Knowledge management: Converting individual learnings into organizationl learning®

Dr. MATHEW J. MANIMALA

'Knowledge Management' (KM) has become the new 'mantra' for survival and growth of organizations. The new initiative is often projected as a direct outcome of the IT revolution and even equated to IT-based techniques for codifying, storing, and retrieving information. This is indeed a misconception. KM is as old as the human race itself; it is only the tools, techniques, and the methodologies that have undergone changes. The oldest of these, that is, person-to-person transfer of knowledge is no less important even in the present era of high technology. One may recall from the Greek mythology, how the human race acquired the technology of fire from the gods through the unauthorized services of Prometheus, and how severely Zeus punished the latter for smuggling this technology to an alien race! Knowledge is always generated by individuals but can be shared selectively among groups, organizations, and communities and beyond. There can be and will be unwillingness and inadequacies at all these levels. Modern organizations, being very complex technologically as well as structurally - and being under tremendous pressure for acting quickly and efficiently on a global playing field - have to minimize the process of "re-inventing the wheel". Hence, there are deliberate efforts now in organizations to harness the knowledge generated by the various individuals and groups and re-use it for the benefit of their future operations. What used to be an informal process in organizations is being formalized in the name of *Knowledge Management.* As this is emerging as a new function in many organizations, a brief description of its definition and characteristics would help us to understand the way this is being conceived and implemented in organizations.

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Definitions

(i) Knowledge Management involves the identification and analysis of the available and required *knowledge assets,* and related processes (developing, preserving, using and sharing knowledge) and the subsequent planning and control of actions to develop both the assets and the processes so as to fulfill organizational objectives.

(ii) Knowledge Assets are the knowledge regarding markets, products, technologies and organizations, that a business owns or needs to own and which enables its business processes to add value to its customers and generate profits for itself.

The Need for Knowledge Management

(i) The knowledge component is increasing at a fast pace and outweighs the material in many products and services. For example, the material in a micro-chip is nothing more than silicon (sand) but the value of the knowledge coded in it is disproportionately high. Naturally, companies have to focus on what contributes the maximum value in their products/services.

(ii) What is said about the knowledge encoded in products and services is also applicable to organizations. Many organizations are more valuable than the physical assets with which they are built. This is because of the synergistic combination of the knowledge available with the members of these organizations. Traditionally, such extra value generated by knowledge used to be accounted for as 'good will', estimated in a very conservative manner, and therefore constitute a minor proportion of the total assets. Things have changed; it is the knowledge component that is more prominent in adding value to organizations too. Hence the emergence of the new function of KM with a mandate of managing the knowledge in the organization.

(iii) The pace of innovations in most sectors have become amazingly fast. Competition has also become tougher because of that. Consolidating one's knowledge and using it productively is the only way for organization to meet the challenges at the marketplace.

(iv) In the traditional organizations, there were staff functions, which had the responsibility of codifying specialized knowledge and helping the operating departments. In the process of restructuring guided by the "principle of becoming lean and mean", many of these staff departments got eliminated. Similarly, the process of right-sizing/down-sizing has caused the separation of many experienced and knowledgeable employees from organizations. A knowledge management function is necessary to fill the vacuum created by the loss of such people.

(v) Employee mobility and the opportunistic changes in the business focus can also lead to the loss of knowledge in particular fields or areas of specialization. Capturing such knowledge for reuse at a later stage or by the successors of the leaving employees is a keenly felt need of organizations.

(vi) Modern organizations, even the smaller ones are forced to operate with a global perspective. The variety and complexity of knowledge required for such operations is quite high. Assembling such knowledge and making it available at one place has become an important function of the knowledge manager.

[1] Macintosh, A., Filby, I., Kingston, J. and Tate, A. (1998) "Knowledge asset road maps", Proceedings of the Second International Conference on Practical Aspects of Knowledge Management (PAKM 98), Basel, Switzerland.

[2] This section is partly based on: (a) Macintosh et al 1998 (op.cit); and (b) Gundry, J. and Metes, G. (1996), "Team Knowledge Management: A Computer-Mediated Approach", Published on the Internet.

