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## Knowledge management in higher education: rethinking

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### Abstract

Knowledge management (KM) refers to a multidisciplinary approach to achieving organizational objectives by making the best use of knowledge. Knowledge management (KM) is the process of creating, sharing, using and managing the knowledge and information of an organization. Several universities offer dedicated master's degrees in knowledge management. Knowledge management efforts typically focus on organizational objectives such as improved performance, competitive advantage, innovation, the sharing of lessons learned, integration and continuous improvement of the organization. This paper focus on, in an era of Globalization, technological innovation, and social transformations, universities face the challenge of training students with the competencies needed to meet the demands of the market and to successfully integrate into today's workforce. University as a dynamic source of essential competencies and explores various skill management models, methodologies and innovations applied by educational institutions around the world. It is found that the demands of today's society represent a major challenge for universities and their teaching staffs. Universities need to prepare new generations of students with the ability to select, update and use knowledge, rather than processing facts and formulas. Students need to be capable of learning in different contexts and modalities throughout their professional careers and learn to adapt their knowledge to new situations.

**Keywords:** Knowledge Management, Knowledge Transfer, Higher Education Policy, Challenges in Higher Education.

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### Background:

An established discipline since 1991, Knowledge Management(KM) includes courses taught in the fields of business administration, information systems, management, library and information sciences. Other fields may contribute to knowledge management research, including information and media, computer science, public health and public policy. Several universities offer dedicated master's degrees in knowledge management. Many large companies, public institutions and non-profit organizations have resources dedicated to internal knowledge management efforts, often as a part of their business strategy, IT, or human resource management departments. Several consulting companies provide advice regarding knowledge management to these organizations.

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Knowledge management efforts typically focus on organizational objectives such as improved performance, competitive advantage, innovation, the sharing of lessons learned, integration and continuous improvement of the organization. These efforts overlap with organizational learning and may be distinguished from that by a greater focus on the management of knowledge as a strategic asset and on encouraging the sharing of knowledge. Knowledge Management is an enabler of organizational learning.

Knowledge Management efforts have a long history, including on-the-job discussions, formal apprenticeship, discussion forums, corporate libraries, professional training, and mentoring programs. With increased use of computers in the second half of the 20th century, specific adaptations of technologies such as knowledge bases, expert systems, information repositories, group decision support systems, intranets, and computer-supported cooperative work have been introduced to further enhance such efforts. In 1999, the term personal knowledge management was introduced; it refers to the management of knowledge at the individual level.

In the enterprise, early collections of case studies recognized the importance of knowledge management dimensions of strategy, process and measurement. Key lessons learned include people and the cultural norms which influence their behaviors are the most critical resources for successful knowledge creation, dissemination and application; cognitive, social and organizational learning processes are essential to the success of a knowledge management strategy; and measurement, benchmarking and incentives are essential to accelerate the learning process and to drive cultural change. In short, knowledge management programs can yield impressive benefits to individuals and organizations if they are purposeful, concrete and action-orientated.

Knowledge Management emerged as a scientific discipline in the early 1990s. It was initially supported by individual practitioners, when Skandia hired Leif Edvinsson of Sweden as the world's first Chief Knowledge Officer (CKO). Hubert Saint-Onge (formerly of CIBC, Canada), started investigating KM long before that. The objective of CKOs is to manage and maximize the intangible assets of their organizations. Gradually, CKOs became interested in practical and theoretical aspects of KM, and the new research field was formed. The Knowledge Management idea has been taken up by academics, such as Ikujiro Nonaka (Hitotsubashi University), Hirotaka Takeuchi (Hitotsubashi University), Thomas H. Davenport (Babson College) and Baruch Lev (New York University). In 2001, Thomas A. Stewart, former editor at *Fortune* magazine and subsequently the editor of *Harvard Business Review* published a cover story highlighting the importance of intellectual capital in organizations. The Knowledge Management discipline has been gradually moving towards academic maturity. First, is a trend toward higher cooperation among academics; single-author publications are less common. Second, the role of practitioners has changed. Their contribution to academic research declined from 30% of overall contributions up to 2002, to only 10% by 2009. Third, the number of academic knowledge management journals has been steadily growing, currently reaching 27 outlets.



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#### **Multiple Knowledge Management disciplines:**

Multiple Knowledge Management disciplines exist; approaches vary by author and school. As the discipline matured, academic debates increased regarding theory and practice, including:

- *Techno-centric* with a focus on technology, ideally those that enhance knowledge sharing and creation.
- *Organizational* with a focus on how an organization can be designed to facilitate knowledge processes best.
- *Ecological* with a focus on the interaction of people, identity, knowledge, and environmental factors as a complex adaptive system akin to a natural ecosystem.

Regardless of the school of thought, core components of Knowledge Management roughly include people/culture, processes/structure and technology. The details depend on the perspective.

#### **Knowledge Management perspectives include:**

- Community of practice
- Social network analysis
- Intellectual capital
- Information theory
- Complexity science
- Constructivism

The practical relevance of academic research in Knowledge Management has been questioned with action research suggested as having more relevance and the need to translate the findings presented in academic journals to a practice.

