

Knowledge Management And Higher Education **Le management de la connaissance et l'enseignement supérieur**

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Abstract : Information technology and communication knew a very big development which revolutionized organizations. Economy intelligence, information technology and communication, knowledge management are all new words which aim is communication and sharing information, knowledge, experience... we'll try in the following paper to introduce knowledge management, by explaining first the various concepts associated with KM, then using the approach 5W - 1H to explain its role in higher education.

Keywords: knowledge, Knowledge management, economic intelligence, higher education, 5W-1H approach.

Résumé : Les technologies l'information et de la communication ont connu une très grande évolution qui a révolutionné les organisations. L'intelligence de l'économie, les technologies l'information et de la communication, le management des connaissances sont autant de nouveaux concepts dont l'objectif est la communication et le partage de l'information, de la connaissance, de l'expérience ... nous essaierons dans le suivant article d'introduire le management des connaissances, en expliquant d'abord les différents concepts qui lui sont liés pour expliquer ensuite son rôle dans l'enseignement supérieur en utilisant l'approche 5W - 1H pour.

Mots clés : connaissance, management des connaissances, intelligence économique, enseignement supérieur, approche 5W-1H.

INTRODUCTION:

Despite the almost continuous evolution of information technology and networks, the emergence of virtual organizations, everyone knows that the true value of a company lies in the competence of its human resources. The business world is now characterized by permanent instability which drives companies to adopt a maximum of information to ensure their future. The organizations interest for knowledge management is increasing. In an external environment where the only certainty is uncertainty, knowledge becomes a certainty which must not be underestimating. In summary, knowledge must be treated as an asset. This wealth is intangible and unquantifiable, so it should be managed.

Knowledge management is born in order to solve the problem of preserving the knowledge and know-how of various collaborators. Subsequently, this approach to knowledge management has evolved in the sense that it was necessary not only to preserve the knowledge but also to support, develop, transmit, share, enrich and evolve it to develop the company. The university is the place most rich in knowledge that is why it should develop knowledge management.

METHODOLOGY:

knowledge management is one of the most important topics in the business world today. But why is it so important for all organizations? The purpose of this paper is to attempt to answer this question. To understand the problem, we first present a brief history on the evolution of knowledge and different topical concepts that are associated to knowledge and knowledge management. We will then give the theoretical aspects of knowledge management and explain why universities need it using the 5W-1H approach.

1. A BRIEF HISTORY:

The authorship of the first theoretical elaborations on knowledge back to pre-Socratic philosophers around the fifth century BC. Heraclitus and Parmenides are among the first thinkers to find a unifying principle of reality, whose apprehension would free men from deceptive appearances and opinion.

The Sophists (with Protagoras) declared that "man is the measure of all things", revealing for the first time the subject of knowledge.

Plato develops oral teaching of Socrates, he intends to solve the crisis brought by the Sophists radically, separating the knowable world of objects and the sensible world of perception. True knowledge is intended purely intelligible beings.

Aristotle argued that true knowledge is developing on the basis of experience and perception. Aristotelian methodology of science is the idea that all knowledge comes originally from the experience.

The early seventeenth century knowed a major restructuring of knowledge in both its content and in form. We can identify three major new directions:

- Galileo, Descartes and Newton show that mathematics offers not only a model of exact knowledge, but also a real language to ask the right questions to nature. It is the beginning of the physical mathematized that even today, model our understanding of nature and science;
- mechanical philosophy and the revival of atomism leads to favor the search for mechanical causes rather than the formal or final causes. This change is crucial because it implies that science, understanding the mechanism of things, can become active and control natural processes to serve the purpose of humanity;

- the topic of a subjective basis common to all human knowledge is in the philosophy of Descartes an impressive metaphysical realization: the "I think, therefore I am", the first absolutely indubitable truth, through its obviousness offers both the standard and the first origin of all truth.

The terms of the knowledge economy, immaterial economy, knowledge or engineering management are all new concepts in economy, which means a new phase in economic history. This phase began in the late 1980s with an incomparable technological development in the history of economic facts.

2. CONCEPTS ASSOCIATED TO KNOWLEDGE MANAGEMENT:

2.1. The concept of economy based on knowledge

The central concept of economy based on knowledge gets its origin from the impressive growth of the service sector and immaterial activities. Indeed, the role of immaterial, intellectual work and research and development in the process of wealth creation has not stopped growing. Change is in the quantity of knowledge produced, in the complexity of the products manufactured and in the organization of actors in the dynamics of knowledge production. The ICT (information technology and communication) have accelerated this trend in the last two decades.

