

## The Multidimensional Role Of Knowledge Management In The Enterprises

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### Abstract:

The main objective of the study was to try to address the issue of knowledge management by identifying the most important concepts, their importance, and their characteristics. We also attempted to define the multiple roles that knowledge management can play in public and private institutions such as the role of artificial intelligence and Organizational learning;

The study concluded that knowledge management has a prominent role in playing multi-role roles that will promote the establishment of institutions on the cornerstone of good investment in human capital.

**Key words:** Knowledge management; - Organizational learning; - Artificial intelligence; Human capital; - Public and private enterprises.

**Jel classification:** M 10.

### RÉSUMÉ:

L'objectif principal de l'étude était d'essayer de résoudre le problème de la gestion des connaissances en identifiant les concepts les plus importants, leur importance et leurs caractéristiques, ainsi que de définir le rôle multiple que la gestion des connaissances peut jouer dans les institutions publiques et privées, telles que le rôle de l'intelligence artificielle et de l'apprentissage organisationnel;

L'étude a conclu que la gestion des connaissances joue un rôle de premier plan en jouant plusieurs rôles qui favoriseront la création d'institutions constituant la pierre angulaire d'un bon investissement dans le capital humain.

**Mots clés:** Gestion des connaissances; Apprentissage organisationnel; Intelligence artificielle; Capital humain; entreprises publiques et privées.

**JEL classification:** D83.

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### INTRODUCTION:

In 1993, one could read in Peter Drucker's book: "More and more, the productivity of the knowing will become for a country, an industry, a company, the determining factor of competitiveness. In matters to know, no country, no industry, no enterprise has a 'natural' advantage or disadvantage.

The only advantage he or she can make is to make knowledge available to everyone better than others] ".

Today, the combined influences of the globalization of markets, the liberalization of the economy and of the impact of information and communication technologies (ICTs) bring about transformations structural changes and the acceleration of decision-making processes. To improve its performance, the company must all at once:

- Innovate on all fronts: organizational innovation (e-business, extended enterprise.); innovation of products and processes; service innovation.
- Reduce the cycles and costs of design, production, marketing of its products and services.
- Increase responsiveness
- Continually improve the quality of its products and services.
- Ensure extreme security conditions.

To this end, efforts have focused on the implementation of generic solutions that have an impact determining the organizational structure and socio-cultural behavior of employees. Companies have invested in the following concepts and technologies without paying much attention to management issues underlying knowledge: Total Quality Management (or Total Quality Management, T.Q.M.);

Project management; Skills management; Reconfiguration of processes (or Business Process Re-engineering, B.P.R); Enterprise Resource Planning (E.R.P.); Management Logistics (or Supply Chain Management, S.C.M.); Customer Relationship Management (or Customer) Relationship Management, C.R.M.).

**Through the above can be raised the following problematic:**

*How knowledge management can play a multi-role role in enterprises?*

**To answer the above question, we will ask the following sub-questions:**

- What is the concept of knowledge management?
- What are the principles of knowledge management?
- How does knowledge management contribute to institutions?

**To answer the previous sub-questions, we have put forward the following hypotheses:**

- Knowledge management is the philosophy of contemporary management based primarily on investment in human capital.
- Training and training is one of the most important principles of knowledge management.

- Knowledge management improves and develops the performance of institutions.

### **Importance of studying:**

The importance of the study lies in the attempt to address the role that knowledge management can play as a modern administrative approach in improving the performance of institutions, whether public or private.

### **Objectives of the study:**

The objectives of the study are as follows:

- Introducing basic concepts of knowledge management;
- Characteristics and principles of knowledge management;
- The contribution of knowledge management in enterprises.

### **Previous studies:**

William R. King, **Knowledge Management and Organizational Learning**, Katz Graduate School of Business, University of Pittsburgh, 2009.