#### **Dimensions of Knowledge:**

Different frameworks for distinguishing between different 'types of knowledge exist.

One proposed framework for categorizing the dimensions of knowledge distinguishes tacit knowledge and explicit knowledge. Tacit knowledge represents internalized knowledge that an individual may not be consciously aware of, such as to accomplish particular tasks. Explicit knowledge represents knowledge that the individual holds consciously in mental focus, in a form that can easily be communicated to others. Ikujiro Nonaka proposed a model (SECI, for Socialization, Externalization, Combination, and Internalization) which considers a spiraling interaction between explicit knowledge and tacit knowledge. In this model, knowledge follows a cycle in which implicit knowledge is 'extracted' to become explicit knowledge, and explicit knowledge is 're-internalized' into implicit knowledge. Hayes and Walsham describe knowledge and knowledge management as two different perspectives. The content perspective suggests that knowledge is easily stored; because it may be codified, while the relational perspective recognizes the contextual and relational aspects of knowledge which can make knowledge difficult to share outside the specific context in which it is developed.

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Knowledge Management needs to convert internalized tacit knowledge into explicit knowledge to share it, and the same effort must permit individuals to internalize and make personally meaningful any codified knowledge retrieved from the knowledge management effort. Research suggested that a distinction between tacit knowledge and explicit knowledge represented an oversimplification and that the notion of explicit knowledge is self-contradictory. Specifically, for knowledge to be made explicit, it must be translated into information. More recently, together with Georg von Krogh and Sven Voelpel, Nonaka returned to his earlier work in an attempt to move the debate about knowledge conversion forward.

A second proposed framework for categorizing knowledge dimensions distinguishes embedded knowledge of a system outside a human individual (e.g., an information system may have knowledge embedded into its design) from embodied knowledge representing a learned capability of a human body's nervous and endocrine systems.

A third proposed framework distinguishes between the exploratory creation of "new knowledge" (i.e., innovation) vs. the transfer or exploitation of "established knowledge" within a group, organization, or community. Collaborative environments such as communities of practice or the use of social computing tools can be used for both knowledge creation and transfer.

#### **Knowledge Management Strategies:**

Knowledge may be accessed at three stages: before, during, or after knowledge management - related activities. Organizations have tried knowledge capture incentives, including making content submission mandatory and incorporating rewards into performance measurement plans. Considerable controversy exists over whether such incentives work and no consensus has emerged.

- One strategy to knowledge management involves actively managing knowledge (push strategy). In such an instance, individuals strive to explicitly encode their knowledge into a shared knowledge repository, such as a database, as well as retrieving knowledge they need that other individuals have provided (codification).
- Another strategy involves individuals making knowledge requests of experts associated with a particular subject on an ad hoc basis (pull strategy). In such an instance, expert individual(s) provide insights to requestor (personalization).

Hansen et al. defined the two strategies. Codification focuses on collecting and storing codified knowledge in electronic databases to make it accessible. Codification can therefore refer to both tacit and explicit knowledge. In contrast, personalization encourages individuals to share their knowledge directly. An information technology play a less important role, as it only facilitates communication and knowledge sharing.

Other knowledge management strategies and instruments for companies include:



- Knowledge sharing (fostering a culture that encourages the sharing of information, based on the concept that knowledge is not irrevocable and should be shared and updated to remain relevant)
- Storytelling (as a means of transferring tacit knowledge)
- Cross-project learning
- Make knowledge-sharing as a key roles in employees' job description
- After-action reviews
- Knowledge mapping (a map of knowledge repositories within a company accessible by all)
- Expert directories (to enable knowledge seeker to reach to the experts)
- Expert systems (knowledge seeker responds to one or more specific questions to reach knowledge in a repository)
- Best practice transfer
- Knowledge fairs
- Competence management (systematic evaluation and planning of competences of individual organization members)
- Proximity & architecture (the physical situation of employees can be either conducive or obstructive to knowledge sharing)
- Master–apprentice relationship, Mentor-mentee relationship, Job-shadowing
- Collaborative software technologies (wikis, shared bookmarking, blogs, social software, etc.)
- Knowledge repositories (databases, bookmarking engines, etc.)
- Measuring and reporting intellectual capital (a way of making explicit knowledge for companies)
- Knowledge brokers (some organizational members take on responsibility for a specific "field" and act as first reference on a specific subject)
- Inter-project knowledge transfer
- Intra-organizational knowledge sharing
- Inter-organizational knowledge sharing

#### **Knowledge Management Motivation:**

Multiple motivations lead organizations to undertake KM. Typical considerations include:

- Making available increased knowledge content in the development and provision of products and services
- Achieving shorter development cycles
- Facilitating and managing innovation and organizational learning
- Leveraging expertise across the organization
- Increasing network connectivity between internal and external individuals



- Managing business environments and allowing employees to obtain relevant insights and ideas appropriate to their work
- Solving intractable or wicked problems
- Managing intellectual capital and assets in the workforce (such as the expertise and know-how possessed by key individuals or stored in repositories)

