



# **Adding Value through Knowledge Management Tema 2003 – Christophe Sacy**



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## 1. Introduction

Today, a growing number of companies realize the real value of their Knowledge. Adding value through Knowledge Management becomes more and more common in the firms. *“Many companies are beginning to feel that the knowledge of their employees is their most valuable asset. They may be right, but few firms have actually begun to actively manage their knowledge assets on a broad scale. Knowledge management has thus far been addressed at either a philosophical or a technological level, with little pragmatic discussion on how knowledge can be managed and used more effectively on a daily basis. At this early stage of knowledge management in business, the most appropriate form of dialogue is not detailed tactics, but rather high-level principles. When an organization decides what principles it agrees upon with respect to knowledge management, it can then create detailed approaches and plans based upon the principles.”*<sup>1</sup>

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<sup>1</sup> <http://www.bus.utexas.edu/kman/kmprin.htm>

## 2. Conceptual module

### 2.1. What is knowledge?

**Knowledge:** *noun*, Etymology: Middle English *knowlege*, from *knowlechen* to acknowledge, irregular from *knownen*. Date: 14th century

**1 obsolete:** Cognizance

**2 a (1):** the fact or condition of knowing something with familiarity gained through experience or association (2): acquaintance with or understanding of a science, art, or technique

**b (1):** the fact or condition of being aware of something (2) : the range of one's information or understanding <answered to the best of my *knowledge*>

**c:** the circumstance or condition of apprehending truth or fact through reasoning : Cognition

**d:** the fact or condition of having information or of being learned <a man of unusual *knowledge*>

**3 archaic:** Sexual Intercourse

**4 a:** the sum of what is known: the body of truth, information, and principles acquired by mankind **b archaic:** a branch of learning

Synonyms: Knowledge, Learning, Erudition, Scholarship mean what is or can be known by an individual or by mankind. Knowledge applies to facts or ideas acquired by study, investigation, observation, or experience <rich in the *knowledge* of human nature>. Learning applies to knowledge acquired especially through formal, often advanced, schooling <a book that demonstrates vast *learning*>. Erudition strongly implies the acquiring of profound, recondite, or bookish learning <an *erudition* unusual even in a scholar>. Scholarship implies the possession of learning characteristic of the advanced scholar in a specialized field of study or investigation <a work of first-rate literary *scholarship*>.<sup>2</sup>

*“The key to a successful innovation process lies in the mobilisation and conversion of tacit knowledge. Two dimensions of knowledge creation:*

**Ontological:** *An organisation can not create knowledge without individuals. The organisation supports creative individuals or provides contexts for them to create knowledge in. Individual-Group-Organisation-Inter Organisation*

**Epistemological:** *Tacit and explicit knowledge, i.e.:*

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<sup>2</sup> Merriam Webster Dictionnary

*Tacit: Knowledge not easy to visualise and express. → Highly personal and hard to formalise.*

*Explicit: Can be expressed in words and numbers and can easily be communicated and shared in the form of hard data, e.g. scientific formulae codified procedures or universal principles.*

*Knowledge conversion: Tacit and Explicit knowledge interact and interchange into each other in the creative activities of human beings. Knowledge is created through social interaction of the two types of knowledge!<sup>3</sup>*

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<sup>3</sup> [http://www.viktoria.se/results/result\\_files/169.pdf](http://www.viktoria.se/results/result_files/169.pdf)

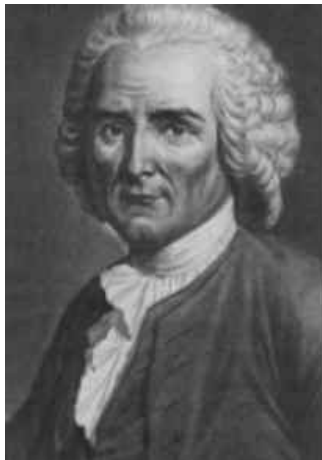
## 2.2. Point of view of a philosopher about knowledge

### 2.2.1. Jean-Jacques Rousseau

JEAN JACQUES ROUSSEAU (1712-1778)<sup>4</sup>

1712 June 12, born in Geneva to a watchmaker and the daughter of a minister who died after giving birth to him.

1722 His father is exiled from Geneva after a fight and moves to Lyons. Rousseau stays in Geneva in the charge of his mother's relations.



1728 Runs away from his apprenticeship and wanders about Italy France and Switzerland. Meets Madame de Warens after converting to Catholicism in Turin.

1731 Lives in Chambéry protected by the widow Madame de Warens.

1733 Madam de Warens becomes his mistress.

1741 Goes to Paris after discovering he neither likes teaching nor is very good at it.

1742 Unsuccessfully presents a new system of music to the Academy of Sciences. Becomes secretary to the ambassador to Venice, M. de Montaigu.

1743 Meets Therese le Vasseur who will become his mistress, bearing him five children, and whom he marries near the end of his life.

1745 Returns to Paris. Collaborates on the *Encyclopedia*.

1751 Publishes *Discourse on the Sciences and the Arts*.

1752 Production of his opera *the Village Soothsayer*.

1754 Returns to Geneva and abjures his abjuration of the Protestant religion.

1755 Publishes *Discourse on Inequality*.

1756 April moves back to Paris in a cottage at Montmorency. Writes *Heloise*.

1758 Publication of *Letter to d'Alembert* and final rupture in his relations with Diderot.

1761 Publication of *Heloise*.

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<sup>4</sup> Extract of his biography taken from <http://www.orst.edu/instruct/phl302/philosophers/rousseau.html>

1762 Publication of *Emile* and *The Social Contract* which forces him to leave France to avoid arrest. Lives briefly in Neuchatel.

1766 David Hume offers him asylum in England. Begins work on *Confessions*.

1770 Returns to live in Paris. Writes many of his most important works while in Paris over the next eight years including his *Dialogues* and *Reveries*.

1778 Moves to Ermenonville where he dies suddenly on July 2.

### **2.2.2. His view on knowledge**

We are now going to see some words said by Rousseau about his theory on education. Jean Jacques Rousseau is convinced that a child should learn the life himself with his own experiences with nature. He is opposed to strict education by parents and school teachers that will stop the child creativity and open-mindedness. The following part has been inspired by the analysis from G Lorraine Wylie.<sup>5</sup>

#### **2.2.2.1. The Educational Theory of Jean Jacques Rousseau <sup>6</sup>**

##### ***“Theory of Knowledge***

First, Rousseau considers that if the child is convinced by parents, teachers or books, he will teach him to believe much and learn little by himself. “*Knowledge constitutes the ability to reason and use our senses to learn; if we use books in place of nature and our senses it teaches us to believe much and know little*”. He thinks that “*The instruments of knowledge are our own body.*” and that “*Education should be rooted in man's moral nature.*” He encourages people to experience life himself. “*Educate to be a man, not one profession; he will be able to do whatever is needed in any situation*” Also, he denounces “*a lie: ... in society man cherishes as virtues what are really vices, i.e. the lie of politeness*”

##### ***Theory of Value***

Rousseau thinks that: “*The sciences and the arts, while brilliant, are not a genuine expression of fundamental human needs but the result of pride and vanity.*” Also, “*Man's fundamental first duty is to learn the art of living; man's first duty is to be human*” He encourages people to “*keep harmful influences away from the young child; a child should grow in accordance with his own nature; no early childhood education*”. About education, he says that “*Goals of education recognizes a progressive education that respects that the child has his own special needs as a being who exists in his own right*” and state that education is a

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<sup>5</sup> <http://www.newfoundations.com/GALLERY/>

<sup>6</sup> Analyst: G Lorraine Wylie

long process that should be speeded: *“Children should be children before being men”*. According to Rousseau, *“Well regulated freedom provides the only valid basis and aim of sound education”*, and *“Necessity is captible with controlled freedom since it lets the human being exercise his powers within the limits prescribed for him by nature”*. To sum up his view on education *“Object of education is to make a man, not a soldier, priest etc; improvement of inner self as worth as an end to itself”*.

