practices and solution innovations based on technology evolution. Infosys' value proposition lies in the strong strategic alliances with the market leaders like Software AG, TIBCO, Oracle, IBM, Fujitsu, Savvion and SAP.

Infosys Technologies Ltd. (NASDAQ: INFY) defines, designs and delivers IT-enabled business solutions that help Global 2000 companies win in a flat world. These solutions focus on providing strategic differentiation and operational superiority to clients. Infosys creates these solutions for its clients by leveraging its domain and business expertise along with a complete range of services. With Infosys, clients are assured of a transparent business partner, world-class processes, speed of execution and the power to stretch their IT budget by leveraging the Global Delivery Model that Infosys pioneered.

KM Practitioners:

Accenture

Accenture's KM journey spans over ten years. The majority of knowledge workers in leading consulting firms today are well versed with IT tools in the workplace and have expectations of "one-stop shop" solutions for their knowledge needs. Accenture's KM system evolved through four phases: early enabling infrastructure, knowledge as byproduct, actively managed knowledge, and knowledge-enabled enterprise. The knowledge repository, called Knowledge Xchange (KX), hosts content ranging from proposals and client deliverables to white papers and links to experts. KM at Accenture has helped increase the rate of innovation, decrease time to competency, and improve productivity. A key observation is that information quality management will emerge as an important competitive differentiator in the future.

Cable & Wireless

KM tools have played a key role in helping Cable & Wireless India coordinate round-the-clock teamwork across multiple locations, capture best practices, deliver elearning services, and meet customer support requirements from all over the world. Features like Best Bets, incentive schemes like "Knowledge Dollars," and a taxonomy called Knowledge Index were devised. Key learnings include the use of Web-based tools for work processes to prevent e-mail overload, the importance of managing knowledge stocks to keep them relevant, the necessity of security, factoring in the unavoidability of a certain amount of knowledge hoarding by employees, and the fact that a KM solution is always a work in progress with multiple evolutionary paths.

DaimlerChrysler

Web-based KM infrastructure at DaimlerChrysler supports the Engineering Book of Knowledge (EboK), where knowledge is captured and shared in the form of lessons learned, best practices, expertise directories, and discussion forums across the organization. DaimlerChrysler's TechClubs—CoPs in engineering—are built around robust business processes, capacity for knowledge behaviors, and sound Web infrastructure. Specific impact metrics for the KM system include decrease in time-to-talent, decrease in time-to-information, and increase in motivation. The DaimlerChrysler Corporate University plays a major role as a coordinator and facilitator of the KM CoP, with subcommittees for IT tools, measurement, culture, and marketing.

Rolls-Royce

Rolls-Royce launched its KM system in 1996. Knowledge communication occurs not just via the intranet, but also by traditional methods like manuals, posters, training courses, guidelines, presentations, and checklists. Structured Knowledge Auditing is used to provide visualization of key knowledge areas via group and individual interviews. The KM Lessons Learned Log has detailed procedures for knowledge validation and peer review; dedicated staff help maintain the log. People Pages capture expertise profiles of company employees. Key learnings include the importance of starting KM initiatives small and simple with proven tools that can ensure a successful pilot, promoting KM practices by word of mouth, and the use of surveys to assess and prioritize KM projects.

Unilever

IT-enabled creativity tools within overall idea generation mechanisms have been managed successfully in Unilever. Projects are continuously fed into the innovation funnel, and creativity sessions are supported by tools ranging from basic flip-charts and Post-Its to advanced IT tools like MindJet's Mindmanager and Invention Machine's TechOptimizer. These tools help researchers state research and engineering problems correctly, manage technical knowledge, make predictions about product evolution, and resolve potential technological contradictions by analyzing over 2.5 million patents. However, use of these tools must be augmented by measures of the success of creativity sessions, as well as identification and removal of potential barriers to innovation.

World Bank

Integral to the mission statement of the World Bank are the notions and practices of knowledge sharing and capacity building. HR's Web site—YourNet—was

purposefully created as a “knowledge base” by applying KM principles to an HR system. KM tools in HR nurture a sense of empowerment and ownership. Automated notifications are delivered to the KM team for new content created by HR staff. Web-based tools are used for hiring professional associates, forming CoPs, and supporting knowledge networking among alumni. Expertise directories are created via the People Pages tool. Key lessons learned for sustaining a knowledge ecology include the importance of harnessing the familiarity of known tools and mediums in new ways and creating consistent narratives.