2.2. The concept of immaterial capital

The production process is not based only on material factors, immaterial now plays a central role in the new economy or the post-industrial economy. Four main elements are used to characterize the evolution of the economic production process:

- a. the raw material that is important to any competitive advantage is not only natural material (energy ...), immaterial elements already play a role key at all levels of life of companies. This is the know-how, the brainpower, knowledge and information.
- b. knowledge is emerging as a third factor of production alongside labor and capital.
- c. The physical work makes a significant decline in the production process; it is less strategic and less decisive than scientific and organizational skills, creative and adaptive capacities.
- d. The accumulation depends increasingly on the accumulation of knowledge and creativity, on immaterial elements.

2.3. The concept of research and development

Educational structures, educational systems and the efficient allocation of significant financial resources to the research and development activity are the keys to effective participation in the new economy in which knowledge plays a central role. These three elements are lacking in developing areas, and thereby increasing the significant delay they accuse compared to developed countries.

3. INTRODUCTION TO THE CONCEPT OF KNOWLEDGE MANAGEMENT

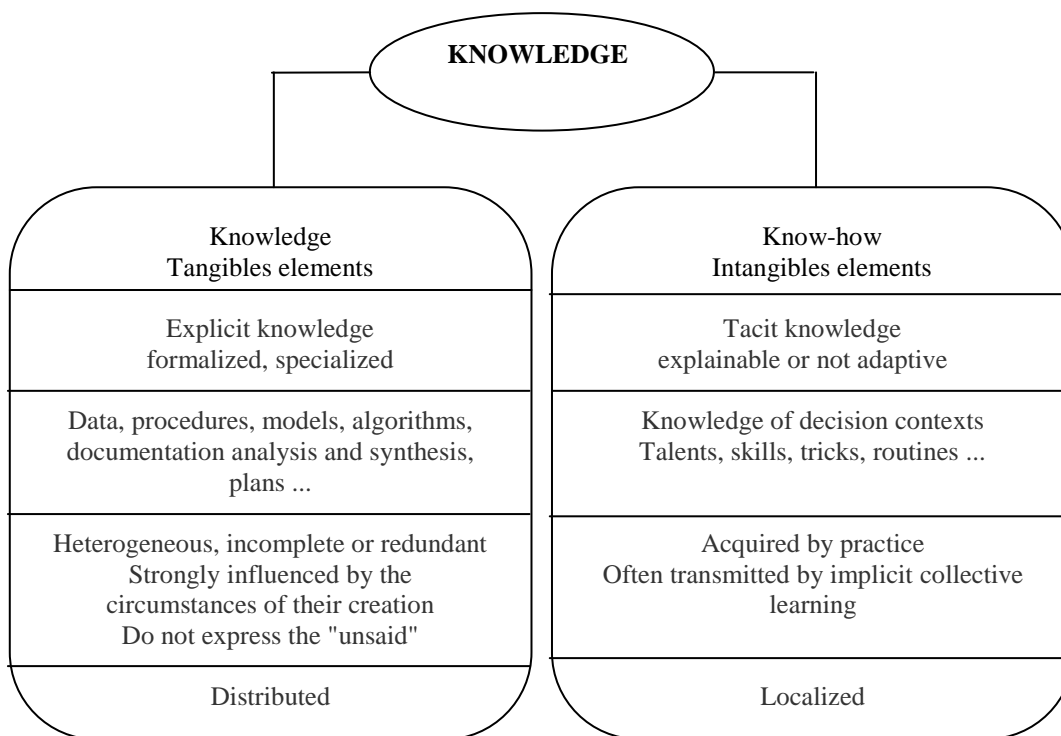
3.1. Knowledge in the company

Knowledge is the philosophical study of the sources, content and process knowledge. The theory of knowledge seeks to define generally the conditions for the acquisition or discovery of knowledge (which must be distinguished from opinion and belief).

According to Petter Gottschalk¹, there is an interaction between information and knowledge. Information becomes knowledge when it is combined with experience, interpretation and reflection. Knowledge becomes information when assigned an explicit representation. Sometimes information exists before knowledge; sometimes knowledge exists before information.

Among knowledge, there are those that are explicit (knowledge) and tacit ones (know-how), (fig1). Explicit knowledge is easier to collect because we can find it in libraries, archives, databases. Tacit knowledge is more difficult to manage as it is contained in the human brain. Figure 1 shows the two categories of knowledge and their characteristics.

