

KNOWLEDGE MANAGEMENT IN THE ORGANIZATION, ITS ROLE IN CAPITALIZING ON COMPETENCIES AND INNOVATION

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Abstract

The former CEO of Hewlett-Packard famously said, "If Hewlett-Packard had known then what we know now, we would have achieved three times our profits." Therefore, business organizations that want to create value from knowledge must first establish a scalable information system within the organization and make it common among individuals. This means creating organizational knowledge by opening communication channels between

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individuals to transform the beliefs and values they hold into spoken and expressed words that can be shared.

When an organization realizes it possesses knowledge, it becomes imperative for it to think about how to transform it into something valuable. The organization's ability to convert knowledge into value depends on the type of value it aims to achieve from its investment in knowledge. Thus, knowledge investment is realized by achieving value or some of it.

Keywords: Knowledge management, Organizational knowledge, Capitalization of competencies, Human capital, Intellectual capital, innovation

Jel Classification Codes: L25, M12, O32.

1. INTRODUCTION

Under the combined influence of information technologies and reconfigurations favoring the core business, the center of strategic concerns of organizations no longer simply relates to the materiality of the product & market pair.

From a logic centered on the production tool, we are gradually moving to a logic of valorization of Knowledge. More precisely, we are questioning the **market value** of individual intelligence in the service of longer-term interests. A true cultural rupture, the passage from one era to another will not be conceived without collective learning. Professionalization intended to validate what will probably be the current major competitiveness of the years to come: the "**capital of knowledge, skills and innovation.**»

Although since the 70s/80s there has been an effort to relay the latest managerial concepts, notably through the implementation of more advanced, more dynamic, more forward-looking **HRM** frameworks, few companies have yet concretely integrated the need for knowledge and skills management, as it is true that this subject is particularly complex to deal with.

This complexity is observed in particular through the limits of traditional management tools and methods which are gradually

becoming obsolete in the face of the new needs of the organization and its stakeholders.

This means that they have a more or less extensive knowledge base , capable of being transformed into action when the need arises... this is certainly the great challenge for our organizations in the years to come.

The content of this article responds precisely to this objective, in three points:

- 1) knowledge economy and management ; aspects and indexes
- 2) capitalization of skills and intellectual capital
- 3) Innovation and investment in cognitive resources.

1/- The knowledge economy aspects and indexes:

Like the industrial economy founded around 1820 at the time of the advent of large-scale industry, the knowledge economy develops as a discipline when knowledge-based economies are gradually being established, that is to say, economies in which the share of knowledge-intensive jobs has increased considerably, the economic weight of the information sectors has become decisive and the share of intangible capital has exceeded that of tangible capital in the real stock of capital. Knowledge-based economies are historically formed from a double phenomenon: on the one hand, a long-term trend, relating to the increase in resources devoted to the

production and transmission of knowledge (education, training, economic coordination), and on the other hand, a major technological event (*ICT*). The encounter between these two phenomena produces a unique economy, characterized by the significant decrease in the cost of codification, transmission and acquisition of knowledge. This results in a powerful increase in knowledge externalities as well as an increase in the growth of change (activities). devoted to innovation) in economic activity.

The use of the term "knowledge-based economy" also allows us to grasp a qualitative novelty in the organization and conduct of modern economic life, the determinants of the success of companies and national economies are more than ever dependent on the capacities to produce and use knowledge, if the knowledge-based economy cannot be reduced to high technology, the new sectors which have exerted a powerful driving effect for decades by pushing up the average growth rate of the entire economy are sectors characterized by a certain centrality of science and technology (pharmaceuticals and medical instrumentation, ICT, aeronautics, etc.).