For centuries, scientists, philosophers and intelligent laymen have been concerned about creating, acquiring, and communicating knowledge and improving the re-utilization of knowledge. However, it is only in the last 15–20 years or so that a distinct field called “knowledge management” (KM) has emerged. KM is based on the premise that, just as human beings are unable to draw on the full potential of their brains, organizations are generally not able to fully utilize the knowledge that they possess. Through KM, organizations seek to acquire or create potentially useful knowledge and to make it available to those who can use it at a time and place that is appropriate for them to achieve maximum effective usage in order to positively influence organizational performance. It is generally believed that if an organization can increase its effective knowledge utilization by only a small percentage, great benefits will result. Organizational learning (OL) is complementary to KM. An early view of OL was “...encoding inferences from history into routines that guide behavior” (Levitt and March, 1988, p. 319). So, OL has to do with embedding what has been learned into the fabric of the organization.

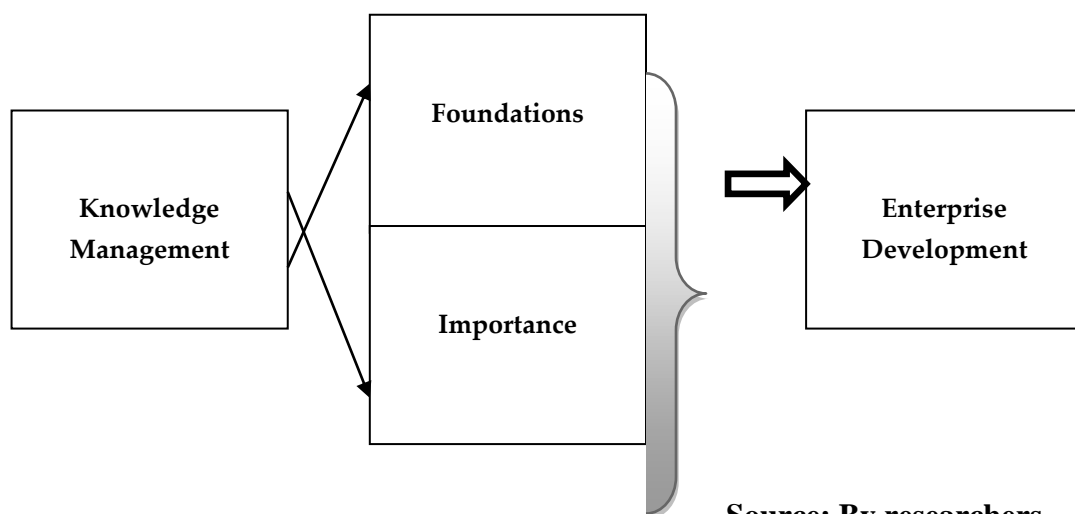
**Introduction to Knowledge Management**, ASEAN Foundation, Jakarta, Indonesia, 2008.

Knowledge is increasingly being recognized as the new strategic imperative of organizations. The most established paradigm is that knowledge is power. Therefore, one has to hoard it, keep it to oneself to maintain an advantage. The common attitude of most people is to hold on to one’s knowledge since it is what makes him or her an asset to the organization. Today, knowledge is still considered power – an enormous power in fact – but the understanding has changed considerably, particularly from the perspective of organizations. The new paradigm is that within the organization knowledge must be shared in order for it

to grow. It has been shown that the organization that shares knowledge among its management and staff grows stronger and becomes more competitive. This is the core of knowledge management – the sharing of knowledge.

### Study Model:

**Figure 01:** study's model



**Source:** By researchers

## 1- KNOWLEDGE MANAGEMENT COCEPTS:

The concept of capitalization of knowledge is influenced by several currents. Indeed, if the underlying idea to this concept is that knowledge constitutes a basic resource, the fact of recognizing it in very different forms according to the considerations of the field on which we work are order economic or technical. In his study on the genesis of the knowledge capitalization concept Alexandre Pachulski describes three currents of influence, which we have identified for their impact on the concept of capitalization of knowledge, the economic and managerial current, the current artificial intelligence and engineering knowledge, the current engineering systems of information. Here are some significant elements of his study<sup>1</sup>.