Characteristics of Knowledge as a Resource

Knowledge is defined as "information which is put to productive use". This definition would imply that knowledge really cannot exist without the user. That is, knowledge and the knower are integrally related. In other words, it is almost impossible for it to have a purely physical existence. (Please refer to the next subsection for further distinctions among similar concepts). Since the knowledge-resource is substantially different from physical resources, it would be beneficial to look at some of the characteristics of knowledge as a resource.

(i) Knowledge *is a* human capability

As we have pointed out above, knowledge resides in the knower. It is a capability of the knower to do or to judge something in the present or in the future. It is acquired by the individual through his interaction with a phe• nomenon - through the processes of seeing, listening, feeling (physically or emotionally), reading, etc. Such information when internal• ized by the individual becomes his knowledge. This is why, transferring knowledge from one individual to another is a difficult process. What we really do is to transfer information ("Here is the information you wanted", but not "Here is the knowledge you wanted").

(ii) Knowledge acquisition is a dynamic process

It follows from what is said above that the acquisition of knowledge by an individual from the source material given to him is a dynamic/ interactive process. Information which gives knowledge to one person may not do so for another person. The process would depend on the context in which the source-material is placed and the structure in which it is presented.

(iii) Knowledge is generative

A person having information on something can reproduce the same. However, a person having knowledge can generate additional appropriate ideas, besides reproducing the information.

[3] *Based on Gundry and Metes 1996 (op.cit.)*

(iv) Knowledge is elaborate

A 'piece of information' can be obtained in a minute, but a 'body of knowledge' is acquired in several days or weeks through courses, books, or experience. The phrases used above are themselves indicative of the extensive nature of knowledge. It is different from a data-point or a piece of information. It is the extensive body of organized set of information.

(v) Knowledge of work is best acquired through work

Learning by doing is the best way of learning a job. Information can be easily transmitted through instruction, but knowledge has to be supplemented and reinforced through practice.

(vi) Knowledge gets re-inforced in dialogue rather than through unilaterally initiated published material ~

This is why printed circulars and unilateral material published through the Internet are not as effective as face-to-face dialogue or conferencing, personal or electronic. The impor• tance given to the 'guru' in ancient India in the process of knowledge-transfer is a fitting testimony to this fact. fv'en the person who acquires complete mastery of the techniques was considered inadequate in his knowledge if he has developed that mastery without the help of a guru.

Data, Information, Knowledge - and Beyond

The characteristics of knowledge described above are indicative of a gradation in the non• physical resources of the human beings. These resources span from the cognitive, through the emotional, to the spiritual. Knowledge is probably the highest degree of cognitive resource. For greater clarity on these non-physical resources, some comparative attributes of these are given in the following table.

What is known?

DATA (Instinctual learning) - the sensory or input level.

INFORMATION (Single feedback loop learning) - data organized into categories

KNOWLEDGE (Behavior modification) - the interpretation of information by someone.

MEANING (Communal learning) - perception of concepts, relationships, and trends. From this perspective, it is possible to detect relationships between components.

PHILOSOPHY (Inquiring into our own thinking processes) - integrative or systemic understanding of dynamic relationships and non- linear processes, discerning patterns that connect. Recognizes the embedded-ness and interconnectedness of systems.

WISDOM (Generative learning) - learning for the joy of learning, involving creative processes, heuristic and open-ended explorations, and profound self-questioning.

UNION (Synergistic) - integration of direct experience and appreciation of oneness or deep connection with the greater cosmos. Requires processes that connect purpose to the health and well-being of the larger community and the environment.

How is it used?

DATA (Feedback) - registering data without reflection.

PROCEDURAL (Efficiency) - doing something the most efficient way. Conforming to standards or making simple adjustments to modifications. Focus is on developing and following procedures.

FUNCTIONAL (Effectiveness) - seeking effective action and resolution of inefficiencies. Evaluating or choosing between alternate paths. Foc~s is on work design and engineering aspects.

MANAGING (Productivity) - using conceptual frameworks to understand what promotes or impedes effectiveness. Effective management and allocation of resources and tasks, using conceptual frameworks to analyze and keep track of multiple variables.

INTEGRATING (Optimization) - long-term planning and adaptation to a changing environment. This includes long-range forecasting, development of multi-level strategies, and evaluating investments and policies with regard to long-term success.

