



Intangible Capital: Epistemological Framework

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Summary: *The intangible takes more and more importance in the management of the company, in its development and its growth. Information and knowledge, which are at the center of the new economic context, constitute the main activity of companies. The human and qualitative aspect is also a crucial part of the company, especially with the importance of the skills that are required. The main objective of this article is to examine the interactions that exist between the different components of intangible capital as well as their effects on the creation of value of companies. To do this, it is necessary to study the review of the literature in depth. overview of the notion of intangible capital, its components, and its direct or indirect impact on the company.*

Keywords : *Human capital ; structural capital ; organizational capital ; intellectual capital ; goodwill management ; the intangible ; valuation of intangible capital ; value creation ; the components of intangible capital.*

I. INTRODUCTION

Value creation is influenced by an economy that increasingly relies on knowledge. The process has accelerated with the development of the service sector, the intensification of competition due to globalization and deregulation, and the emergence of new information technologies. Innovation (the development and diffusion of new products, processes and business models) is one of the pillars of a transformation that has changed the relative importance of different factors in business performance and economic growth (OECD, 2000; OECD, 2001)[3].

In OECD countries, the advent of the knowledge economy has resulted in a structural change: we have moved from traditional manufacturing production, based on the notion of scale and using mainly material goods, to new activities focused on innovation and drawing heavily on human capital and knowledge. At the same time, with emerging countries playing an increasingly large role in manufacturing activities, OECD economies have increasingly had to rely on their comparative advantage, which lies mainly in production and manufacturing. use of human capital and knowledge.

In this article, we will deal with the interactions that exist between the different components of intangible capital as well as their effects on the creation of company value. To do this, it is not necessary to deeply study the review of the literature around the notion of intangible capital, its components, and its direct or indirect impact on the company.

We will first discuss the emergence of the notion of intangible capital as well as its components which will be the subject of the second point and in a third point we will examine the different interactions and

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synergies linking the three main components of intangible capital and finally a fourth and last point of this chapter will be devoted to the evaluation methods of this new concept.

II. Epistemology of intangible capital

2.1 History of intangible capital

Over two centuries ago, Adam Smith (1776)[4] in his work "The Wealth of Nations" stressed that improving the skills of workers is a fundamental source for economic progress. He also insisted that investing in human capital and skills affects people's incomes and the wage structure.

During the last 50 years, work on intangible capital (considered to be synonymous with intangibles) has been carried out along several axes: analyzes concerning productivity were concentrated in a production function integrating capital and labor and allowing the substitution of two factors of production. But the limitations and shortcomings of this approach have been noticed and a series of alternatives have been presented by a number of researchers.

The fallout from the Second World War allowed the appearance of a set of economic analyzes and the development of the branch of quantitativists who analyzed economic growth. Indeed, after the very first wave of scientific management imagined and launched by Frederick Taylor and following the human relations movement which put some emphasis on the importance of taking human factors into account in the organization, we see here the appearance of a kind of new scientific impetus as the 1950s approached: contingent factors.

The considerable research and progress made during wars through efforts to improve military capabilities, forecasting, planning, etc. are at the origin of this renewed scientific spirit. Computation and meticulous programming feed into all operations in industrial companies. They are now facing a rapidly changing environment, a market suddenly globalized by spectacular advances in communications and transport, radically changing technology and the internationalization of business which introduces new structures and new procedures. and above all new management tools, in particular the reinforcement of quantitative methods such as statistical calculation or operational research as well as the use of the computer.

Simon (1945)[5] was influenced by the development of computers and cognitive science. It reorganized the nature of decisions taken for the development of administrative functions. It limited the cognitive capacity of human beings and created the notion of limited rationality.

Denison (1962)[6], studying the sources of economic growth in the United States between 1909 and 1958, concluded that knowledge, skill, and the energy of labor are the most important determinants of economic growth. But valuing these determinants remains difficult for these researchers to achieve. Thus, the researchers of this current insist on the importance of other factors of production other than the capital and the work but remain the relations which are inside "the black box" difficult to define, they can only 'be estimated approximately.

The analysis of the contribution of a variety of factors of production other than capital and labor has been dealt with by various researchers and in particular economists during which we insisted on the importance of the residual factors of growth which are not explained by increasing the use of capital or labor. From the 1960s, a few economic theories focused on investment and the stock of human capital: knowledge, skills, mobility of individuals, etc. The main contribution in this field was that of Becker (1964)[7] who formulated a theory concerning the formation of human capital and he was interested in investment in education.