### ***Theory of Human Nature***

About human nature, Rousseau says that *“Human nature is sacrificed by the demands of the focus on the development of an intellectual culture”* and that *“Human Nature is in constant conflict with expectations of society”*. He also talks about the ingredients of the human nature: *“Virtue confers stability and unity upon the human existence because it subordinates the idle speculation to the active needs of the moral life; it induces strength and vigour to the soul; allows for full expression of man's genius; existence is solid and permanent.”* He will always insist on the fact that the society corrupts the men: *“The original nature of man is good but corrupted by society”*.

Jean Jacques Rousseau also talk about how the human being should learn by being himself: *“To be good is to exist according to ones intrinsic potentiality of one's nature”* or *“Man's egotistic nature prevents him from regaining the simplicity of original human nature”* or again *“Self love is always good in its purest state and spontaneous; it expresses the real essence of human existence”* and *“Self love serves as a source of all genuinely natural impulses and emotions; from instinctively displayed in self preservation to a nobler expression when combined with reason”*.

Rousseau also talks about feelings: *“All passions are good if they are under our control; all are bad if they control us”* Rousseau keeps on positioning human attitudes according to the others and the society: *“Man's nature is not fully mature until it becomes social”* or *“Natural man in the state of nature is predominately an instinctive primitive creature living on the spontaneous expression of his innate vitality; man in the social state is a rational, moral being aware of obligations to other people, cafted upon to subordinate the impulse of goodness to the demands of virtue -- a moral and relative existence”*

Rousseau says human *“Cannot separate morality and politics”*, and that a *«Rational man always has an awareness of common good and the need to live in harmonious relationship with his fellow man”*. And he keeps on coming back to *“Natural order affects all aspects of human existence; brings individual into contact with his own inner self, physical environment and his fellow man.”*

And finally Rousseau conclude on a optimistic point of view: *“Man's ultimate feeling of satisfaction is to feel himself at one with a God created system in which all is good; goal of human endeavour is happiness”*

### ***Theory of Learning***

Rousseau stresses the importance of a progressive education adapted to the individuals developing needs so to follow *“the natural progress of the human heart.”* He supports a progressive way of teaching, step by step: *“Starts from a fundamental principle (man's natural goodness) derived initially from personal intuition and is verifiable by observation”*

*and psychological analysis". As said earlier, Rousseau encourages children to learn by themselves "Early education is based primarily on the senses; promotes direct contact with the physical world; no book learning for early education" through experiences: "Learning is done through trial and error, experimentation through concrete medium" The only book he suggests confirm his taught: "Only book allowed a child was Robinson Crusoe because it describes a man's reliance on his own ingenuity and resourcefulness."*

*"No judgement on accomplishments; the child is happy as he is unaware of capacity and desire, power and will, and artificial needs ("happy savage")"*

Rousseau recognizes the need for the child to be prepared for the future. Within the child is a reservoir of potential energy they don't need immediately; the educators task is to hold back the energy until it can be used effectively. *"After lessons of necessity, lessons of utility are to be learned to develop reason to be applied to what interests and helps him" or "Early judgments must be formed not through words or abstractions but through sensations and feelings. A positive education begins only when the child becomes aware of his relationships with other people based on sensibility, particularly the innate feeling of pity, and later love and aversion"*

*"Through the source of our passions we are impelled \*beyond ourselves" and extend our being"*

Only after accomplishing all the steps, human can be confronted to the "real" society. *"Primitive stage complete, move onto involving ourselves in relations with the physical realm of nature and the world of human beings"*

### ***Theory of Transmission***

When Rousseau wanted to become a teacher, he had his own view on how they should teach: *"Teachers will teach outside of society in the realm of nature" or "Students are provided with concrete materials, objects and situations for learning to take place" or also "To teach a child you must understand him"*

### ***Theory of Society***

Jean Jacques Rousseau wrote a lot on his view on society: Here are few words extracted from his writings.

*"European civilization sacrificed the moral demands of human nature by artificial needs due to the allure of a purely intellectual culture"*

*"Artificial Uniformity of Behaviour causes man to ignore 'the duties of man and the needs of nature" so that appearance and reality are at constant variance in social life"*

*"Rapid growth of luxury and idleness serves to increase corruption of the contemporary situation; thus genuine human relationships become weaker"*

*"Society opposes virtue (what is morally right); society forces man to assume hypocrisy and deceit as a means of selfish interests"*

*“Society displays a prevalence of an unnatural inequality based on power and wealth”*

*“Inequality represents a fall from happiness in a primitive state into misery of man in the present state as a political being (this lacks support of facts)”*

*“Inequality was made permanent through the institution of laws and political organization”*

Rousseau felt that the small republics, while still far from nature, could retain simplicity and innocence and protect themselves from further corruption. *“He viewed the theatre as an evil product of society; artificial entertainment; product of idleness, vanity and fomenter of dangerous passions and emotion; incapable of directing man to moral activities. Something which makes woman immoral and reduces man to a condition of dependence”*

*“Amusements best suited to man's true nature are those that derive from man's work, relationships and needs; must be an integral part of man's daily life; different from work but inspired by the same spirit; used their own resources for entertainment”*

*“Appropriate entertainment - joyous public entertainment that takes place "beneath the sky" and in the presence of fellow citizens; inspires the whole community with feelings that are both social and human”*

*“Self love: the natural order of who a man really is has been changed by society to a sense of pride which is an artificial reaction in an anxious reflection which makes man to be forever comparing himself with others and even finding his sole pleasure in their misfortune or inferiority. Through pride, he is taken outside himself into the realm of illusion and opinion; prevents him from becoming a complete person”*

*“A True Society - men are truly citizens; their individual self is sublimated to a communal/public person so that they reflex(ively) identify themselves with society as a whole; accepts it's self interest as their own and only self interest; the general will becomes the real will of all; expressed in law”*

To conclude, Rousseau stays vague on the way human should adapt to society: *“Man must be educated for society but not necessarily in its present form”*