Science and technology play an important role in the knowledge-based economy. While Nelson (1959) and Arrow (1962) are traditionally credited with the role of precursors of modern economic thought in the field of the economics of scientific

and technological knowledge, the first major modern authors of a general economics of knowledge are undoubtedly Simon, Hayek and Machlup - ⁽²⁾

Simon (1982) develops many themes of the knowledge economy, the role of memorization in learning processes and can be considered as the true precursor of the economy of information technologies - Hayek (1986) examines the problems posed by the dispersion of knowledge permitted by masses of individuals and by the impassibility of this knowledge to a central planning agency, the work of machlup is gigantic. Its dimensions are the consequence of an extremely broad conception of the knowledge economy, which includes in particular the information economy and therefore consequently the problem of decision theory. Defining information as a hundred certain types of knowledge, it is quite natural to integrate into the field of knowledge economy, not only the analysis of information sectors and industries, the examination of new knowledge production activities and the study of the mechanisms of acquisition and transfer of knowledge, but also the immense field of economic theory of choices and anticipations in situations of uncertain and incomplete information. Human decisions are at the heart of economic science and the presence of knowledge and information crucially determines the conditions in which decisions are taken. ⁽³⁾

A more restrictive conception of the knowledge economy will set aside the problems of economic choices in situations of incomplete and uncertain information to focus more specifically on knowledge as a cognitive capacity, which clearly distinguishes it from information... This conception was notably developed by Maunoury, who is essentially interested in the system of production and acquisition of knowledge, of which research and education are the two essential pillars, as well as the relationship between this system and economic knowledge.

Since Maunoury, the economy of knowledge in the strict sense has gradually expanded; today it should include not only the deliberate forms of production and acquisition, but also the vast domain of learning processes, which describe the increasingly numerous situations where knowledge is produced within the framework of the "regular" activities of production and use of goods and services... by extension, this economy of knowledge would therefore encompass competence, the capacity to learn (See figure N 1).

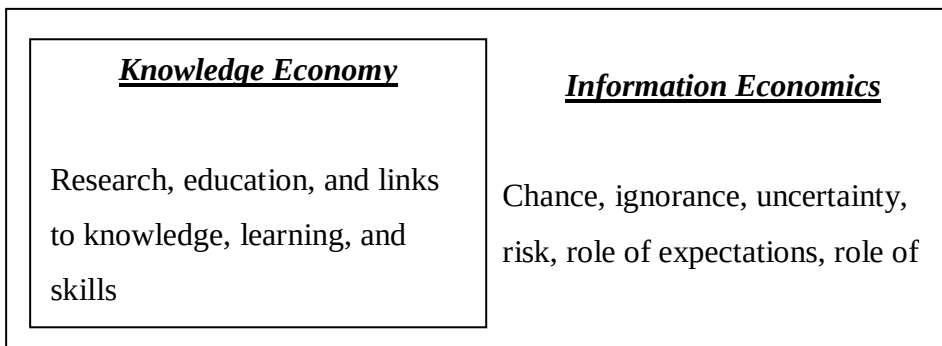


Figure No. 01 The knowledge economy

Added value of a product, a working methodology or a processor is invariably based on the creation of an accessible and transferable knowledge base, allowing the concrete implementation of best practices resulting from experimentation and then improving them. The issues related to the conservation and development of knowledge today go far beyond the framework of a simple collective or documentary memory. To be part of a logic of sustainable strategic development, we can write that knowledge (cc) on a field, a theme, a science is the capitalized sum of acquired knowledge (ca) on it, then its launch, enriched by successive experimentation (E) after deduction of obsolete knowledge (co).

In other words, knowledge on any field can be represented by the following formula, which is only the summation of knowledge acquired over time, enriched by experimentation and reducing knowledge that has become useless.

$$CC_t = \sum (C_{a,t-2} + E_{t-2}) (C_{a,t-1} + E_{t-1} - C_{o,t-2}) (C_t + E_t - C_{o,t-1})$$

CC_t : knowledge at time t.