With technological progress and the increasing importance of research and development and the innovation process in general, the member countries of the OECD tried between 1960 and 1970 to formulate and create criteria in favor of R&D and in particular the application of scientific research results. In 1963, and with the aim of harmonizing research evaluation methods, the OECD organized a meeting of national experts in R&D. Very quickly it became clear that the evaluation of R&D cannot be done only by data or classifications of research activities. It is necessary to perceive common standards for the evaluation of the outputs of these activities.

2.2 Literary presentation of the term: Capital Immaterial

For now, there is no unified conceptualization of “intangible capital. It is known by different names in managerial and academic literature: intangible capital, intellectual capital, human capital, intangible assets, cognitive capital, scarce resources, specific heritage, intellectual assets, intangible assets, knowledge management....

The notion of “intangible” is difficult to grasp because of its nature and the heterogeneity of the fields it covers. Indeed, there are no definitions of the concept of intangible capital that are unanimous among the experts who have dealt with this subject. Some authors will speak of intangible capital, others will prefer to use the term intellectual or intangible capital. To this must be added the problem relating to the translation from English to French which complicates the situation. In English, *intangible material*, is used as a synonym for intangible capital. However, linguistically the meaning is not identical. Thus, the current number of definitions to designate intangible assets reflects the diversity of actors such as investors, accounting bodies, academics, consultants as well as their particular interest in dealing with the issue (OECD, 2006) [8].

In addition, several researchers do not differentiate between notions related to intangible capital; hence the importance of defining the outline of each terminology in order to apply each term to the appropriate field.

The notion of intangible capital was born from the need to conceptualize the “hidden value” of the company which does not appear in its balance sheet (Montalan & Vincent, 1999) [9]. Intangible capital is a factor that influences the value and competitive advantage of a business. Thus, a modern enterprise derives its economic power and power more from its intellectual capacities and services than from its tangible assets (Quinn) [10]. Edvinsson & Malone present the qualitative and intangible aspect as a vital source of value, improvement of performance and competitiveness of companies [11].

Term derived from the economy, intangible capital is distinguished from material factors such as land and natural resources and all physical production factors (factories, machines, etc.) previously considered to be the key factor of performance and success (Pépin, 2006) [12]. Intangible capital, according to several authors, is synonymous with intellectual asset (Abeysekera, 2006) [13].

Scientific research and professional experience have made it possible to define intangible capital as the sum of the human, structural and relational capital that a company possesses (Edvinsson and Malone, 1999; Gallego and Rodriguez [14], 2005; Green and Rayan [15], 2005). Crosby and Johnson (2004) define it as follows: intangible capital includes patents, inventions, formulas, processes, designs, know-how, copyrights and copyrights, trademarks, and trade. This set corresponds to industrial property. The second group includes franchises, licenses, and contracts. The third group includes methods, programs, systems, procedures, studies, forecasting, customer lists, technical data. Finally, the last group concerns the networks of relations, the legal or financial arrangements, the latter can give a lot of value to a company, in the field of the new economy.

Based on these definitions, we will subsequently support the different components of intangible capital.

III. Classification of intangible capital according to different authors and years

3.1 The components of intangible capital

Even if the different definitions are not so similar, there is a certain gathering (influx) in the ideas of the authors concerning the decomposition of intangible capital and especially when we start to treat the different components of this capital according to each author. It is divided according to (OECD, 1999) into human capital (CH) and structural capital (CS). [16]

A group of management practitioners and researchers, Hubert Saint-Onge of the Imperial Bank of Commerce of Canada, Leif Edvinsson of Skandia AFS, Gordon Petrash of Dow Chemical among others, propose three categories of intangible assets: client and relationship capital, organizational capital, and human capital. Their definitions of intangible capital successively follow the distinction between intangible assets proposed by Karl-Erik Sveiby (Sveiby, 1997) [17] and which are limited between:

- External structure: includes brands, customers, and relationships with them.

- Internal structure: includes the organization, manuals, structures (R&D, software...).
- Employees or individual competence.