RENEWING (Integrity) - Defining or reconnecting with values, vision, and mission. Understanding purpose.

UNION (Sustainability) - Commitment to the greater good of society, the environment, and the planet.

(Source: Hay, D.C. 2000, "Knowledge Management", Published on the Internet by R.S.Seiner for The Data Administration Newsletter (TOAN.com).

The Two Tracks of Knowledge Management[4]

As we have seen above, knowledge is "infor•mation interpreted and used by people". This would imply that there are two components for knowledge: (1) Information which is the object of knowledge, and (2) People or processes which interpret and make use of the informa•tion. Researchers and practitioners have devel•oped special inclinations towards one of these. Accordingly, there are two tracks of Knowledge Management.

Track 1: KM = Management of Information

Researchers and practitioners in this field have their education in computer and/or information science. They are involved in construction of information management systems, AI, reengineering, group ware etc. To them, knowledge is equal to objects that can be identified and handled in information systems. The focus of research and practice is on storage and retrieval of information at the organiza•tional level.

primarily involved in assessing, changing, and improving human individual skills and/or behaviour. To them, knowledge is equal to processes, a complex set of dynamic skills, know-how, etc, that is constantly changing. The focus in research and practice is on the individual.

Each of these tracks can be operationalised at two levels, namely the individual level and the organizational level. The following table places the KM activists in the appropriate track and level.

The IT track started with databases (projects, pest practices, etc) and Lotus Notes installation. Then it progressed into data warehousing and archives, and have currently reached the stage of interactive IT applications such as e-commerce, e-CORM, e•business, on-line transactions, etc. The people/process track focuses on creating an environment of trust, fearlessness, interaction, and free-flowing communication, wherein people are willing to share their knowledge and continuously carry out innova•tions so as to sustain the competitive advantage of

Tracks and Levels of Knowledge Management

Track	Information (IT} Track	People (Process) Track
Individual Level	AI-Specialists E-Specialists	Psychologists & Counselors
Organizational Level	Re-engineering experts	Organization Theorists & Practitioners

Track 2: KM = Management of People/Processes

Researchers and practitioners in this field have their education in philosophy, psychology, sociology, or business/management. They are

the organization. This is much more difficult than investing in IT. It is easy to buy 'KM software', but not so easy to create a climate of trust and sharing among the people of an organization.

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[4] *This section is based on Sveiby, K-E, 2000, "What is Knowledge Management?" Published on the Internet.*

KM and its Intellectual Capitals

The intellectual capital of an organization that is proposed to be developed and exploited through knowledge management systems can be classified into three types.

(a) The internal human capital, which is the value of the knowledge held by a company's employees.

(b) The external human capital, which is the value of the company's services to the customer and its on-going relationships with customers, suppliers and other external agencies.

(c) The structural capital, which is the physical means available to the company for sharing knowledge and experience.

While IT has an important role in developing the structural capital, the development of the human capital is the work of the "people-track" specialists.

Types of KM Projects

A knowledge management project is a basic unit of activities that an organization uses to derive increased value from its knowledge assets. It seeks to create the structures, systems, and processes to leverage knowledge. There are various types of such projects.

1. Projects for capturing and re-using structured (explicit) knowledge (e.g.: product designs, proposals, reports, documented implementa• tion procedures, etc.).

2. Projects for capturing and sharing the lessons learned (tacit knowledge), which is done by facilitating face-to-face or electronic interac• tion among people.

3. Projects for identifying sources and networks of expertise.

4. Projects for structuring and mapping the knowledge needed to enhance performance.

5. Projects for measuring and managing the economic value of knowledge. (e.g.: patents, copyrights, licenses, customer databases, etc.)

6. Projects for synthesizing and sharing knowl• edge from external sources. (e.g: clipping services to send relevant media reports to executives, Internet based services, external intelligence systems, etc.)

7. Projects for embedding knowledge in products and services. (e.g.: broking, consulting, design services, etc.)

Activities Involved in KM Projects

As mentioned above, a project is a unit of basic activities. A KM project also has a few core activities.