### 1-1- The economic and managerial current:

This current has strongly contributed to the emergence of the concept of capitalization of knowledge as we approach it. This emergence is divided into three phases:

- A change in the paradigm of business strategy called the "resource-based approach", which Edith Penrose has contributed greatly. She was the first to initiate this paradigm shift in 1959, with the publication of his book entitled "Theory of the growth of the firm". She explains in this work that the enterprise suffers a loss of capital when a capable employee, that is, a employee whose services are involved in the production process, leaves the firm. By giving the economic value, in the same way as any other material resource that is part of capital, Edith Penrose paved the way for a new economic theory that places knowledge at the center of the process of creating wealth.

- A new vision of the company, through notions of repertoire of knowledge and routines Organized by R. R. Nelson and S. G. Winter. In their book "An evolutionary theory of economic change ", the authors define the notion of competence as a ability to coordinate a sequence of behaviors (or acts) in order to achieve goals in a given context. Moreover, they define the notion of organizational routine as a schema predictable and regular behavioral.

These routines are the headquarters of the organization's knowledge because beyond formalization, the best way to memorize the knowledge of the organization lies in the exercise of these. Thus, all the routines of an organization constitute its repertoire of knowledge.

- Organizational changes supporting the problem of capitalization of knowledge of the company. In concrete terms, the company must learn to establish connections between its members, that is, to connect people whose cooperation will generate new and useful knowledge for themselves and for their the company.

These connections can take place at the individual level as well as at the level of a team or of the entire organization<sup>2</sup>.

### **1-2- The current artificial intelligence and knowledge engineering:**

Artificial intelligence introduced the notion of knowledge into the computer world where it was not question of data and their processing, the knowledge determining both "the behavior, the configuration and scope of artificial intelligence programs. So by introducing the knowledge as raw material of computing, artificial intelligence has produced a real Revolution: "The generalization of problem-solving techniques induces a new mode of programming for which the knowledge of the field is comparable to a program. The step is in the past, we have moved from classical procedural planning to the construction of a knowledge, that is to say a succession of instructions, executable

in a rigorously a simple structural description of the objects of the universe and their properties. From there go the fields of learning, problem solving and later engineering knowledge. Alan Newell and Herbert Simon, limiting the field of study of the knowledge to problem solving, have provided artificial intelligence with a precise framework of study, avoiding thus to oppose the currents of the human sciences.

### **1-3- The current engineering information systems:**

According to J. Arsac, "information is written (or registered) form knowledge. She is distinct from an acquaintance ... This definition is a fundamental principle of computing.... It is right - he says - to talk about informing, or giving shape to knowledge, to allow communication or manipulation. ". This definition of the concept of information allows us to understand what fundamentally differentiates knowledge engineering information systems engineering: where the information system only needs to inform, knowledge engineering must give shape to knowledge, to allow it to be communication or manipulation. Knowledge that knowledge engineering has enabled "Extract" from an expert and the knowledge-based systems in which they will be coded will part of the information system, just like any written document.

## **2- THE EMERGENCE OF KNOWLEDGE MANAGEMENT:**

Our experience in the development of knowledge-based systems has highlighted the potentialities of Engineering knowledge and technologies of artificial intelligence:

The development of knowledge-based systems allows, for each project, to formalize a part of know-how attached to a product, a process, a manufacturing process, a work process, while provoking an improvement of the customary activities of the people.

-The modeling work practiced by knowledge engineers on the knowledge held by people directly involved in the company's production processes, phenomena of clarification and deepening of problems and strengthening of skills. But above all, this work, by modifying our way of posing the problems, opens new perspectives:

- It greatly improves our ability to grasp the complexity of the situations and problems encountered;
- By doing so, it allows us to find better solutions and increases our capacity for innovation.

As early as 1991, as a result of our experience in the development of knowledge, we proposed the concept of "capitalization of business knowledge" that we give the following definition: "To capitalize the knowledge of the company is to consider the knowledge used and produced by the enterprise as a

set of wealth constituting capital, and derive interest from it to increase the value of that capital ".