### ***Theory of Opportunity***

Rousseau is a kind of male chauvinist from his time: *“Education of girls similar to boys in regard to naturalness but different because of gender”* and *“A girl cannot be educated to be a man. Studies must be on the practical side because a woman should be the center of the family, a housewife, and mother; should strive to please her husband and have a good reputation”*

### ***Theory of Consensus***

*Rousseau should have made some politics. “Man disagrees because of wants, avidity, oppression, desires, and pride”* or *“Legitimate authority: each man giving himself to all, gives himself to nobody; allows security and natural freedom”* or *“Rule by the general will; expressed in laws to which all submit; represents the public spirit seeking the common good;”*

*assumes that everyone's true interests must coincide” or “Total sovereignty of the state guided by the general will.”*

*<http://www.newfoundations.com/GALLERY/>*

### 2.2.3. Comparison with other philosopher's view

#### 2.2.3.1. Educational Technology: Theory and People

Educational Technology is the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning.<sup>7</sup>

“The field is essentially a 20th century movement with the major developments occurring during and immediately after World War II. What began with an emphasis on audiovisual communications media gradually became focused on the systematic development of teaching and learning procedures which were based in behavioural psychology. Currently, major contributing fields are cognitive psychology, social psychology, psychometrics, perception psychology, and management. The basic history of the field was written by Saettler.

Most educational technologists carry out one or a few of the functions performed in the field. For example, some design instruction, some produce instructional materials, and others manage instructional computing services or learning resources collections.

The Sophists, 500 BC, were learned Greek men that have been described as the first instructional technologists. The Socratic method of inquiry was developed by Socrates in 470 BC.

In 1658, Comenius published *The World of Pictures*. He taught that education began in the earliest days of childhood and continued through life.

*Emile* was a novel written by Rousseau in 1762. This book espoused Rousseau's theory that education is not the imparting of knowledge, but the drawing out of what is already in the child. Johann Heinrich Pestalozzi (1746) was a Swiss educational reformer, whose theories laid the groundwork for modern elementary education. He first introduced the idea that instruction should be broken into its simplest parts. In 1776, Herbart introduced systematic psychology. He believed that educational methods and systems should be based on psychology to furnish knowledge of the mind and ethics to help determine the social ends of education.

Humanistic Education was developed by Giambattista Vico during the 1800s. In 1849, Pavlov developed his theory of conditioned response. His fame stems from his use of animals as subjects in the field of psychology. Boolean algebra was developed by Boole. It is defined as the study of the manipulation of symbols representing operations according to the rules of logic. Thorndike, 1874, is often recognized as the patriarch of educational psychology as well as an influential figure in Behaviorism. John Dewey suggested the notion that education is life in 1896. He explained that the experiences of learners within their environments become the

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<sup>7</sup> <http://www.coe.unco.edu/DonnaFerguson/ETHistory>

materials out of which they make meanings and upon which they base goals and actions. His contribution to technology was probably his conception of instruction.

John Watson originated the school of psychology known as Behaviorism in 1913. In this theory, behavior is described in terms of physiological responses to stimuli. Bobbitt developed objectives in 1918. During the 1920s, Jean Piaget researched developmental psychology in order to further understand the way knowledge progressed. The main philosophy of Cognitivism and Constructivism is generally credited to him.

Lev Vygotsky, a Russian psychologist and philosopher in the 1930s, is most often associated with the social constructivist theory. During the same time, B. F. Skinner developed the basic concept of operant conditioning. The communication movement began to influence the theories and practices of educational technology in the 1950s. In the 1960s, Skinner started working towards developing a teaching machine and programmed instruction. In 1956, Bruner suggested that learning is an active process in which learners construct new ideas or concepts based on their current and/or past knowledge. Riley and Riley brought forth Communication Theory. During 1960, Bandura published *What Television Violence Can Do to Your Child* and Bruner proposed spiralled curriculum. Robert Glaser (1962) was one of the earliest authors to discuss instructional systems development. Finn first defined Instructional Technology in 1963.

The same year, Bandura set forth Social Learning. This theory is related to behaviorism and social theories. In 1965, Robert Gagne proposed the conditions of learning and identified the nine events of instruction. Skinner wrote *The Technology of Learning* in 1968. The 1970s saw the introduction of systems inquiry by Banathy and Heinich introduced his ASSURE model, a method of lesson planning that integrates media and technology. In 1976, George Miller provided the idea of chunking that is fundamental to Cognitive psychology and the information processing framework. Scandura proposed Structural Learning Theory in 1977. This theory assumes that working memory holds both rules and data. That same year, Bloom began formulating his educational objectives, both affective and psychomotor.

Carl Rogers (1980s) distinguished two types of learning: cognitive (academic knowledge such as psychology or multiplication tables) and experiential (applied knowledge such as learning about engines in order to repair a car). During the 1980s, Weiner proposed the Attribution Theory which attempts to explain how people determine causes of actions. In 1983, Charles Reigeluth proposed the Elaboration Theory. According to this theory, instruction should be organized in increasing order of complexity for optimal learning. At the same time, Keller introduced Motivation Theory or his ARCS model. Robert Gagne was influential in the Information Processing movement in 1985 and Cognitivism in 1987.

John Seely Brown first introduced Cognitive Apprenticeships in 1989. This is a method of teaching aimed primarily at teaching the processes that experts use to handle complex tasks. John Bransford and the Cognition & Technology Group at Vanderbilt proposed anchored instruction. It is a major paradigm for technology-based learning. In 1991, Jean Lave argued that learning occurs as a function of the activity, context, and culture in which it occurs. She proposed this as Situated Learning. It was during that same year, Merrill et al. set forth Component Display Theory specifies that instruction is more effective when

course structures, learner control and instructional transactions are incorporated. In 1995, Everett Rogers published Diffusion of Innovations.”<sup>8</sup>

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<sup>8</sup> <http://www.coe.unco.edu/DonnaFerguson/ETHistory>

### **2.3. Knowledge management in a firm**

“Knowledge management runs counter to the direction of society; we prefer television to books, intuition to research, pragmatists to theorists. The serious pursuit of knowledge in organizations will be challenged by an anti-intellectual orientation in the U.S. that has been present since the days of the frontier.

But now the new frontier is in our minds. As free natural resources and cheap labour are exhausted, the last untapped source of commercial advantage is the knowledge of people in organizations. It is very early days for knowledge management, and even the principles and rules of thumb described above will engender considerable disagreement. The good news is that almost anything that a firm does in managing knowledge will be a step forward.”<sup>9</sup>

Now, let's take the example of a firm that has been involved in Knowledge Management and has had a good experience with its use: Ernst & Young.

#### **2.3.1. Knowledge management in Ernst & Young**

Ernst & Young has been one of the pioneers on the Knowledge Management industry. They have been one of the first “big firms” to invest massively in Knowledge Management programs. Their investment has paid: For the fourth time on a row, Ernst & Young received the "Most Admired Knowledge Enterprise" (MAKE) award.