1. Identifying the knowledge required for one's business. This is integrally related to the business strategy. If a differentiation strategy is followed, knowledge of customer segments, their behaviour patterns, etc are important. If a product innovation strategy is followed, knowledge of technical and scientific develop• ments, characteristics of the market and the response to new products, launch activities and procedures, etc, become critical.

2. Locating the sources of the knowledge identified. These sources may be the company documents, employees, customers, suppliers, external agencies, etc.

3. Designing and developing mechanisms to capture the knowledge from the sources.

[5] *Hay, D.C. 2000 (op.cit.)*

[6] *Based on Satiya, Tarun, 2000, "Types and prototypes: It is the magnificent seven", The Economic Times, September 18.*

[7] *Based on Satiya, Tarun, 2000, "Stepping into action zone", The Economic Times, September 25.*

Capturing explicit knowledge (i.e. knowledge available in documents) is relatively easy through electronic and other devices. It is much more difficult to capture tacit knowledge (i.e. knowledge residing in the minds of people). Organizations use several human resource management interventions to create a culture of trust, dialogue and sharing of knowledge among their employees.

4. Organizing the captured knowledge, this is essential for retrieval and re-use. It is like the indexing, cataloguing, and shelving services in a library, without which the books and periodicals will not be of use when needed. Taxonomy of knowledge objects, knowledge maps, etc. will be of use in this regard .

5. Ensuring security of knowledge resources. In a KM system, knowledge is generally made available to people on a need-to-know basis. This is not difficult as far as explicit knowledge is concerned. For tacit knowledge, controls are much more difficult. Organizations resort to the use of rules, norms, sanctions, patents, legal protections, etc for ensuring the safety of knowledge generated within the system.

KM Initiatives and Practices

Among KM initiatives, the IT~based ones have a dominant role especially in India. A survey of Indian companies by Ernst and Young reported in The Hindu (August 17, 2000) is reproduced in the table below, which testifies to the domination of the IT-track.

The practices of companies from the developed world indicate that there is need for a judicious mix of the IT-track and the people-track. The information compiled on this by Karl-Erik Svelby (in his article "What is Knowledge Management?" published on the Internet, April 2000) is reproduced below. He classifies the initiatives into three types: (1) External Structure Initiatives, (2) Internal Structure Initiatives, and (3) Competence Initiatives. The specific strategies under each of the above and company practice examples are reproduced below:

Types of Knowledge Management Practices:
Percentage of Companies with Project underway

#	PROJECTS	%
1	Creating an Intranet	47
2	Data warehousing/creating knowledge repositories	33
3	Implementing Decision Support Tools	33
4	Implementing Groupware to support Collaboration	33
5	Creating Networks of Knowledge Workers	24
6	Mapping Sources of Internal Expertise	18
7	Establishing New Knowledge Roles	15
8	Launching New Knowledge-based Products. or Services	14

SOURCE: "Executive Perspectives of Knowledge in the Organization", Ernst & Young Center for Business Intelligence

Knowledge Management Initiatives

External Structure Initiatives	Internal Structure Initiatives	Competence Initiatives
Gain Knowledge from Customers	Build Knowledge Sharing Culture	Create Careers based on Knowledge Management
Offer Customers Additional Knowledge	Create New Revenues from Existing Knowledge	Create Micro Environments for Tacit Knowledge Transfer
	Capture Individuals' Tacit Knowledge, store it, spread it and Re-use it	Support Education with Communication Technology
	Measure Knowledge Creating Processes and Intangible Assets	Learn from Simulations and Pilot Installations
Companies	**Companies**	**Companies**
Benetton, General Electric, National Bicycle, Netscape, Ritz Carlton, Agro Corp, Frito-Lay, Dow Chemical, Outokumppu, Skandia Switzerland, Steelcase	3M, Analog Devices, Boeing, Buckman Labs, Chaparral Steel, Ford Motor Co, Hewlett-Packard, Oticon, WM-data, McKinsey, Bain & Co, Chevron, British Petroleum, PLS-Consult, Skandia AFS, Telia, Celemi, Skandia, WM-data,	Buckman Labs, IBM, Pfizer, WM-data, Affaersvaerlden, Hewlett-Packard, Honda, PLS-Consult, Xerox, National Technological University, Matsushita,

I. External Structure Initiatives

(i) Gain Information and Knowledge from Customers

Benetton, Italy. Produces "mass-customised" apparel to fit latest trends in colours and designs. Daily sales data from their own boutiques   are integrated   with CAD and CIM.