At the same time other initiatives were developing. Thus, as early as 1990, the IMKA7 project (Initiative for Managing Knowledge Assets) defined the notion of knowledge capital: "Knowledge assets are (defined as) assets that are primary in the minds of the company's employees. They include design experience, engineering skills, financial analysis skills, and competitive knowledge ". In November 1992, Karl Mr. Wiig animated the first tutorial entitled "Knowledge Work in the Corporation:

Knowledge Engineering for the Progressive Organization "on the occasion of the Third International Symposium organized by the International Association of Knowledge Engineers<sup>8</sup> in Washington, DC.

In the Anglo-Saxon countries, the concept of Knowledge Management developed from 1994 and it was in 1996 that this concept began to materialize, notably by the appointment of the first managers responsible for implementing their vision of Knowledge Management.

Tom Stewart, in a Fortune article warned for the first time the companies in their advising to focus more on their knowledge than on their material goods: "Intellectual capital is becoming corporate America's most valuable asset and can be its sharpest competitive weapon. The challenge is to find what you have - and use it."<sup>3</sup>

Since then, Peter Drucker has identified knowledge as the new basis of competitiveness in post-capitalist society:

"More and more, the productivity of knowledge is going to become, for a country, an industry, or a company, the determining factor competitiveness. In the matter of knowledge, no country, no one company has a 'natural' advantage or disadvantage. The only advantage that it can be assured to itself is to be able to draw more from the knowledge available to all others.

In 1995, Nonaka and Takeuchi published a remarkable book on knowledge use in Japanese companies: The Knowledge-Creating Company.

The same year Dorothy Leonard-Barton published a study on the role of knowledge in business manufacturing: Wellsprings of Knowledge. Many books have come out since.

In the course of 1997, the positions of "head of knowledge management and capital intellectual "have appeared in many firms essentially Anglo-Saxon. In France, one can also mention the company COFINOGA which created, from the beginning of the year 1999, a post of Knowledge Manager and the Bureau VERITAS which revealed a function of Knowledge Management in its organizational chart at the end of 1999. Many other posts have been created in



France since then. Without that this designation is specifically assigned, many companies, most of them with experience in the development and deployment of knowledge-based systems, develop activities in this area.

It is also necessary to agree on the specificity of the knowledge used and produced within the company. In what follows, after having looked at the knowledge of the company, we shed light on the concept of competence, we show the role of individual knowledge in the creation of knowledge organizations and we draw attention to the private nature of this knowledge. Then, a reflection on the formation of individual knowledge leads us to question the objectivity of the knowledge. Finally, we take again the four modes of conversion of the knowledge highlighted by Ikujiro Nonaka and Hirotaka Takeuchi.

### **3- KNOZLEDGE MANAGEMENT AND ENTERPRISES:**

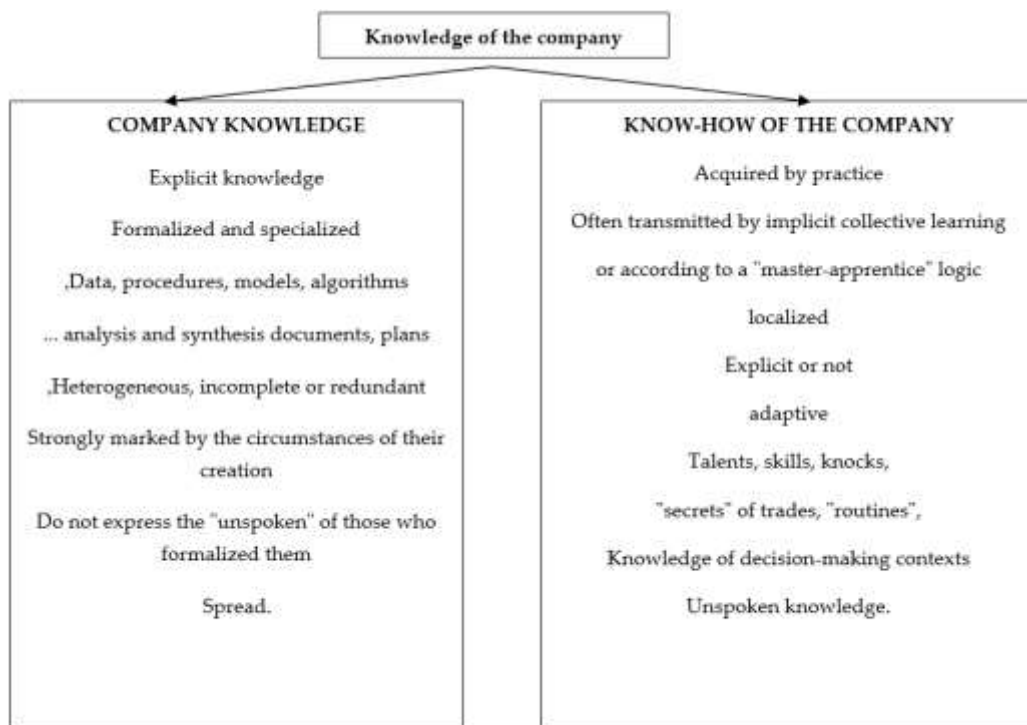
The company's knowledge includes: on the one hand, the specific knowledge that characterizes its capacities of governance, study, realization, sale and support of its products and services; on the other hand, the individual and collective know-how that characterize its capacity for action, adaptation and devolution. Stored in the archives, the cabinets and the heads of the people, the knowledge of the enterprise consist of tangible elements (databases, procedures, plans, models, algorithms, and analysis and synthesis documents) and immaterial elements (skills, hands, "trade secrets", "routines" - unwritten individual and collective action logic.