Leif Edvinsson and Johan Roos have accessed a binary typology that distinguishes “thinking” intellectual capital from “non-thinking” intellectual capital, in other words human capital from structural capital. However, the MERITUM classification (2002) distinguishes three components, namely human capital, structural capital, and relational capital.

Annie Brooking (1996) presents structural capital in the form of infrastructure and intellectual property. Indeed, it breaks down intangible capital as follows:

- Human-centered assets (CH): qualifications, skills, expertise, problem-solving skills, leadership style.
- Infrastructure (CS): all the technologies, processes and methodologies that help the business to function.
- Intellectual property (CS): patents, know-how ...
- Market assets (CC): brands, customers, customer loyalty, distribution channel, etc.

According to Roos (1997), we must not neglect the importance of culture in intangible capital, thus the classification and decomposition of intangible capital is as follows:

- Human capital: competence, attitude, intellectual ability ...
- Capital Organizational: innovation processes, intellectual property, and culture,
- Renewable capital: new patents and training efforts ...
- Capital relationships: relationships that include internal and external stakeholders

Stewart (1997)^[18] breaks down intangible capital as follows:

- Human capital: employees are the assets most important to the organization
- Structural capital: knowledge in the form of information technology, intellectual property: patents, plans, etc.
- Customer capital: market information used to attract and retain customers.

Bontis (2001)^[19] on the other hand excluded intellectual property from intangible capital because it represents protected assets and having a legal definition unlike intangible capital. The breakdown of intangible capital is then presented as follows:

- Human capital: the individual level of knowledge that everyone possesses.
- Structural Capital: nonhuman assets: organizational capacity used to achieve market requirements
- Relational capital: customer capital represents only a part of Organizational relationships.

Calvalcanti et al (2006) add a fourth dimension to intangible capital, namely social capital. It is the set of networks of social relations from which an individual can benefit. In the company, organizational social capital is characterized by asociability (willingness and ability to set up common projects) and trust. (Silem, Albertini et al, 2010).

The table below summarizes the classification and breakdown of intangible capital according to the different authors.

Authors	Years	Classification of intangible capital
Brooking	1996	-Human capital -Structural capital -Market assets
Edvinsson and Malone	1997	-Human capital -Structural capital
Sveiby	1997	-Individual skills -Internal structure -External structure
Roos	1997	- Human capital - Organizational capital -Renewable capital -Relational capital
Stewart	1997	-Human capital -Structural capital -Customer capital

Bontis et al	2000	-Human capital -Structural capital -Relational capital
MERITUM	2002	-Human capital -Structural capital -Customer capital
Calvalcanti	2006	-Human capital -Structural capital -Customer capital -Social capital

So, according to the different decompositions and explanation treated by different authors and actors, we can say that the distinction between three forms of intangible capital seems to be the subject of a consensus between several authors, namely : a human capital **CH** " Man in the company "(experience, training, management capacity, interpersonal relations, motivation, etc.), a structural capital **CS** " All that remains in the company at the end of the day "(the culture of company, internal communication, organization, innovation, etc.) and a **CC** or relational customer capital "Everything that links the company to its environment" (relations with shareholders, partners, customers , suppliers, society, etc.). But there is still the breakdown of each capital which differs from one author to another.

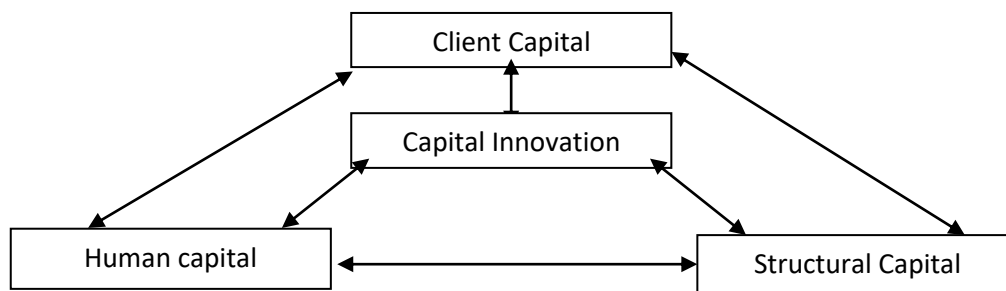
The overall value of a company is based on a clever mix of these different types of productive resources, but also on its dynamic capacity to combine them, renew them, develop them, etc. Thus, it is not necessarily the most resource-rich company that wins and has the greatest value because intangible capital has become the economic concept associated with most of the value of the company.