In 2001, Cap Gemini merged with Ernst & Young. Cap Gemini Ernst & Young is one of the largest management and IT consulting firms in the world. The company offers management and IT consulting services, systems integration, and technology development, design and outsourcing capabilities on a global scale to help businesses continue to implement growth strategies and leverage technology in the new economy. The organization employs about 57,000 people worldwide and reports global revenues of about 8.5 billion euros.

##### **2.3.1.1. Introduction**

Ernst & Young, one of the world's largest professional services firms, was formed with the merger of Arthur Young and Ernst & Whinney in 1989. Like other "Big Six" firms, Ernst & Young (E&Y) offered a variety of services to clients, the most important of which were audit, tax, and management consulting. In 1993 Roger Nelson, Managing Partner of E&Y's United States management consulting practice, announced a new strategic plan for consulting that was designed to propel the firm into the forefront of the consulting industry. Called "Future State '97 (FS'97)," the name of the plan referred to the future vision of E&Y's consulting processes, and the date by which the vision was to be achieved. The plan envisioned \$1 billion in 1997 revenues (roughly doubling the 1993 figure) and described operational visions in five key processes: sales, service, delivery, people, and knowledge.

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<sup>9</sup> <http://www.bus.utexas.edu/kman/kmprin.htm>

*“The emphasis on knowledge processes was new to E&Y. Some of the knowledge process goals in Future State '97 included capturing and leveraging knowledge from consulting engagements, having every consultant contribute to the firm's stock of knowledge, and becoming known by clients as a valued source of knowledge and thought leadership. Another key aspect of the strategy was to use knowledge to speed up the process of providing consulting solutions for clients. By 1995 the strategy had been formalized into an approach called the Accelerated Solutions Environment, which involved the rapid application of E&Y knowledge, models, and approaches to client situations in facilitated large group settings.*

*The strategy also led to the creation of several different knowledge-oriented organizations within the consulting practice, each of which had existed in some form before. In 1990 E&Y had created a center in Boston to perform early-stage research into issues of technology and management. Originally called the Center for Information Technology and Strategy, it became the Center for Business Innovation under FS '97. The Center had worked on such issues as business process reengineering, organizational change management, and knowledge management, and had helped to establish E&Y's reputation for thought leadership. The Center for Business Technology, based in Dallas, had for several years developed methodologies and automated tools to support consulting engagements. It maintained, for example, the firm's Navigator methodology for system development, and supported its Fusion methods for integrating technology and business change. Finally, the Center for Business Knowledge had its origin in the firm's Management Consulting Information Center in Cleveland, which served as a library for consulting methods and techniques as well as engagement documents. The idea behind the three centers was that the Center for Business Innovation would create new knowledge, the Center for Business Technology would structure knowledge into methods and automated tools, and the Center for Business Knowledge would gather and store both the firm's acquired knowledge and external knowledge and information.*

*Several new positions and oversight committees were also created as an outgrowth of FS '97. John Peetz, who had previously led the firm's Western Region Performance Improvement Consulting Practice, became the firm's first Chief Knowledge Officer. The role involved overseeing the processes and technologies of the firm that related to knowledge. He and the directors of the three centers were advised by a Knowledge Process Committee consisting of senior consulting partners from around the U.S. practice. The Committee's role was to recommend both topics on which knowledge was necessary and means by which knowledge could be integrated into E&Y's consulting practice. The U.S. E&Y firm also set up a Knowledge Committee to address knowledge management issues that cut across consulting, audit, and tax, and shortly thereafter a Global Knowledge Committee was established to address issues in the entire E&Y organization worldwide. John Peetz served as the head of both committees. In addition, E&Y hired a new Director for the Center for Business Knowledge. Ralph Poole had previously been head of Bain and Company's Experience Center, which had several similar functions to E&Y's Center.*

*At roughly this same time, the Center for Business Innovation was beginning substantial research into knowledge management topics. Together with the Strategic Issues Forum, Center researchers held three conferences on knowledge management, all of which were well-attended. The Center also organized a multi-client research program, called Managing the Knowledge of the Organization, in which 15 companies explored topics of mutual interest around knowledge and learning. It was hoped that the Center's research*

would provide insights that could be applied both to E&Y client engagements and to internal knowledge management activities.

*At the same time, E&Y was also organizing a consulting practice around knowledge management. About 20 consultants were identified who had either expertise or strong interest in knowledge management issues, and a "Knowledge Management Network" was formed. Several client engagements were secured in which knowledge management played a key role. Most members of the network felt that it was very helpful in client work to be able to learn from (and refer clients to) work done to manage knowledge internally."*

### **2.3.1.2. Activities of the Center for Business Knowledge**

*"With Ralph Poole's arrival, the Center for Business Knowledge (CBK) quickly expanded its functions and became critical to E&Y knowledge strategy and tactics. By the end of 1996 the CBK would have more than 100 professionals. It included a library, a call center for answering consultant requests, and a database of consultant skills. The CBK spent considerable time identifying and tracking subject matter experts, and ensuring that they were present in sufficient number on industry and client teams.*

*CBK managers also had responsibility for organizing a set of knowledge networks within the consulting practice. A network was organized for each key domain of knowledge within the consulting practice. There were 22 networks in the U.S. practice. Some were based on industries, e.g., energy; some involved particular consulting approaches, e.g., business process reengineering, and some involved key areas of technology in which the firm consulted, e.g., the SAP package. Some regions also had "knowledge focus groups" on narrower topics such as activity-based costing or shared corporate services. Each network met occasionally face-to-face, and had an online discussion and document database in Lotus Notes. Keys to the success of the networks were a group of facilitators. Each network was assigned half a person to capture the knowledge from particular engagements, to prompt consultants to add their own learning, and to edit and prune the discussion and document databases. The consultants who performed these roles had expertise in the domains of the networks they facilitated; they rotated into the knowledge facilitator positions and then back into line consulting positions.*

*The CBK was also responsible for a database of the skills possessed by E&Y consultants. The firm had long employed such a database to aid in assigning consultants to projects. However, keeping the skill categories updated and relevant to the current consulting environment had always proven difficult. However, the CBK and the Knowledge Process Committee were working on a new model for evaluating and describing competencies. Instead of consultants evaluating themselves, their competencies will be assessed by their supervisors. The competencies will be entered into a new information system from PeopleSoft. Combinations of competencies will also be assessed at the engagement team level to ensure that each client team has the requisite skills to succeed.*

*Another key task of the CBK was developing a knowledge architecture and taxonomy. The purpose of this architecture was to focus knowledge acquisition and retrieval efforts. In the beginning of E&Y's knowledge management efforts, the philosophy was to "let 1000 flowers bloom." As the initiatives matured, however, it was important to focus knowledge*

*management in specific domains. The knowledge architecture would specify the categories and terms in which E&Y needed to gather and store knowledge. The architecture would also be used by consultants and knowledge facilitators in searching databases and document files. Key areas of E&Y knowledge would be represented in "Power Packs," a structured and filtered set of online materials including qualifications, sales presentations, proposal templates, and answers to frequently-encountered issues. Some knowledge domains would remain relatively unmanaged, and any E&Y personnel could contribute anything they wished to them."*

### **2.3.1.3. Technology Platforms for Knowledge Management**

“E&Y knowledge managers believed that knowledge primarily resided in people, not technology. However, the scope and geographical distribution of the E&Y knowledge base and its users meant that technology had to be used as an enabler wherever possible. Lotus Notes had been selected as the primary technological platform for capturing and disseminating internal knowledge. By early 1996 there were already 2000 different Notes databases, most of which were discussions in networks and focus groups. The CBK maintained a Notes database of key documents; by 1996 it was being accessed over 16,000 times a month. Notes would continue to be the preferred internal platform in the short run, but E&Y technologists at the Center for Business Technology were exploring the possibility of using Web-based technologies for knowledge management in the future, and they were already the primary tool for external knowledge searches.