- Knowledge of historical and decision-making contexts, knowledge of the environment (customers, competitors, technologies, socio-economic factors of influence). They are representative of the company's experience and culture. Diffuse, heterogeneous, incomplete or redundant, they are strongly marked by the circumstances of their creation. When formalized, they do not always express the "unspoken" of those who put them in shape and which is nevertheless necessary for their interpretation. In addition, we find that the collective knowledge of a company, those which constitute of its essential resources, is most often transmitted orally and implicitly. In the absence of those who have formalized them, this knowledge is difficult to identify and exploit, in other situations and other purposes than those in which they were created. Thus, it can be said that exploitation and exploitation knowledge of the company is highly dependent on the know-how of its employees and the continuity of their presence in the company. Beyond the tangible knowledge formalized and archived, the knowledge of the company represents an extremely volatile intangible resource. This is summarized in Figure 1 where the knowledge of the company is represented in two major categories: The explicit knowledge that constitutes "the



knowledge of the company" and the tacit knowledge which constitute "the know-how of the company".<sup>4</sup>

**Figure 02: The two categories of knowledge management in the enterprises**



**Source: by researcher.**

In companies, we lived with the assurance of possessing the knowledge, or at least of being able to master through document management increasingly efficient and intelligent. We do not perceive the importance of know-how that recently. Under the influence of economic pressure, which translates into downsizing, the mobility of people, the acceleration of early retirement, we are account that the knowledge, just as detailed, can be in the procedures and the documents, are not sufficient: tasks that we knew how to perform under precise conditions of safety, quality, profitability, are not directly executable, under the same conditions, by novices only equipped by these procedures and these documents. Right now, knowledge engineering and intelligence technologies artificial intelligence, information and communication, provide the tools to go further in formalizing more know-how, by promoting a greater distribution of knowledge thus consolidated, creating unstructured exchanges of digital information (text, voice,

images) and making it possible to sharing tacit knowledge through collaborative work that no longer requires unity of place<sup>5</sup>.

However, know-how is difficult to locate and is not always formalized. Learning, well that it is considerably accelerated by access to knowledge and new possibilities for exchange and sharing of knowledge, remains necessary.

This look at the company's knowledge highlights the importance of tacit knowledge. He shows the interest of promoting: on the one hand, the exchange and sharing of this knowledge; on the other hand, transforming this knowledge into explicit knowledge and thereby broadening the field of knowledge likely to be managed by industrial property rules. It gives rise to three observations: the first the notion of competence, the second concerns the private dimension of individual knowledge, the last, starting from a reflection on the formation of tacit knowledge, suggests that knowledge is not objectively.<sup>6</sup>