Ernst & Young

Ernst & Young is a pioneer in the field of KM and has evolved Web-based collaboration tools to enhance the relationship between e-business and knowledge management via EY/Knowledge Web (the intranet) and Ernst & Young *Online* (the extranet). Competitive advantage comes from the capability to most effectively integrate the tool with the right people, processes, and content. Knowledge managers within the firm’s global Center for Business KnowledgeTM (CBK) are responsible for integrating information, taxonomies, human knowledge, and technology into work practices. Key success factors include the ability for users to customize KM tools without developer support, the adoption of standards (e.g., for corporate branding), and high levels of security and legal protection.

Ford

Ford has always had a knowledge-sharing culture, and formal processes along with Web-based technology have extended this culture to the company’s global operating units. IT support for best practice replication evolved from early “dumb terminals” and fax transmissions to a portal and knowledge-based engineering. Key lessons include the importance of documentation, professional usability design, adherence to content templates and taxonomy, optimization of infrastructure, automated alerting mechanisms (“nagware”!) to coordinate knowledge validation processes, and testing first via pilots.

Web 2.0:

In the last few years, we have witnessed an explosion of Web-based, user-driven social computing, networking, and collaborative applications. These evolving applications come in many forms, including wikis (e.g., Wikipedia), blogs (e.g., Engadget), social networking sites (e.g., MySpace and Facebook), peer-to-peer file sharing (e.g., YouTube), social book marking and tagging (e.g., del.icio.us), mashups (e.g., Flash Earth), and virtual spaces (e.g., Second Life). This second generation of collaborative services—or Web 2.0— facilitates more dynamic participation and interaction online. As these online applications infiltrate corporate knowledge sharing, they have come to be known collectively as “Enterprise 2.0,” which refers to the use of social computing on company intranets and in other business environments. Certain characteristics distinguish these applications from an earlier generation of hierarchical, centrally managed IT applications. In general, Enterprise 2.0 applications are:

• user-driven,

• easy to use,

• low cost and open source, and

• spontaneous and self-organizing

Web 2.0 is now more often used to describe a new generation of web-based services that allow people to interact, collaborate and share information.

What Management Web 2.0 does with KM?

Internet amplifies creativity and aggregates effort through pervasive, real time connectivity. emancipates human imagination. Web 2.0 is a tool for aggregate creativity, where whole is more than the some of the parts. (Hamel, 2007)

KNOWLEDGE MANAGEMENT & INNOVATION:

Innovation is defined in many different ways in the literature. Cardinal *et al.* (2001) indicate that the innovation process encompasses the technical, physical, and knowledge-based activities that are central in forming product development routines.

Herkema (2003) defines innovation as a knowledge process aimed at creating new knowledge geared towards the development of commercial and viable solutions. Innovation is a process wherein knowledge is acquired, shared and assimilated with the aim to create new knowledge, which embodies products and services.

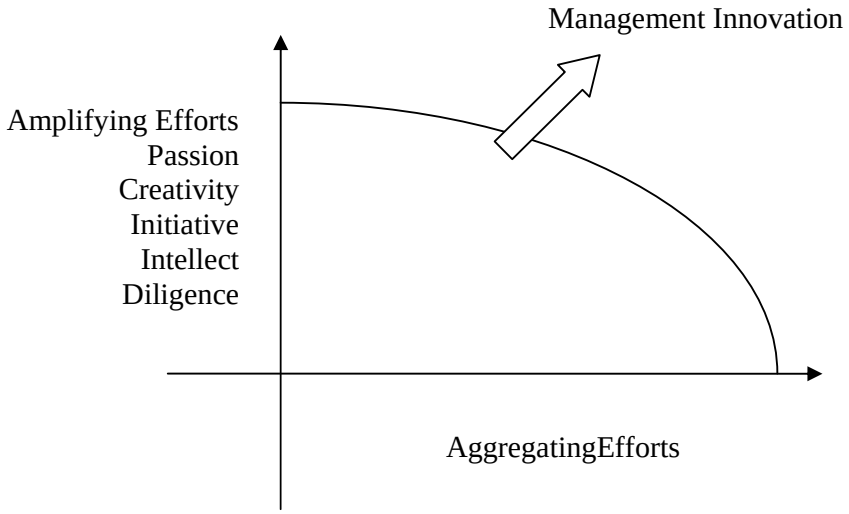
Innovation can broadly be described as the implementation of discoveries and interventions and the process by which new outcomes, whether products, systems or processes, come into being (Gloet and Terziovski, 2004).