Ca_t : knowledge acquired at time t (t-2, t -1)

And : Experiment carried out at time t (t-2, t -1)

Co_t : obsolete knowledge at time t (t-2, t-1)

Like a product, a service or a profession, knowledge therefore has a lifespan which is identified with its value produced according to a cycle which can be represented by five distinct phases (Figure No. 2)

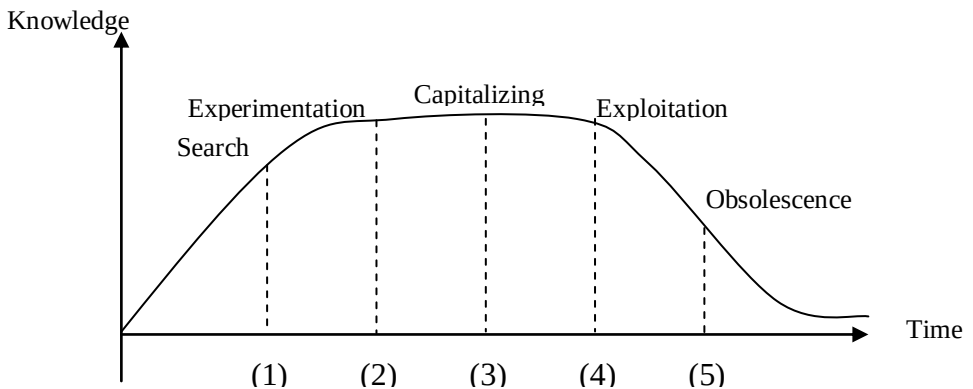


Figure (No. 2) Knowledge life cycle

Phase 1: is that of the search for knowledge, that is to say, suitability to a need.

Phase 2: is that of experimentation which is materialized by probity and validity tests.

Phase 3: is that of capitalizing on knowledge, proven by phase 2, knowledge is enriched to become operational and profitable.

Phase 4: is represented by its exploitation, its concrete implementation, its application to serve a need and the capitalization of experience for the purpose of either learning or transfer.

Phase 5: is the point of knowledge obsolescence which can be partial or total.

Knowledge is therefore of varied essence, it can be presented in multiple ways. From the formalism of writing to the tradition of oral communication, including learning, the valorization of knowledge has many different twists and turns. Nevertheless, the semantic distinctions between the different forms of knowledge (figure No. 3) should be able to be considered under a more pragmatic and operational representation in order to be easily declined.

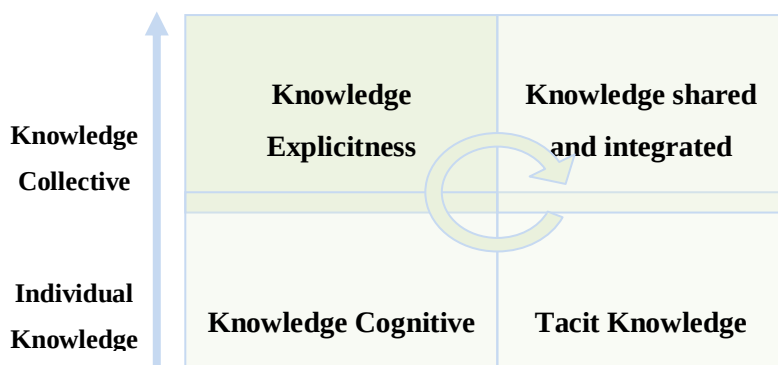


Figure (No. 3) temporality of knowledge

The implementation of a knowledge management project is not a matter of chance, it is built on the basis of a broad consensual reflection preceded by a collective awareness of the need to

conserve, preserve and enrich knowledge for each organization, and knowledge management is divided into two distinct parts:

- the way covers the internal or we identify:
 - Management of general knowledge more global in its content.
 - Operational knowledge management. Directly usable if formalized and disseminated properly.
- The second covers the external with:
 - * The collection of general information (Market, environment).
 - * The competitive monitoring and surveillance system.

As far as we are concerned, it is a fundamental strategic issue for each organization, then more broadly for society as a whole. It aims to perpetuate the future of the company by memorizing knowledge for the purposes of operational and cultural dissemination, within the framework of organized skills management while ensuring employability, so knowledge is at the service of skills and allows their activation in a given context.