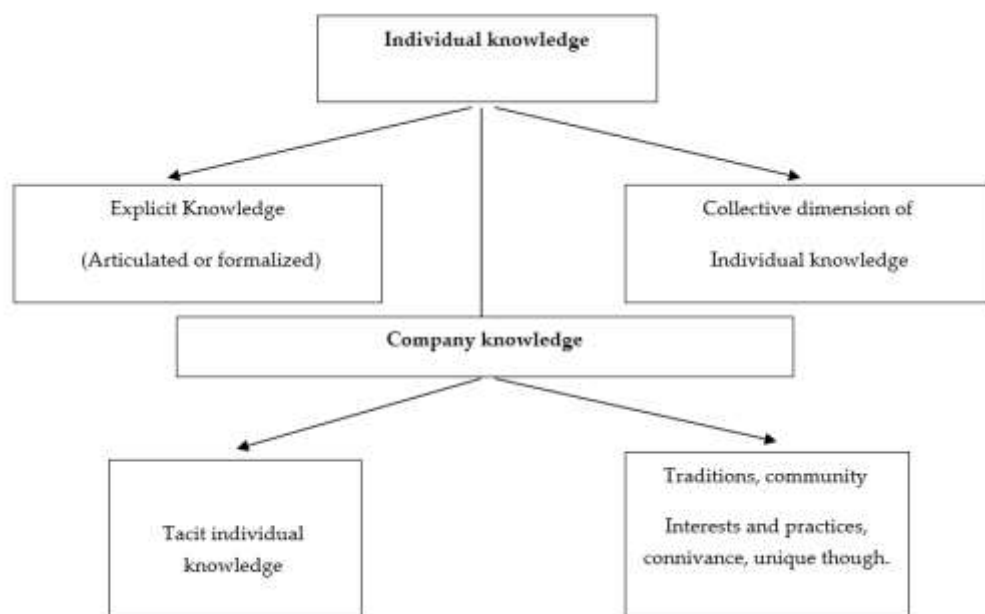
A first observation leads to differentiating the notion of competence from the notion of know-how. Indeed, to talk about the knowledge and know-how used and produced by the company does not prejudge the way in which these knowledge are implemented on a day-to-day basis, in operational situations subject to technical, economic and psycho sociological. From this point of view, we can evoke the notion of competence as "the ability of people to implement the knowledge and skills that make up the knowledge of the business in working conditions data constraints: the workstation, a role determined, a specific mission. Thus the competence is realized in the action: it is a process which, beyond knowledge and know-how, uses the behavior of people, their knowledge, and their attitudes ethical, ". However, when it comes to the company, the notion of competence becomes ambiguous depending on whether you are talking about collective skills or individual skills. Among many authors quote Manfred Mark on building collective, and Guy Le Boterf regarding the construction of individual skills. The second observation is about individual knowledge.<sup>7</sup>

If we consider the "know-how of the company ", one can think that they are strictly based on individual knowledge. However, some individual knowledge has a collective dimension that translates into skills and specific action logic of the company.<sup>8</sup>

This observation leads us to question the dimension and the private dimension of individual knowledge. We resume here the classification of knowledge of Michael Polanyi<sup>10</sup>. Starting from the fact that we can know more than we can say - "we can know more than we can tell" - he classifies knowledge in two categories: "explicit knowledge refers to the knowledge that can be expressed in the form of words, drawings, other "articulated" means, especially metaphors; the knowledge tacit knowledge is that which is difficult to express in any form of

language ." Thus, we will distinguish. On the one hand, explicit, articulated individual knowledge or formalized; on the other hand, the tacit individual knowledge, the knowledge of which the person is aware or not to own. As Philippe Baumard points out: "This is how the person can know more than can express or know more than she means, and the following figure explains more:

**Figure 03: Private dimension and collective dimension of individual knowledge**



**Source: by researcher.**

"Explicit individual knowledge" is expressed in the form of discourses, metaphors, analogies,

schematic representations; or materialize in the form of personal notes, recorded on loose sheets, notebooks, briefs, drafts of various documents, structured or otherwise, private computer files. "Tacit individual knowledge" is manifested in talents, skills, individual skills, beliefs and shared behaviors (traditions, community interests and practices, connivance, unique thought).