General Electric's Answer centre USA: GE has since 1982 collected all customer complaints in a database, that supports telephone operators in answering customer calls. GE has programmed 1.5 million potential problems and their solutions into its system.

National Bicycle Industrial   Company, Japan. Produces "mass-customised"   bikes to fit customers exact height, weight and colour preferences in a day. Is achieved through computer aided design and computer integrated manufacturing,   integrated with customer   database.

Netscape USA. Very close links via Internet to opinion leaders among customers, who are encour•aged to report problems enable it to create new generations of software at a very fast pace.

Ritz Carlton: All staff members are required to fill in cards with information from every personal encounter with a guest. These data plus all guest requirements are stored and printed out to all staff when the guest arrives again, so that each guest receives a personal treatment.

(ii) Offer Customers Additional Knowledge

, *Agro* Corp USA: Sells fertilisers and seed. Data on farmers' soils are combined   with weather forecasts and information on crops. Analyses are fed back to the farmer via sales reps to help farmer select best combinations   of crops.

Frito-Lay USA. Sales reps collect daily on the spot data about shelf space utilisation   for all brands. Data are computed,   combined with market

information and re-fed to the sales representatives, who use it to give the retailers information on best shelf utilisation.

II. Internal Structure Initiatives

(i) Build Knowledge Sharing Culture

3M, USA. With 60,000 products of their own innovation process, this company has an organisation that balances between creativity and conservatism. 3M's values encourage learning and risk-taking on the one hand, but on the other hand, managers are required to link continues learning to revenues.

Analog Devices, USA. CEO Ray Stata initiated break down of functional barriers and competitive atmosphere and created a collaborative knowledge-sharing culture from the top. Encourages "community of inquirers" rather than "community of advocates".

Boeing 777 USA. First "paperless" development of aircraft: Customers are included in design teams. More than 200 teams with wide range of skills both designed and constructed sub parts, rather than usual organization design team, construction team. Suppliers world-wide used same digital databases as Boeing.

Buckman Labs USA. A biotech firm has reorganised itself to optimise knowledge-sharing. Has created a Knowledge Transfer Department to co-ordinate efforts. Employees, who are good at knowledge-sharing, gain both financial rewards and management positions.

Chaparral Steel USA. Mini steel mill that has introduced broad range of initiatives like: Flat hierarchy, broad education, blue collar workers as responsible for customer contacts and rewarded for personal initiatives. Egalitarianism and trust building. Chaparral uses 1.5 hrs labour per ton compared to the industry standard 1.5 - 3.0 hrs per ton.

Ford Motor Co. USA. Old Company that has transformed itself by outsourcing and creating virtual networks of vendors using IT.

Hewlett-Packard,USA. Famous for its overall culture of collaboration, which encourages knowledge sharing and risk taking at all levels. H-P even supports people who try out things that do not work.

Otico, Denmark. Created a "spaghetti organisation", a chaotic tangle of interrelationships and interactions. Knowledge workers have no fixed job descriptions, but work entirely on project basis.

WM-data, Sweden. Work-units are not allowed to be larger than 50 employees. This creates sense of "family" and belonging, which in its turn increases trust and knowledge-sharing.

(ii) Create New Revenues from Existing Knowledge

Dovv Chemical USA. Has put all its 25,000 patents into a database, which is used by all divisions to explore how existing patents can gain more revenues. The experience from this application is now being transferred into other intellectual assets, like brands.

Outokumppu Finland. Smelter of copper and other metals. Knowledge on how to build smelting plants is used to construct whole plants including education of personnel, managers and customers all over the world. This business is now more profitable than the original smelting business.

Skandia, Switzerland. Back office system developed by Skandia world-wide is sold to Swiss insurance companies.

Steelcase, USA. Does basic research into innovation and learning, best learning environments and new interfaces (3D and virtual tools). Steelcase sells its knowledge in this area to other companies.