Parlby and Taylor (2000) is of the opinion that knowledge management is about supporting innovation, the generation of new ideas and the exploitation of the organization's thinking power.

Knowledge management can facilitate collaboration as mechanism to foster innovation through provision of technological platforms and tools to enable knowledge sharing within knowledge sharing communities, such as online discussion forums. It also fosters non -technical platforms or mechanisms for collaboration, such as competency groups. Knowledge management also provides the processes to ensure knowledge creation, sharing, gathering and leverage within these collaborative forums. Seeing that tacit knowledge is such an essential element in the innovation process, knowledge management plays a crucial role in ensuring the sharing of tacit knowledge in collaborative environments, but also codification of it into explicit format to enable re-use in different contexts.

The goal of management is to first amplify and then aggregate effort human effort through KM – to get more out of individuals than one might expert by providing them with appropriate tools, inventories and working conditions.

Companies gain a performance advantage when they invent better way of amplifying and aggregating effort when they push out the frontier of individual and collective achievement. This is the final goal of KM and management innovation. (Refer Fig. 2)



(Fig. 2 dimensions of Managerial effectiveness)

Conclusion:

KM is the process through which organizations generate value from their intellectual and knowledge-based assets. The goal of KM is to simultaneously manage data, information, and explicit knowledge while leveraging what people know (tacit knowledge) through a combination of technology and management practices. Intellectual capital and knowledge are crucial significance for the development of an organization and the key factor for its success. They become more important for organisations than other company asset. Knowledge Management initiatives are typically claimed to be tied to specific organizational objectives and are intended to lead to the achievement of specific targeted results such as improved performance, competitive advantage, or higher levels of innovation.

References:

Davis Gordon B. and Olson Margrethe H. (2007), “Management Information System”, Tata McGraw Hills, New Delhi

Gloet, M., Terziovski, M. (2004), "Exploring the relationship between knowledge management practices and innovation performance", Journal of Manufacturing Technology Management, Vol. 15 No.5, pp.402-9.

Gokee C., (2002, July/August) Knowledge Management in NHS. Managing information 9(6)

Groff, T.R., and T.P. Jones. (2003) , Introduction to Knowledge Management. Burlington, MA: Butterworth-Heinemann.

Hamel Gary (2007), “The Future of Management “, HBS Press, Boston, MA (USA)

Herkema, S. (2003), "A complex adaptive perspective on learning within innovation projects", *The Learning Organization*, Vol. 10 No.6, pp.340-6.

Liautaud, B. and Hammond M. (2001), e-Business Intelligence: Turning Information into Knowledge into Profit, McGraw-Hill.

Madanmohan Rao (2005), Knowledge Management Tools and Techniques: Practitioners and Experts Evaluate KM Solutions, Elsevier Butterworth–Heinemann , UK

Navi Radjon (2008), "How can India boost its Tech economy's global competitiveness?" 8th due series in the India : The Innovative Giant (Re) Awakens" series forrester Research Inc. Cambridge , MA, D 2139 , Boston (USA)

Nilekani Nandan (2008), "Imagining India", Penguine Book, India

Nonaka. I and Takeuchi H., The knowledge - creating company , Oxford University Press, New York, NY, 1995

Parlby, D., Taylor, R. (2000), "The power of knowledge: a business guide to knowledge management", available at: www.kpmgconsulting.com/index.html, .

Rosenberg, M.J. (2001), E-Learning: Strategies for Delivering Knowledge in the Digital Age. New York: McGraw-Hill.

Sallis, E. and Jones, G. (2002), Knowledge Management in Education, Kogan Page, ondon

Senge Peter (1999) "The Fifth Discipline", Random House, UK

The Case of Infosys Technologies," MIS Quarterly, March 2005, and Julie Schlosser, "Infosys U.," Fortune, March 20, 2006.

www.adb.org/documents/information/knowledge-solutions/dimensions-learning-organization.pdf

www.hcklab.org