In action, the share of "individual knowledge", used and implemented on a daily basis, combined with knowledge of the company, characterizes the skills that enable a group of people to achieve complex and organization-specific tasks. This knowledge is all the more difficult to identify result from collective learning and are produced by a group of people who are experienced in working together

and to accomplish collective and specialized tasks. Not visible at the corporate level, but nevertheless used and implemented for the benefit of the company, this part of the "individual knowledge" between in the category of "know-how of the company". However, if the share of individual knowledge acquired through interaction with a group of people within the company has a collective dimension, in the extent that this individual knowledge is not formalized and disseminated, it retains private.<sup>9</sup>

The last observation concerns the formation of tacit knowledge. It is based on theories of Professor Shigehisa Tsuchiya concerning the creation of organizational knowledge. From his point of view, although the terms given, information and knowledge are often used indiscriminately, there is a clear distinction between these terms: "Although terms" datum ", " information ", and " knowledge "are often used interchangeably, there exists a clear distinction among them. When datum is sense-given through interpretative framework, it becomes information, and when information is sense-read through interpretative framework, it becomes knowledge. The diagram shown in Figure 3 shows our own interpretation of this view: the tacit knowledge that resides within our brain results from the sense that we give - through our interpretation schemes, the data that we perceive from information that is transmitted to us.<sup>10</sup>

In other words, we consider that knowledge only exists in the meeting of a subject with a given. This individual knowledge is tacit knowledge, explicit or not, and can be later transformed into collective knowledge because shared with others. The Professor Shigehisa Tsuchiya focuses on how organizational knowledge (knowledge collective), is created through dialogue. For there to be creation of organizational knowledge, essential to decision-making and action, it is necessary that the interpretative patterns of each member of the organization have a minimum of common representation which he calls "commensurability". We paraphrase here his thought: "The original source of organizational knowledge is the knowledge tacit individual members of the organization. However, organizational knowledge is not only the gathering of this individual knowledge. The knowledge of the people must be articulated, shared and legitimized before becoming an organizational knowledge. Individual knowledge is shared through dialogue. Since knowledge is mostly tacit, it must first be articulated and expressed in language in the general sense. Then, articulated individual knowledge, which is information for other people, needs to be communicated among members of the organization. It is important to distinguish clearly between information sharing and knowledge sharing<sup>11</sup>.

The information becomes knowledge only when it is understood by the interpretation scheme of the receiver which gives him a sense (sense-read). Any

inconsistent information with this pattern of interpretation is not perceived in most cases. Thus, the "commensurability" of the interpretation schemes of the members of organization is essential for the sharing of individual knowledge.<sup>12</sup>

## **CONCLUSION:**

In summary, it can be said that knowledge exists in the interaction between a person and a given. This individual knowledge is tacit. It may or may not be expressible. She becomes collective when she is shared with other people if the interpretative diagrams of each of them are commensurable, that is to say allow a minimum of interpretation of meaning, common to all members of the organization. Thus, we are led to think that knowledge is not objectively. This idea is seemingly contradictory to the idea of knowledge objectively carried by knowledge engineering which leads to techniques and methods of modeling and representation of knowledge. However for applications in this field of research, where knowledge is embodied as systems computer science, we can say that these achievements are coded projections of acquired knowledge, formalized and represented. These projections, which are by nature reductive, are only sources of information knowledge for the individual or the artifact capable of interpreting them.

## **RECOMMENDATION:**

We offer a set of recommendations that contribute to strengthening and supporting the role of knowledge management in institutions, including:

- Considerable importance should be given to the accumulation of human capital, since it is the most important asset of the institution;
- Must rely on training and training, periodic and modern;
- The need to rely on modern technology;
- Strengthening the relevance of the institution to its economic and social environment;
- Strengthening the work of participatory management and careful coordination of efforts;
- The need to form leaders and not just managers;
- Develop organizational communication in line with the objectives of the enterprise;
- Periodic performance measurement of the enterprise, and encourage feedback from employees;
- The administration is negotiated, not the official central administration;
- Give greater legitimacy to the administrative board at the expense of managers.

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