Figure 1: the two categories of knowledge



Source : Wikipedia. Encyclopédia on line. www.wikipedia.org

The identification and collection of such knowledge leads to the so-called building a corporate memory. Several research studies have concerned the corporate memory of whose Kühn and Abecker work². Kühn and Abecker collected the following items, which describe the major impediments to labor productivity based in knowledge:

- workers higher wages spend a great deal of time to research the necessary information,
- the essential know-how is available only in the work of a small number of employees,
- valuable information is hidden in piles of documents and data,
- costly mistakes are repeated by ignorance of previous experiences,
- time and sub-optimal quality products result from insufficient flow of information.

Dieng³ proposes to consider management as a corporate memory based on the following steps:

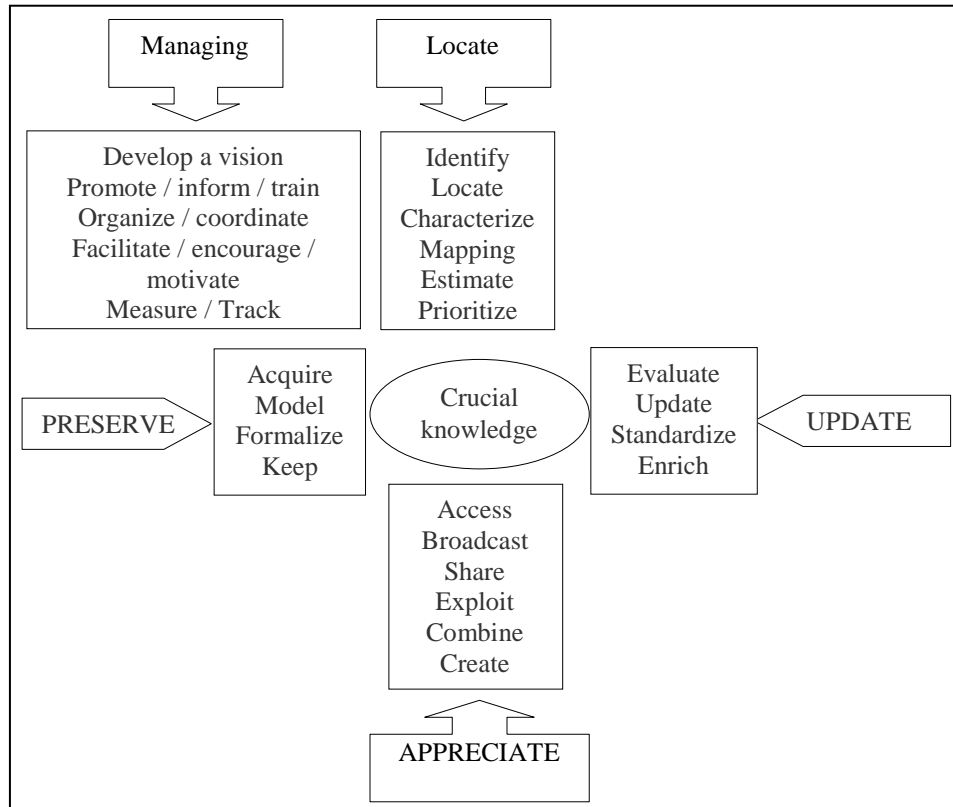
1. detection of memory requirements,
2. building the corporate memory,
3. dissemination of corporate memory,
4. use of corporate memory,
5. evaluation of corporate memory,
6. maintenance and development of corporate memory.

In summary, it is essential not only to retain knowledge, but it must be evaluated and evolved.

3.2. Knowledge management

Grundstein proposes a model with different actions for managing knowledge in the organization (Figure 2).

Figure 2: The five aspects of knowledgemanagement



Source : R. Dieng ; O. Corby ; F. Gandon ; A. Giboin ; J. Golebiowska ; N. Matta; M. Ribière, 2005, Knowledge Management méthodes et outils pour la gestion des connaissances, Ed. Dunod, Paris, 3ème Ed., p2.

- The first phase concerns the identification of explicit knowledge (knowledge) and tacit knowledge (know-how). According Grundstein⁴, we must identify, locate, characterize, make maps, estimate their economic value and prioritize them.
- The second phase concerns the preservation of knowledge. We must model them, formalize and maintain.
- The third phase concerns the use of knowledge: they must be put at the service of individual employees, to make them available, distribute, share, exploit, and even better to combine them to create new knowledge.
- The fourth phase concerns updating knowledge: we must evaluate, update, standardize and enrich them. At this level, appears the concept of economic intelligence.
- The fifth phase concerns interactions between the different phases mentioned above. It's called knowledge management.