2 /-Capitalizations of skills and intellectual capital:

Within increasingly complex structures, improving skills is becoming a fundamental element of overall performance, of the ability to master the complexity of flows and interactions, and is supplanting traditional work control structures.

Competence is an arrangement resulting from the combination of a multitude of knowledge, skills, experiences, experimentation of talents and aptitudes acquired over time by an individual and an organization..., it is composed of:

- General or specific knowledge.
- Opérationnel know-how.
- Of potential know-how.
- Of relational know-how.
- Cognitive skills.
- Know-how validated in a given context.
- Of skills and quality.
- Of diverse individual talents.....

This is in order to obtain a result (performance) that can be measured with sufficient reliability. More generally, competence could be defined by:

“A set of knowledge, skills and know-how put into action in a situation context for which there is or is not always prior experience in order to provide an appropriate response with a view to satisfying a measurable objective”.

The implementation of skills capitalization requires a radical change in management methods, moving from a Taylorist logic to a skills management logic (7)... the diagnosis of this source will consist of inventorying all existing tools in order to concretely measure their

effectiveness, their reliability and their possible integration into a more global skills management system through a scale of progress.

New economic conditions force individuals to collaborate more with each other and to pool a certain number of individual skills which are the subject of collective competence centers, Collective skills exceed the sum of individual skills "It is a combination of differentiated knowledge put into a situation in order to achieve a common objective" ⁽⁸⁾

Collective work is a complex and polysemic notion. These characteristics lead us to think that it is perhaps preferable to broaden this notion from the angle of coordination which implies more the sharing of collective activities and gives it a more global character, the following figure (**No. 4**) identifies nine conditions for the emergence of collective skills.

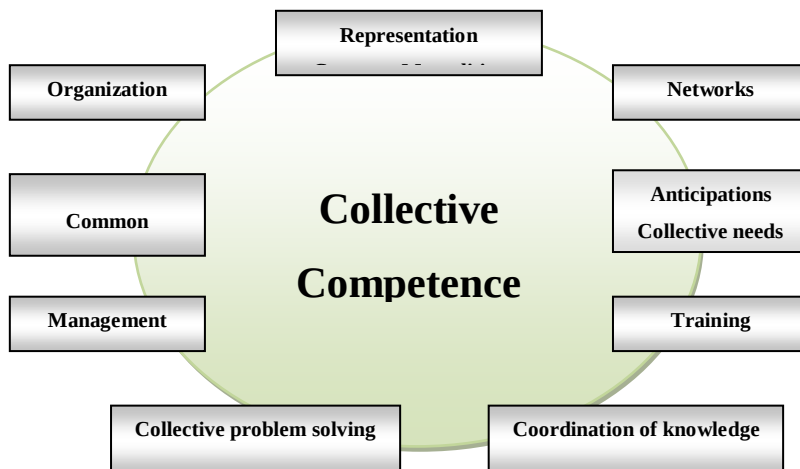


Figure (No. 4) condition for the emergence of collective skills ⁽⁹⁾

The capitalization of skills and innovation, whether strategic, prospective or capitalized, are two essential aspects of the activity of these professions, the practices and formalization of which differ significantly depending on the size of the structures.

Their implementation requires a strong culture of sharing, real management support, discipline from all stakeholders, an obligation to achieve results and an allocation of resources dedicated to this task. In fact, the capitalization of skills is the result of a strategic desire for collective, continuous, permanent and multidimensional work which results in the creation of added value specific to the structure and which finds its genesis in the valorization and generalization of the experimentation of each member of the organization.

In the post-industrial era, organizational success depends more on its ***intellectual strengths*** and the effectiveness of its systems than on its tangible assets. Managing intellectual capital and transforming it into useful products/services is becoming a key skill for organizational management, and there is now a keen interest in creativity, innovation, and learning organizations.