As with the knowledge architecture, E&Y had allowed multiple technologies to proliferate in the early days of knowledge management. There were between 200 and 300 local applications and databases. Now, however, the firm wanted consultants to focus on content rather than applications. Approximately 12 to 15 applications would eventually support knowledge management, including Notes, the Web, the skill database, and a few others.

E&Y had also made major investments in technology infrastructure that were not undertaken only for purposes of knowledge management, but certainly benefited that cause. Altogether, E&Y was spending 6% of its consulting practice revenues on knowledge management and technology. A key goal was commonality of hardware and software. E&Y had abandoned its support for Apple Macintosh computers and moved to an all-PC standard in 1995. It adopted common operating system, word processing, spreadsheet, and e-mail software at the same time. These standards meant that programs and documents could be exchanged easily around the firm.

With the extension of the common technology platform around the entire U.S. practice, a key focus was putting knowledge, models, tools and techniques into the Accelerated Solutions Environment. Substantial progress had already been made on the ASE; many industry and business process models for data and activity flows had been put into a form that ASE-oriented engagements could employ. The ASE was how E&Y consultants would deliver many of their services in the future, and had already been used on several client engagements. In one situation, two banks had merged and had to decide what information systems would be used in the combined bank. A fact base and approaches for using it were put into the ASE automated toolkit, and used in a 3 day event with the client. A more

traditional approach might have required several months. E&Y knowledge managers expected that the ASE would become the primary vehicle for the application of knowledge to client work. The Center for Business Technology was constructing the ASE technology environment, while the Center for Business Knowledge developed the knowledge objects, frameworks, and techniques used in it.”

### 2.3.1.4.Challenges to Knowledge Management

While substantial progress had been made in E&Y's approaches to knowledge management, significant challenges remained. Embedding knowledge in technology was an ongoing issue, with the technology options changing rapidly and the support requirements growing with increased use. It was particularly difficult to use technology to support some types of consulting knowledge—e.g., building relationships with senior client executives—which were tacit in nature and difficult to extract from the minds of practitioners.

There were also issues remaining in terms of the culture for knowledge management and use. Senior management support for knowledge as a key competitive advantage was high, and high levels of resources were being directed at knowledge management. In terms of E&Y consulting practitioners, the buy-in to knowledge management had been good in general, but there were still weak spots. The E&Y consulting culture was traditionally based on pragmatism and experience rather than a conceptual orientation; while the culture was changing, there were many consultants who had entered the firm and prospered under the old model and found it difficult to aggressively pursue structured knowledge in systems and documents. The old culture had also placed a strong emphasis on highly structured methodologies, and the new approach was to provide more background knowledge to allow consultants to improvise an approach to suit the particular client situation. This was also a difficult adaptation for less conceptually-oriented consultants. One key question among E&Y knowledge managers, then, was how rapidly to proceed in trying to change the receptiveness to a strong knowledge orientation. One key means for changing the culture was embedding knowledge orientation into the firm's performance evaluation process; consultants were now evaluated in part on their contributions to and use of knowledge.

Another challenge at E&Y, as in virtually all organizations adopting knowledge management, was assessing its progress and whether the resources devoted to it were justified. The CBK in particular had made numerous attempts to measure its own effectiveness and that of knowledge management in general. It assessed, for example, the number of telephone and computer-based requests for its services, and tried to track sales or engagement wins in which knowledge use had been a critical factor. For each of the firm's knowledge networks Ralph Poole, the CBK director, created a "dashboard" assessing such topics as value delivered, reusable content created, thought leadership, presence of subject matter expertise, and a good networking environment. Still, Poole and other E&Y knowledge managers felt that it was impossible to fully justify knowledge management investments and that some level of faith was required. In early 1996 the level of faith was quite high, and there was much anecdotal evidence of knowledge impact. The perception that knowledge management led to increased performance was undoubtedly aided by E&Y's recent performance; the U.S. consulting practice's revenues in 1995 were up by 44%, which surpassed both the FS'97 targets and all other "Big Six" consulting practices in the U.S.

Knowledge management had apparently been successful in consulting, and the next task was to extend it into other E&Y practices and geographies. Progress was being made in both areas. The CBK was beginning to support the U.S. audit and tax practices, particularly in sales efforts. The cultural issues around knowledge use were perhaps even greater in these practices than in consulting, but the need for change was high. The audit practice in particular had recently redesigned its processes to place a much greater emphasis on industry and company knowledge.

“The implementation of knowledge management was also taking place on a broader geographical basis. Chief Knowledge Officer positions had been established in Canada and Europe, and smaller versions of the CBK were also being set up in both places. The Global Knowledge Committee was discussing what knowledge domains could be shared geographically. Of course, each geographical region and country had its own set of cultural, organizational, and technical issues to be addressed in terms of knowledge management.

While John Peetz, Ralph Poole, and the growing number of E&Y knowledge managers were pleased with the firm’s progress thus far, they felt that they were still in the early stages of their efforts. The only thing of which they were certain was that there would still be many changes and challenges that they would have to face in the future.<sup>10</sup>

If Ernst & Young succeed in most of these Challenges, we could say that knowledge, know-how from Ernst & Young is stored, organized, and used in order to improve the company’s financial result.”<sup>11</sup>

### **2.3.1.5. With the merger, CGE&Y became a real pioneer on Knowledge Management**

Cap Gemini Ernst & Young Introduces New Knowledge Management: Offering, n-Portal, Based on Microsoft’s Solution for Intranets; Customized portal enables collaboration and knowledge sharing within corporate intranets to help lower costs and increase productivity.

Cap Gemini Ernst & Young today introduced n-Portal, a knowledge management solution based on Microsoft’s Solution for Intranets (MSI) that enables comprehensive knowledge sharing across corporate intranets. Using n-Portal, companies can provide employees with rapid access to information through enhanced document searching and management capabilities; improve corporate communication and online training capabilities through streaming video; and enable easy, web-based team collaboration on documents. Cap Gemini Ernst & Young’s accelerated development process delivers the customized n-Portal solution that helps companies lower costs and increase productivity.

As businesses struggle to find better, more efficient ways to share information, n-Portal connects people, applications and information, enabling aggregation and blending of data across the enterprise. The solution is designed to work with common applications such as those offered in Microsoft Office XP and Microsoft Internet Explorer.