Different authors define the intellectual capital of the company using the term knowledge management or corporate memory:

- Knowledge management covers the large field of knowledge management since its acquisition to its share in all human activities, for all sizes of organizations⁵.

- Knowledge-management systems get the right information to the right people at the right time, provide them with the tools for analyzing that information⁶.
- Knowledge management is the set of methods and techniques to collect, identify, analyze, organize, store, and share knowledge among members of organizations, particularly the knowledge created by company itself (ex marketing, research and development) or acquired from outside (ex economic intelligence) to achieve the target⁷..

Finally, knowledge management is the process by which companies create value from their intellectual assets or knowledge-based.

3.3. Knowledge management in higher education by approach 5W-1H (What Why Who When Where How)

We propose to use the analytical 5W-1H (to answer the six questions what why who when where how) to lay the problem.

What?

The problem is that university must realize the importance of managing knowledge. It is the institution most concerned by the subject: the role of the university is to produce a service (which we call knowledge). Knowledge is an intangible product, so University must first identify it before diffusing it. In higher education, identifying knowledge is not so difficult because it is easy to find its holders.

Why?

Through ICT, we enter a phase of too much information which is not always easy to decipher and verify the pertinence. This is why the university needs today to capitalize its knowledge to improve the quality of its services. The business of universities is all about knowledge. So, the university must capitalize it.

Knowledge management in higher education is required to create an environment characterized by sharing, improving, learning and innovation by promoting exchange of ideas, experiences and good practice. Because Universities are themselves responsible for their own quality, they have significant opportunities to apply knowledge management practices to support their mission.

Who?

At university, all actors are concerned. This means that students, teachers, administrators, associate teachers engage in an enrichment of the knowledge and the learning environment.

When?

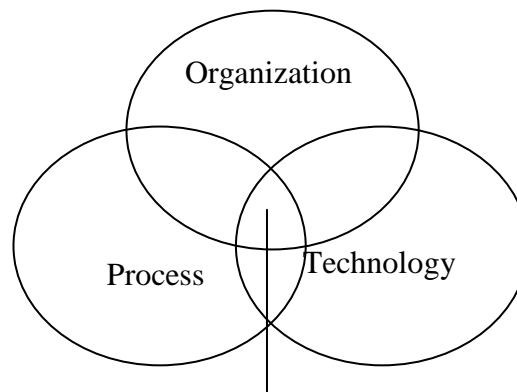
The higher education sector is increasingly competitive. Globalization, growing of number of universities, the unification of graduates, the e-learning give the consumer (student) several sources of knowledge. So, competitiveness, evolution of the university depend now on the Knowledge. It is necessary to take in interest quickly and permanently knowledge and expertise.

Where?

Since all the actors are concerned, the knowledge management should find its place in all areas of the university (libraries, classrooms, administration...).

How?

We emphasize that knowledge management must involve three approaches: methodological, organizational and technological (figure 3).

Figure 3: Knowledge management**Knowledge management**

Source : J. Honeycutt, 2000, Knowledge Management Strategies, Microsoft Press, USA.

1. **Methodological:** the hardest part of the implementation of knowledge management is the identification of the problem. It can be detected by several methods:

- Educational meetings and committees
- Team work
- suggestion box
- brainstorming (or e-brainstorming)
- ...

Here, Human Resources management has a great role in the creation of an environment for sharing and exchange, training of employees in knowledge management and information technology and communication.

2. **Organizational:** the company must be considered in the broadest sense, including all partners and sometimes competitors as a source of knowledge. For example many institutes used benchmarking to improve their performance and quality services.

3. **Technological:** for the preservation and sharing, several technological solutions can be defined, using ICT:

- electronic document management
- e-learning
- company portal
- ...

These solutions are based, essentially, on the introduction of intranet for communication, continuous learning. Also, sharing tools must be easily accessible and easy to use.

CONCLUSION:

In conclusion, knowledge is a factor of stability for the company in a competitive and dynamic environment. Knowledge management is considered a very important activity for modern companies, why not for universities? It is even a priority, since it increases the value of the service. Today, knowledge is considered the only source of sustainable competitive advantage. To convert data into information, we need skill, specialization, expertise, learning and all this exist in the university. In this context, we observe that university must be the first institution applying the process of knowledge management.

If you have an apple and I have an apple and we exchange these apples, then you and I will each have one apple.

But If you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas.

Notes and References:

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