(iii) Capture, store and spread Individuals' Tacit Knowledge

McKinsey and *Bain* & Co. These two management consulting firms have developed "knowledge databases" that contain experiences from every assignment including names of team members and client reactions. Each team must appoint a "historian" to document the work.

Chevron. Created a "best practice" database. It captures experience of drilling conditions and innovative solutions to problems on site in a database for sharing globally with other sites.

British Petroleum. Using KM as a means of drawing together talents from all over the organisation. BP emphasises transfer of tacit knowl•edge rather than accumulation and transmission of raw data and has installed a communication network comprising video-conferencing, multi-media and email.

Skandia AFS, Sweden. Has created a formalised procedure to capture experiences while starting new financial services products; has reduced the time from start to profitability from 2 years to 6 months.

(iv) Measure Knowledge Creating Processes and Intangible Assets

Celemi, Sweden. Publishes world's first Audit of its Intangible Assets in Annual Report 1995.

PLS-Consult, Denmark. Categorises customers according to value of knowledge contribution to the firm. Follows up in management information system.

Skandia, Sweden. Measures processes using non-financial indicators. Publishes the world's first Annual Report supplement on Intellectual Capital.

Telia, Sweden, Sweden's Telecom Company publishes since 1990 an annual Statement of Human Resources including a profit & loss account visualising human resource costs and a balance sheet showing investments in human resources.

WM-data Sweden. One of Europe's fastest growing and most profitable IT-companies. A pioneer in linking non-financial indicators to strategy and publishes an extensive report on Intangible Assets in its Annual Report. Considers traditional financial ratios of little use for management.

III. Competence Initiatives

(i) Create Careers based on Knowledge Management

Buckman Labs, USA. Employees best at Knowl•edge-sharing gain both financial rewards and management positions.

IBM, USA and most Japanese large companies. Dual careers. Employees are encouraged to switch between professional and managerial jobs, in order to gain more holistic knowledge about the company.

Pfizer, Switzerland. Has created competence models for recruiting treasury executives that call for knowledge building/sharing in addition to basic financial skills.

WM-data, Sweden. Actively seeks to recruit equal numbers of women and men. Claims that a wider diversity of both gender and cultures improves creativity.

(ii) Create Micro Environments for Tacit Knowledge Transfer

Affaersvaerlden Sweden. Business journal uses "piggy-backing" and "team-writing" to speed up learning among new journalists. Interviews and larger articles are routinely assigned as team work, rather than one-man shows. This speeds up transfer of the seniors tacit skills and networks to the juruors.

Hewlett-Packard, USA and Affarsvarlden Swe•den. Build offices as open spaces with no partitions or partitions at eye level. This increases sharing of tacit knowledge and values.

Honda and others. Japanese companies rou•tinely build "redundancy"; people are given informa•tion that goes beyond their immediate operational requirements. This facilitates sharing in responsibili•ties, creative solutions from unexpected sources, and acts a self-control mechanism.

?LS-Consult, Denmark. Appoints "mentors" with task to facilitate transfer of tacit skills between members in large projects. Actively seeks large projects, so that junior consultants can be added to the teams for learning.

Xerox USA. Provides convenient places where people can get together routinely. Called the "distributed coffee pot" these environments encour•age cross-functional links.

(iii) Support Education with Communication Technology

National Technological University USA and Open University UK. New universities sell formal training as continual learning via satellite to companies like General Electric, Hewlett-Packard, Texas Instruments. Learners interact via Internet and via email with each other and with instructors.

(iv) learn from Simulations and Pilot Installations

Matsushita, Japan. Launched a company-wide policy in 1993 to reduce yearly working time to 1800 hours. The policy's objective was not to reduce costs but to change the mindset of managers. Many of them were puzzled about how to implement the policy, which was at first communicated as explicit knowledge. Matsushita created a promotion office with the task to facilitate experiments with the policy for one month by working 150 hours. Through such a bodily experience, employees got to know what a 1800 hour year would be like.

Responsibility for Knowledge Management

Managing knowledge should, obviously be the responsibility of everyone in the organization. Accepting this view, some authors and practitioners feel that it is unwise to create positions like *Chief Knowledge Officer* (CKO) with the responsibility of managing the knowledge for the organization. There is also the opposite view that it will be beneficial to have a person in charge of knowledge management so that he/she could guide, direct and co-ordinate the KM-efforts of the organization. The responsibilities of the CKO are specified by some companies as follows:

- Development of the knowledge management big picture, perhaps including a vision for the knowledge management program.