“n-Portal delivers unparalleled communication benefits to companies,” noted Deanne Hendron, global alliance leader for Microsoft at Cap Gemini Ernst & Young. “Our customized approach enables a company to significantly increase the efficiency of its knowledge sharing capabilities which translates into solid cost savings and ultimately, increased profitability.”

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<sup>10</sup> <http://www.bus.utexas.edu/kman/E&Y.htm>

<sup>11</sup> <http://www.cgey.com>

A unique benefit of n-Portal is its connection to Microsoft Windows Media Technologies, which allows recorded or live events to be streamed directly to employees' desktops and viewed real-time or at a later date on-demand. By using n-Portal's customization features, the broadcasts can become interactive by including chat, polling and/or quiz functions, and can also be synchronized with PowerPoint and other audio/video components for online learning scenarios.

"n-Portal offers users the best of both worlds," notes Jeff Teper, general manager of the Portal Business Group. "The combination of Microsoft's Solution for Intranets with the systems integration expertise and portal knowledge management experience of Cap Gemini Ernst & Young, yields a solution that can be customized to not only meet, but exceed the expectations of any organization."

The n-Portal solution is offered across a variety of industries including manufacturing, chemicals, defence, energy & utilities and consumer products with other industry solutions to follow.<sup>12</sup>

### **2.3.1.6. Conclusion**

To sum up, we have seen that Ernst & Young managers and specially knowledge managers had and will have an important concern about knowledge management. They have tried to create an evaluation as precise as possible of the intellectual capital of the firm (like Edvinsson did) in order to evaluate their human capital, organisational capital and client capital. I personally admire their implementation, and also the continuation of their efforts after the merger, and I think that they will continue to be successful in knowledge management.

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<sup>12</sup> <http://www.cgey.com>

### 3. Economical module

In this module, we will see different ways of evaluating knowledge, this immaterial but critical part of the value of the company. We will first see what the Skandia model is, and then some others that were presented by Christophe Bouteiller.

#### 3.1. Skandia method

At a time where innovation plays an increasing role, the « know-how » becomes a capital as valuable as money. In order to protect it and to make it grow, the firms are nominating some “Directors of intellectual capital” or Knowledge managers.

Leif Edvinsson has become a super star in the business. This Swedish, vice president of the insurance company Skandia, is the « director of intellectual capital ». He is neither here to manage the « high potential » nor to detect the weakest link of the firm. His job is more to highlight the capital of the firm in order to evaluate the “real value of the firm”

Edvinsson and Skandia have developed a generally accepted intellectual capital evaluator.<sup>13</sup> Edvinsson create that navigator because the traditional accounting system failed to evaluate the “intangible assets” of a firm (the celebrity of its brands, its capacity to innovate, its portfolio of customers, or the most famous: the know-how of its employees...). Skandia's Intellectual Capital Navigator is based on 164 different indicators and these are grouped into five main categories: financial focus, customer focus, process focus, renewal and development focus and human focus.

It is a collection of critical measurements that all comprises a holistic view of performance and goal achievement. The architecture of the Navigator is very sophisticated and yet simple. Five focus areas or perspectives capture different areas of interest. Each area visualizes the value creation process.

The Navigator facilitates a holistic understanding of the organization and its value creation. It is possible to know which indicators are truly strategic and thus make a difference on the bottom line. The goals defined for each indicator makes it possible to apply an operational approach to the overall goals of the organization.

#### Financial focus

A key issue here is to view the financial statement as a subset of the larger intellectual capital report. This requires rethinking the role of financial information, in particular, how traditional financials relate to the larger measurement of intellectual capital and, how traditional financial documents can be changed by their new relationship to the measurement of intellectual capital.

#### Customer focus

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<sup>13</sup> This part has been inspired by articles from <http://www.k-solutions.com>

Using financial, percentage and numerical indicators to assess the value of the customer capital of an organization will shed light on the value creation from the firm's relationship with customers. Customer intellectual capital measurements should capture the effectiveness of the company/customer relations. After all, customer relations are an asset and customer relationships yield an income stream.

### **Human focus**

In today's information-based economy, human assets are probably worth more in many instances than traditional assets because human resources generate the higher levels of knowledge and technological improvement, which allows positions of competitive advantage to be exploited. But the most precious of those richness may be the hardest to evaluate. It is the know-how of the employees: Their level of formation as long as their accumulated experience.<sup>14</sup> Careful consideration needs to be given to the information that can be usefully reported externally on human capital. Again, external stakeholders will be interested in how human capital in the organization contributes to value generation, including how perhaps the organization culture supports the intended strategic direction of the company.

### **Process focus**

In this focus, it is essential to emphasize the effective use of technology within the firm for supporting overall enterprise value creation. Edvinsson (1997) views this focus as controversial because although investment in technology can lead to many organizational benefits, the cost of usage can total vast sums. The wrong technology, the wrong vendor, the wrong application and the wrong philosophy are all high-level risks that require more controllable ways to use technology. It is crucial that technology that is failing or has failed is not recorded on the intellectual capital statement as an asset.