#### **Knowledge Management (KM) Technologies:**

Knowledge management (KM) technology can be categorized as:

- **Groupware**—Software that facilitates collaboration and sharing of organizational information. One of the earliest successful products in this category was Lotus Notes: it provided tools for threaded discussions, document sharing, organization-wide uniform email, etc.
- **Workflow systems**—Systems that allow the representation of processes associated with the creation, use and maintenance of organizational knowledge. For example, the process to create and utilize forms and documents.
- **Content management and document management systems**—Software systems that automate the process of creating web content and/or documents. Roles such as editors, graphic designers, writers and producers can be explicitly modeled along with the tasks in the process and validation criteria. Commercial vendors started either to support documents (e.g. Documentum) or to support web content (e.g. interwoven) but as the Internet grew these functions merged and vendors now perform both functions.
- **Enterprise portals**—Software that aggregates information across the entire organization or for groups such as project teams (e.g. Microsoft SharePoint).
- **E-Learning**—Software that enables organizations to create customized training and education. This can include lesson plans, monitoring progress and online classes.
- **Planning and Scheduling Software**—Software that automates schedule creation and maintenance (e.g. Microsoft Outlook). The planning aspect can integrate with project management software such as Microsoft Project.
- **Telepresence**—Software that enables individuals to have virtual "face-to-face" meetings without assembling at one location. Videoconferencing is the most obvious example.

These categories overlap. Workflow, for example, is a significant aspect of a content or document management systems, most of which have tools for developing enterprise portals.

Proprietary knowledge management technology products such as Lotus Notes defined proprietary formats for email, documents, forms, etc. The Internet drove most vendors to adopt Internet formats. Open-source and freeware tools for the creation of blogs and wikis now enable capabilities that used to require expensive commercial tools.

Knowledge Management is driving the adoption of tools that enable organizations to work at the semantic level, as part of the Semantic Web: for example, the Stanford Protégé Ontology Editor.



Some commentators have argued that after many years the Semantic Web has failed to see widespread adoption, while other commentators have argued that it has been a success.

Knowledge management in law firms has evolved through three phases. Phase one focused primarily on the development of taxonomies to systematize attorney work product and related research. The second phase focused on enterprise search to mine the growing volume of information managed by law firms. Legal industry specific search engines were deployed by many AmLaw 100 law firms during this phase. Phase 3 was driven by changes in the legal market place and growing competition that led to price pressure and increased demands for efficiency from clients. A major focus of law firm KM today is in using historical billing information to generate alternative fee arrangements and more generally in the area of legal project management to more efficiently deliver legal services to clients.

#### **Challenges:**

Higher Education Institutions create knowledge during their academic and administrative processes but still they find difficult to use the explicit and tacit knowledge as an integrated central resource to improve knowledge sharing and effective decision making. Knowledge Management research is positioned at an emerging stage in developing countries. The developed world comprehends the importance of organizational knowledge and applied innovative technology-based systems to manage it as a strategic asset. Nevertheless, the developing countries are far behind in research, understanding and actual implementation of effective KM practices.

#### **Findings:**

- The findings also disclosed different factors that affect the main agents of KM in the context of their professional practices as faculty, administrative staff, librarians and information professionals in Higher Education Institutions.
- The importance of knowledge and its management has been established from many decades .Recently, knowledge is progressively considered as a critical component for organizations to be competitive, innovative and sustainable. KM is meant 2 for the maximization of the organization's knowledge assets and guarantee more effective knowledge practices, improved organizational behaviour and better performance through knowledge acquisition, creation, refinement, storage, transfer, sharing, and utilization .
- It is defined as “the effective learning processes associated with exploration, exploitation and sharing of human knowledge (tacit and explicit) that use appropriate technology and cultural environments to enhance an organization's intellectual capital and performance”.
- In the educational context, KM is explained as a set of practices that helps an institution to improve their teaching, research and administrative roles and encourage the use and sharing of data and information in decision making.



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**Recommendations:**

- 1- In academic contexts, the main source of knowledge generation is human efforts which are developed through educational and research activities, innovation and learning .Knowledge in Higher Education (HE) can be divided into academic and organizational which are generated and consumed by faculty, students, administration, and researchers. To ensure success in Higher Education, it is crucial that the knowledge created, stored and shared by each of the agents contributes to the effectiveness of the entire system.
- 2- In contrast to business sector, few integrative studies have explored Knowledge Management in academic institutions as a whole. So, in order to get benefit from the faculty and staff, sharing and dissemination of knowledge and its management, effective research and implementation of KM in Higher Education is required.

**Conclusion:**

Knowledge management (KM) has emerged as a tool that allows the creation, use, distribution and transfer of knowledge in organizations. There are different frameworks that propose KM in the scientific literature. The majority of these frameworks are structured based on a strong theoretical background. There is a clear awareness in academic, institutional and government circles of the importance of Knowledge Management in Higher Education.

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