The true specialist or intellectual worker has a capital of knowledge, a discipline that requires constant updating. The intellectual capital of the organization is located on four different levels, which are presented here in order of increasing importance:

- Cognitive knowledge (what we have learned).
- Advanced skills (what we know how to apply).
- Systems competence (what we know about the connections between things).
- Autonomous creativity (what we aspire to).

The first three levels may also exist in the organization's systems, databases, or operational technologies, while the fourth is often found in its culture.

The activity of typical intellectual workers generally requires perfection rather than creativity, to satisfy the client, it is above all necessary to provide him with proven reliability an intellectual capital integrating the most advanced skills on the market. We certainly receive from time to time requests for creativity but the essential part of the work carried out by service providers with a high intellectual content boils down to the repeated application of advanced skills to problems which, despite their complexity, vary little from one case to another.

The organization's intellectual capital can also be improved by taking extraordinary measures in the areas of recruitment, training, and motivation, but more radical structures must be put in place to achieve convergence, concentration, and full exploitation of existing capabilities. Such systems have become the glue that holds together widely dispersed service centers and creates

leverage from the essential knowledge bases, intellectual skills, and experience gained from advanced service providers. They also have the advantage of closely linking the specialist to his company by providing him with databases, analytical models, and communication power that he would find difficult to find elsewhere. These tools allow the knowledge worker to perform beyond his personal limits.

3/- Innovation and investment in cognitive resources:

In an economy where only certainty and uncertainty are the only source of sustainable competitive advantage, when markets are volatile , technology is omnipresent, competition is multiple and products become obsolete overnight, successful companies are those that constantly create new knowledge , disseminate it widely throughout the structure and quickly integrate it into new technologies and new products. These behaviors characterize the knowledge- creating company whose sole activity is permanent *innovation* .⁽¹⁰⁾

And yet despite all the talk about the power of intelligence and intellectual capital, few managers have grasped the true nature of knowledge -creating organizations and innovation, let alone how it should be managed. The reason. Is that they misunderstand what

knowledge is and what these organizations must do to exploit it..., But there is another way of looking at cognitive resources and its role in the organization that is commonly found among the most successful Japanese competitors such as Honda, Canon, Matsushita, Sharp, Kao... These companies have become famous for their ability to react quickly to customer needs, create new markets, immediately develop new products and dominate emerging technologies. This secret of their success lies in their unique way of innovation and investment in cognitive resources.

⁽¹¹⁾ Innovation is not the prerogative of the research center or design office. It occurs at all levels of the organization, wherever resources must face problems, react to unforeseen events or succeed despite the breakdown of established procedures. The problem is that few companies know how to integrate the lessons of these local innovations and take advantage of them to improve their overall efficiency. ⁽¹²⁾ (Figure **No. 5**)