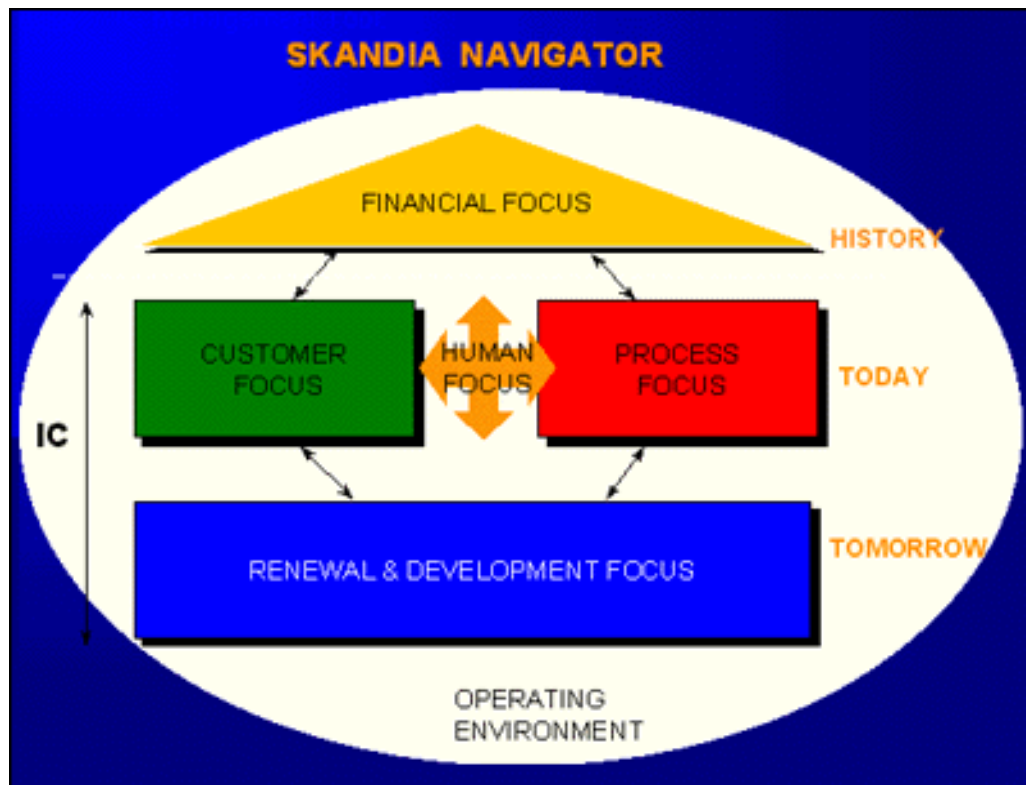
### **Renewal and development**

This focus captures the innovative capabilities of the firm that in a sense capture the company's future and gives an indication as to an organization's long-term sustainability. Measures need to focus on R&D investment and outcomes, strategic partnership development and working, effectiveness of investment in training and the return to technological infrastructure spending.”<sup>15</sup>

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<sup>14</sup> « Le Capital immatériel de votre entreprise », par Leif Edvinsson et Michael Malone

<sup>15</sup> <http://www.k-solutions.com/>



### 3.2. Evaluation of the knowledge at Ernst & Young

Ernst & Young has been again designed as one of the most admired enterprise in the world in the knowledge management. The award Most Admired Knowledge Enterprise 2001 (MAKE(SM)) has been given to Ernst & Young for the fourth time on a. Also, the enterprise has been recognized as having managed to establish a enterprise culture axed on the continuous training. The study MAKE 2001, lead by Teleos<sup>16</sup> in association with KNOW<sup>17</sup> Network, has been realized by a group of specialists from executives of Fortune Global 500, chiefs of knowledge and by big professionals of the knowledge management.

The other firms recognised by MAKE are Cisco Systems, General Electric, Hewlett-Packard, IBM, McKinsey & Company and Siemens. Ernst & Young keep on taking advantage of the intellectual capital of his employees. In 1993, the enterprise has created the Center for Business Knowledge (CBK) in order to realize the Knowledge Management and to improve its ability to create and share intellectual capital at a global level. The CBK constitutes a world network unequalled on contents, people and knowledge programs that allows professionals of the firms to have access to the last information on the enterprises, the sector trend, the comparative studies and the last methods (pratiques de pointe). Also, the regional and world teams can get special information on the business from 14 strategic places all around the world in order to realize exclusive and appropriate researches.

<sup>16</sup> Teleos is an independant enterprise of research in knowledge.

<sup>17</sup> The KNOW network (<http://www.knowledgebusiness.com>) constitutes a group of CEO's leaders in Knowledge Management that studies comparative analysis and shares the best way of knowledge management that improves the efficiency of the firm.

For Ernst & Young, the CBK implies the integration of the knowledge management to the executive daily responsibilities. The Center verifies that the firm delivers a considerable value to customers by evaluating, reorganising and transferring intellectual capital. The information given by the CBK are recorded and transmitted via the intranet of the enterprise.: KnowledgeWeb.

The KnowledgeWeb offers to the 77 000 Ernst & Young employees all around the world, an instant access to the collective knowledge with more than 1 200 knowledge databases, regrouping the best methods, the sector news, the information on the finished contracts and articles from, more than 5 500 publications.

Here are few prizes that Ernst & Young has been given to reward his leadership regarding knowledge management:

- Fast-Track 500 of eWeek (November 2000): Ernst & Young classified between the 500 leaders Internet innovating on information technology and firms converting their activities into e-business in the United States.

- Top 500 of Information Week (September 2000): The firm has been recognized as one of the more innovative user of information technology in the United States.

- Linkage Vision prize, Inc. (September 2000): Ernst & Young has been nominated as one of the 10 bigger firms of the world for creative and strategic process in knowledge management.

- Magazine KMWorld (July 2000): The firm has been nominated as one of the top 100 firms that are implied in Knowledge Management in the world, and as firm best located to have influence on the market and future innovation in business using technology and knowledge management.

- The Web Business 50/50 prize from the magazine CIO (July 2000): The Ernst & Young intranet has been recognized as one of the top 50, using technology and conception in the most impressive way.

### **3.3. Evaluation of the knowledge at Cap Gemini Ernst & Young**

Cap Gemini Ernst & Young, the global consulting firm, won a Lotus Beacon Award in the “Greatest Business Impact” category at Lotusphere 2001 in Orlando, Florida. This award recognizes Cap Gemini Ernst & Young’s work in creating Knowledge OnLine, a knowledge management solution that leverages the Fluor Corporation’s knowledge, expertise and information to measurably improve its organization.

The Fluor Corporation nominated Cap Gemini Ernst & Young for providing valuable technical and knowledge management expertise that helped accelerate Fluor’s knowledge management program. Using a common community template design, Fluor quickly configures and deploys knowledge community homespases into their integrated, cross-functional and cross-business line environment. In less than one year, Fluor has established over 30 operational knowledge communities, comprising over 4,500 members worldwide,

with plans for an additional 40-60 communities coming online this year, bringing new awareness and exposure to Fluor's vast technical and human resources.

Knowledge OnLine is Fluor's web-based environment that connects global members and knowledge-based assets; leveraging collective resources for the benefit of its clients and shareholders. It connects Fluor members to improve delivery of knowledge-based services. This manifests itself through more predictable cost and schedule for projects, minimization of risk, leveraging of global expertise and experience, and enhances the company's competitive position in today's global business environment.

"Cap Gemini Ernst & Young's proven track record in developing and implementing successful knowledge management solutions as well as its own knowledge sharing culture was a clear differentiator for us in choosing a partner," said John McQuary, Vice President of Knowledge Management, Fluor Corporation. "The fact that they have extensive experience implementing Lotus-based KM systems and are a Lotus global system integrator further validated our decision to work with Cap Gemini Ernst & Young."

"This award signifies our appreciation of the work Cap Gemini Ernst & Young is doing in a very critical market area," said Ken Bisconti, vice president, worldwide business partner organization, Lotus Development Corp. "Their work with Fluor validates the power of Lotus' Domino platform combined with the expertise of Cap Gemini Ernst & Young."

"More and more companies are realizing that to be competitive, they have to know how to tap into their most valuable assets – specific knowledge of customers, markets, technologies, and their own products and services," said John Williamson, Cap Gemini Ernst & Young Knowledge Management practice leader and co-manager of the combined Fluor/Cap Gemini Ernst & Young project team. "Knowledge OnLine and the ongoing deployment methodology we established allow Fluor to do just that. We are proud to be recognized by Lotus for the business impact of our collaborative work with Fluor Corporation".

#### About the Lotus Beacon Award

The Beacon Awards recognize Lotus Business Partners worldwide who excel in providing expert and quality products, solutions, and services based on Lotus technologies. Awards are given in 10 categories, reflecting the rapidly evolving portfolio of solutions and services provided by Lotus Business Partners worldwide. All Beacon Awards winners and finalists were announced during Lotusphere 2001 at the Beacon Awards dinner.