- Active promotion of a knowledge agenda, including the development and diffusion of knowledge management models, frameworks, and language.

- The design, implementation, and overseeing of the creation and development of the organization's knowledge architecture and infrastructure, including its libraries, knowledge bases, human resources, computer knowledge networks, research centers, and academic relationships.

- The securing and prioritization of funding for knowledge management programs.

- The establishment of a knowledge culture by creating mechanisms for the development and maintenance of knowledge bases in different functions and departments.

- The facilitation of knowledge-oriented connections, coordination, and communication activities, both internally and with important external constituencies.

- The identification, measurement, and dissemination of results. The CKO must determine how better management of knowledge will make or save money for the firm and must document the economic impact.

The position of CKO will have to be high in the organizational hierarchy. Some organizations have it as an independent position reporting directly to the CEO. Others integrate it with the HR function so that the systems and culture-building efforts for harnessing tacit knowledge can be synergistically co-coordinated with other HR interventions. The person to occupy the CKO position is also carefully chosen with a view to ensuring certain types of qualifications/experience for him.

- Deep experience in some aspect of knowledge management, including its creation, dissemination, or application

B Based on Davenport, T (1996), "Knowledge Roles: The CKO and Beyond", CIO Magazine, April 1, 1996.

- Familiarity with knowledge-oriented organizations and technologies (libraries, groupware)

- Display of a high level of 'knowledgeability' directly related to one's professional stature

- Comfort with (and, ideally, personal experience with) the primary processes of the business

Appropriate positions, role definitions, and qualified persons alone may not make a CKO successful. There are certain other facilitating conditions required for making this function a success. Some of these are given below:

- Need a corporation that sees learning as critical to its business strategy, not just a nice thing to have

- Need an environment that recognizes that there is a collective intelligence throughout the organization

- Need a commitment to embed and integrate learning in all business processes

- Need ongoing support from the CEO in order to win the trust and support of the senior executive team and line managers as a whole,

- Need "slack" to get the problem rolling. This translates to multi-layer funding, space to try things out, and time to prove the value of knowledge management,

- Need a clear appreciation that organizational members differ in their knowledge needs and their ability to contribute to the knowledge pool,

- Need an ability to tolerate ambiguity. Knowledge itself is vague, and it is usually difficult at best to measure the results of a knowledge management effort. Moreover, CKOs must gain their influence without authority.

- Must show early visible results from their efforts.

Aligning KM Strategy with Cooperate Strategy

Studies have shown that failure of KM systems in some organizations was caused by the overwhelming focus on the explicit knowledge. Companies get into this trap of harnessing explicit knowledge because it is relatively easy for them to create databases, data warehouses, and computer installations than to create the culture of openness and sharing in the organization, which is essential for harnessing tacit/implicit knowledge. There are two levels in the process of harnessing tacit knowledge, and both these levels are fraught with difficulties:

1. Converting tacit/implicit knowledge into explicit knowledge; that is, helping people to articulate their tacit knowledge.

2. Moving knowledge from the individual level to the group, organizational, and inter-organizational levels; that is, making people willing and eager to share their knowledge in the interest of the organization.

Adopting the easier strategy for the only reason that it is easy has ruined many KM efforts. The ideal way to manage knowledge is to have a KM strategy that flows from the corporate strategy. If, for example, a company offers mature and standardized products, most of its problems can be solved using the explicit knowledge. Hence, an IT-intensive codification strategy (person-to-documents/database approach) would be appropriate for managing its knowledge. If, on the other hand, a company offers customized products, especially innovative ones, its problems can get resolved only by using the tacit knowledge available with the individual employees. Knowledge management in this company will have to adopt a personalization (person-to-person-sharing of knowledge) approach. Success of any KM system will therefore depend primarily on the fitment between this system and the corporate goals and strategies of the organization.

[9] Based on Hansen, M.T., Nohria, N. and Tierney,T., 2000, "What is your Strategy for Managing Knowledge?" HBR OnPoint, product No: 4347.