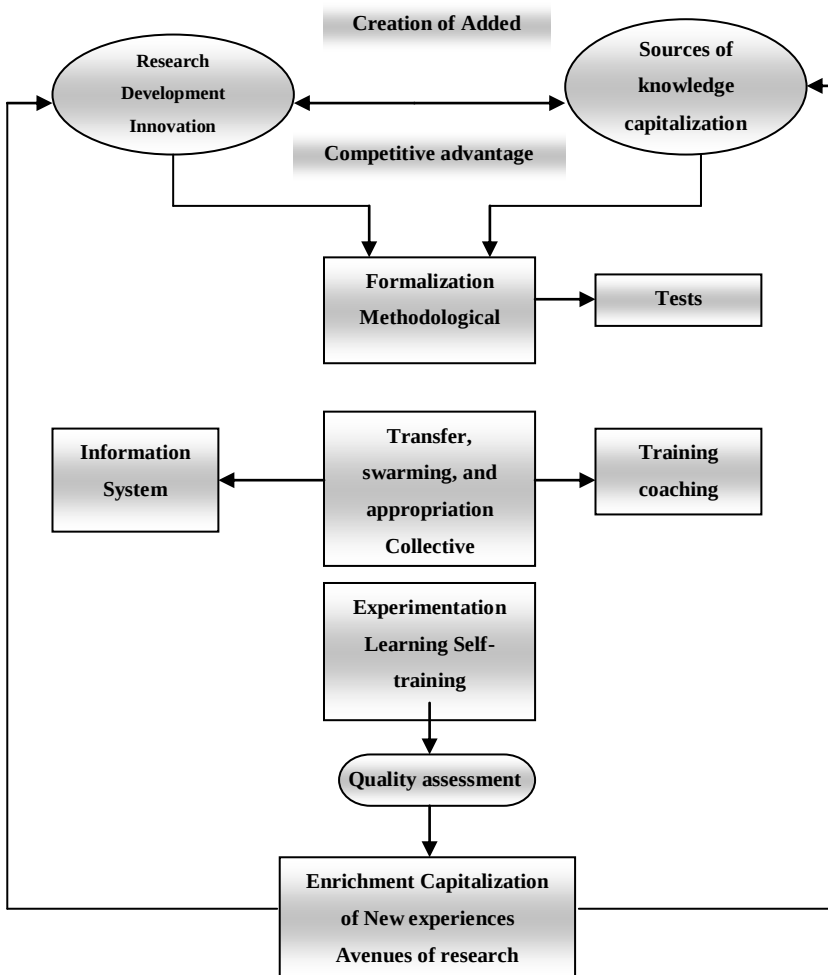


Figure No. 5 Innovation and capitalization of knowledge

There are mainly four forms of innovation.

- 1/- Emerging innovation.
- 2/- Prospective innovation.
- 3/- Strategic innovation.

4/- Capitalized innovation.

This form of innovation is practiced simultaneously (to varying degrees) by all categories of firms (Figure No. 6).

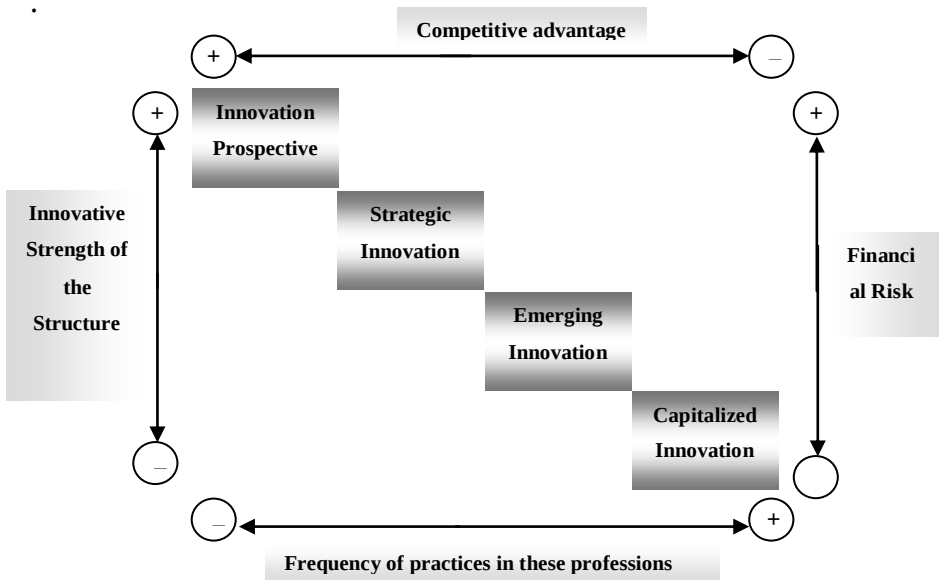


Figure No. 6: Forms of innovation

However, the increase in the size of the firm generates a vital need for methodological structuring, in addition to the fact that in these professions knowledge quickly becomes obsolete and it is eminently necessary to proceed with the resourcing of its capital of expertise to perpetuate its competitive advantages.

They are thus defined according to certain characteristics, and in particular (table No. 01)

- From their link, more or less direct with capitalization.
- Degree of customer participation (co -production).
- Difficulty in formalizing an innovative process.
- The degree of industrialization of the innovative service including:
 - Total and almost immediate industrialization.
 - Partial industrialization.
- On the speed of obsolescence of innovation.