#### About Cap Gemini Ernst & Young

Cap Gemini Ernst & Young is one of the largest management and IT consulting firms in the world. The company offers management and IT consulting services, systems integration, and technology development, design and outsourcing capabilities on a global scale to help traditional businesses and "dot companies" continue to implement growth strategies and leverage technology in the new economy. The organization employs more than 59,000 people worldwide and reports global revenues of about 8.5 billion euros (2000 pro forma).

#### About Fluor Corporation

With 2000 revenues of \$10 billion, Fluor Corporation provides services on a global basis in the fields of engineering, procurement, construction, operations, maintenance, project management and business services.

As we have seen, Cap Gemini Ernst & young, as well as it was at Ernst & Young before the merger, the intangibles are well evaluated and the valuation of the knowledge of the firm is integrated as much as possible in the company valuation.

#### 4. Knowledge Management

As explained in the first part of this study, Knowledge can be explicit or tacit. The explicit knowledge is the one that we can record in files, books, manuals and databases... It can be shared in a low-context interaction mode. The tacit knowledge is more difficult to describe and to code.

Organisational knowledge creation can be visualised as a spiral process: The base for this is the evolving interaction between tacit and explicit knowledge.

1. Socialisation mode, sympathised knowledge, shared mental models, building field of interaction.
2. Externalisation mode, conceptual knowledge, meaningful dialogue, collective reflection.
3. Combination mode, systemic knowledge, linking explicit knowledge.
4. Internalisation mode, operational knowledge, learning by doing.

When thus managed, organisational knowledge creation is moving up to expanding communities of interaction that crosses sectional, departmental, divisional and organisational boundaries.<sup>18</sup>

Accounts receivable = tacit knowledge

Accounts payable = explicit knowledge

So the ledger sheet is really a knowledge ledger. Any tacit ideas we have represent accounts payable. In other words, the moment we have an idea, its going to cost us something to bring it to fruition. Once the idea is made explicit, we can charge people for it, hence accounts receivable. And the pure profit left over is our intellectual capital.

Tacit knowledge + explicit knowledge = Intellectual capital

So intellectual capital really tells us how valuable our tacit and explicit knowledge is to consumers, the market etc. And it does this in the simplest way possible - profit. If we show a profit, then we can claim we have intellectual capital. And we can trace the intellectual capital back to the tacit and explicit knowledge ledger (i.e. accounting) as mentioned in the previous posting. An additional explanation on this part can be found on the second part of this document.

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<sup>18</sup> [http://www.viktoria.se/results/result\\_files/169.pdf](http://www.viktoria.se/results/result_files/169.pdf)

## 5. Storage management

*“I’ve done searches that would have taken me probably three or four working days and I found the information in about 10 minutes. Our archives are historical treasures — which is one of the reasons we did this, because people use them for research and the records were wearing out. So we wanted to store the original materials away and not risk damaging them anymore.”<sup>19</sup>*

### 5.1. Record Management:

Record Management is one of the components of the Knowledge Management. Also, record management isn’t expensive to implement in a company. The documents are more accessible than the personal knowledge of the employees. They are immediately utilizable because they are already structured.

“**RECORDS**” includes any document, device, or item, regardless of physical form or characteristic, created or received by or coming under the jurisdiction of any public office of the state or its political subdivisions, which serves to document the organization, functions, policies, decisions, procedures, operations, or other activities of the office.

### 5.2. What is Record Management?

Record management is an integral part of information management. Sound record management protects an organization from litigation and ensures regulations compliance. It provides a living “collective memory” that can be used to improve business practices. The process of record management involves maintenance issues relating to the many media types in which records are created. These issues become more complex when balanced against the internal and external requirements faced by public agencies concerning information or knowledge management. Today, record management responsibilities are one of the most challenging aspects for public agencies.<sup>20</sup>

### 5.3. What comprises a good record system?

A records system is comprised of many essential elements. Some of these elements originate from state law, while others are derived from good management practices. Several of the essential elements are an “educated staff,” “a current inventory of the records maintained,” “a Schedule of Records Retention and Disposition,” and “written record and document management guidelines.”

### 5.4. Today the Records Management means:

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<sup>19</sup> Linda Butler, City Clerk; Flagstaff, AZ

<sup>20</sup> <http://www.ag.state.oh.us/agpubs/2001appendixa.pdf>

- Facilitation of the informatics' system
- Globalization of the numerical documents
- Legal gratitude of the numeric paper
- Juxtaposition and heterogeneity of the systems of information
- Volume tries in exponential increase

### **Fields of Record Management responsibilities:**

One of the difficulties of RM is to define which information should or shouldn't be kept. There is also a need of controlling all the process to manipulate documents.

The ISO 15489 normal system is controlling RM. It is an Australian norm from 1995. It concerns the creation of documents, their organisation and conservation in a reliable and long-lasting system. This international standard addresses the leaders of the bodies either companies, to the professionals of the documentation, the archives, the information and the technologies, to all the staffs of the bodies or the companies, and to all the physical persons having the responsibility for producing or keeping records.

### **The Record Management questions:<sup>21</sup>**

- Which documents for which activities?
- Which identifications?
- Which conservations and how many times?
- Which risks?

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<sup>21</sup> Sylvie Dessolin-Baumann course on « *KM, RM et autres M* » *Pas de KM sans Records Management* »

### 5.5. Characteristics of the documents<sup>22</sup>

- **“Authenticity:** the document can prove that it is indeed what it claims to be, that it was effectively produced or received by the person who claims to have produced or received it, and that it was produced or received as it claims to have been it.
- **Integrity:** the document (information and support) is complete and was not altered.
- **Reliability:** the contents of the document can be considered as the complete and exact representation of the operations, the activities or the facts.
- **Exploitability:** the document is exploitable if it is localized, tracked down, described and analyzed.
- **Continuum:** management of the whole cycle of life of the document without break
- **Reliability:** all the documents of archives of the body or the company are integrated systematically; the system constitutes the first source of information about the activities described in documents and supplies an immediate access to all the relevant documents and to their methadone's
- **Integrity:** measures of control of access, the identity of the user, the validity of the destruction and the security.
- **Correspondence:** correspondence with all the requirements stemming from the common business and from the statutory environment
- **Area:** the system of filing manages all the documents stemming from all the activities of the body or the company, or at least the entity where it is set up
- **Systematic character:** documents are produced, kept and managed in a systematic way.”

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<sup>22</sup> Sylvie Dessolin-Baumann course on « KM, RM et autres M » Pas de KM sans Records Management »

## 6. Conclusion

We have seen in four different modules how Knowledge Management becomes more and more important in today's accounting systems that firms are using.

First, we have seen the view of a philosopher on what knowledge is. After that, we saw a concrete example on how knowledge can be managed in a firm. Then, we had some more explanation on how to manage knowledge. And finally, we saw how storage management can be defined and how it is an important part of knowledge management.