Criteria	Emerging	Prospective	Strategic	capitalized
Link with capitalization	Amon "the practitioner simultaneously experiments to his performance »	Downstream "the practitioner, management or client anticipates"	Downstream "management anticipates, arbitrates or follows"	Transverse "the practitioner structures the collection and future use"
Co-production	strong	weak	weak	weak
Total and almost immediate reproducibility	weak	forte	forte	forte
Lifetime	short	long	long	long
Link to current service	simultaneous	A priori	A priori or a posteriori	In hindsight

Table No. 01: The matrix of forms characteristic of innovation

Innovate or fall behind, but it is difficult to meet this challenge, especially since innovation is born from the opposition and even the clash between ideas, analyses and ways of processing and evaluating cognitive resources. Moreover, this confrontation often requires the collaboration of actors who have profoundly different world views . As a result, conflicts of ideas that should be fruitful take place in a sterile way between individuals who seem incapable of understanding each other. The divergences degenerate into confrontations and creative work breaks down.

Conclusion:

If there is a new economy, it is therefore in the sense of the knowledge-based economy, which crystallizes this unique articulation between a long-term trend towards increasing resources devoted to the production and transmission of knowledge and the advent of a new technological system, an economy in which knowledge externalities are potentially powerful but where the costs of creative destruction are greater than ever.

In an economy that tertiaryizes these activities, the value of the organization is no longer simply represented by its tangible assets or its immediate results, but rather by the added value of its intellectual heritage, whether it is research, innovation, investment in cognitive resources, and mobilizable daily in the act of acting.

An unavoidable change, we are witnessing a real cultural rupture where the wealth of any organization will invariably rest on its ability to enhance its intangible capital and maintain its strategic skills.

Competence is the individual's taking of initiative and responsibility in professional situations with which he is confronted; competence is a practical understanding of situations which is based on acquired knowledge and transforms them with all the more force as the diversity of situations increases.

The management of collective skills, the mastery and transfer of knowledge within the framework of "**value management** " is a major strategic issue and will undoubtedly constitute one of the very first key factors for success in the coming decades.

- Organize the processing of information.
- Invest in cognitive resources.
- Promote the capitalization and dissemination of knowledge
- Capitalization of collective skills.
- Develop a culture of innovation and sharing.
- These are the major challenges that all organizations will have to face in order to adapt to an increasingly unpredictable and inherently completely unstable world.

Bibliography List :

- (1)  Witold kwasnicki , Knowledge innovation and economy And evolutionary exploration, P23, UK1996.
- (2)  Sandra Charrrire , Isabelle Huault , the great authors in management, P215, Ed, EMS 2002.
- (3)  Knowledge management and skills development, P3, N 3 - March 2004, UNIV Abou- bekr belkaid Tlemcen, Algeria.
- (4)  Dominique Foray , The Knowledge Economy, P8, Ed Casbah 2004.
- (5)  Jean-Yves buck , knowledge and skills management in practice, P 27, Ed d'organisation2003.
- (6)  Jean-Yves buck , loc cit p 85
- (7)  Bertrand Quélin , Jean-Luc Arregl , strategic management of skills , P56 , ellipses Ed, Paris 2000.
- (8)  Guy le boterf , building individual and collective skills, P 193, Ed d'organisation Paris 2000.
- (9)  Sandra bellier , skills in action, P167, Ed liaisons paris 2000.
- (10)  Stratégies d'innovation et changement en entreprise, P7, Numéro spécial -avril 2005, UNIV djillali liabes sidi bel-abbes, Algérie.
- (11)  ikujiro nonaka , the knowledge-creating company, p. 37, Harvard business review , Knowledge management 2000, Organization edition.

(12)  John suly brown , when research reinvents the company, p 201, Harvard business review , Knowledge management 2000, Organization edition p 201.