3.2 The interaction between the different components of intangible capital

It is necessary to know that the different components of intangible capital are independent, indeed each component has its characteristics and impacts on an organization whatever its form and its nature, which allows an influence on the value of the latter. A cognition of the interactions that exist between the different components allows us to better understand what forms added value in companies. We will present the work of several authors on this dynamic in the next paragraphs.

Edvinsson and Malone (1999)[\[20\]](#) argue that no component of intangible capital can create value in isolation. Value is only created if there is interaction between the different components. Given the dynamic nature of intangible capital, this relationship can change over time. This change is the result of the creation of new intangible capital (Mouritsen, Larsen and Bukh, 2001), especially new knowledge mainly due to the learning and experience of a company in a field of activity. In addition, relational or social capital allows human capital to acquire certain necessary knowledge that will trigger innovation (Subramaniam and Youndt, 2005)[\[21\]](#). Innovation is the result of collaborative work between the company and its partners, human capital and relational capital acting together on innovation capital.

Chen, Zhu and Xie (2004)[\[22\]](#) found, based on a study of 60 Chinese high-tech companies, that there is an interaction between the different components of intangible capital. Their conclusions on this relationship are presented in the figure below.



The interrelationships between the components of the intangible asset (Chen, Zhu and Xie, 2004)

Chen et al. (2004) demonstrated the existence of these relationships but did not sufficiently explain how they are established and how they work with each other. Based on several studies such as those by Edvinsson and Malone (1999), Sveiby (2000), Canibano et al. (2000)[23], Grasenick and Low (2004)[24], we can explain these relationships as follows: innovation capital is supported by the technology of the company as well as by existing knowledge and know-how at the level of human capital, structural capital and relational capital. Innovation capital also makes it possible to create new products that meet customer needs through new organizational procedures, new techniques, and new knowledge in terms of human capital. Human capital encompasses all the company's tacit knowledge. Companies that lose their employees also lose this knowledge, which is why they are led to transform it in a more explicit form to integrate it into structural capital, hence the relationship between the two components is human and structural. Today, there is software that can codify tacit knowledge within the organization. Relational capital and human capital are linked by the learning due to the customers and by the response of the employees to the needs of the customers which will allow them to retain the latter.

In addition, Chen et al. (2004) have shown that there is a positive relationship between the components of intangible assets taken together and the overall performance of the company. They claim that the innovation capital created by the interaction of the different components of the intangible asset is the main source of performance. These authors explain how these components interact. Solleiro and Castanon (2005)[25], add that the formation of intangible capital allows companies to innovate and be competitive in an increasingly dynamic environment.

Human capital makes it possible to better meet the needs of customers ensuring their satisfaction and, consequently, leads to the development of relational capital.

Based on the theory of resources, companies can have a competitive advantage through the use of tangible and intangible resources (Persais, 2004)[26]. In a knowledge economy, it is intangible assets that provide more added value. Several authors state that the resources used must be integrated with each other and managed in an adequate manner for the company to be efficient and competitive in its environment (Persais, 2004). For intangible assets, we note that process capital (organization, management practices, etc.) constitutes an envelope that helps to conserve and manage other intangible assets (human capital, innovation capital and relational capital) (Edvinsson and Malone, 1999; Sveiby, 2000). For example, the presence of certain key competencies in the company requires compensation and motivation practices to retain them and use them adequately to achieve the desired performance. This allows us to conclude that performance is the result of a combination of resources and practices (process capital) adequate to manage them and mobilize them towards the objectives to be achieved.

Bozboura (2004)[27] demonstrated, through the study of 280 Turkish companies listed on the Istanbul Stock Exchange, that there are several relationships between the different components of intangible capital and stock market value. These authors, taking into account the interaction between the components of intangible assets, have developed a measurement system capable of providing relevant information at all times to managers to modify their strategies accordingly and better manage

their intangible capital; this will allow these companies to be more competitive in the short and long term, hence the importance of measuring their intangible assets.

IV. Methods of valuing intangible capital

Measuring and evaluating the performance of intangible assets has two primary objectives. First and foremost, to facilitate the management of decision-makers by providing them with quality information enabling them to assess the state and contribution of strategic resources (Sveiby, 2000)[28]. On the other hand, provide information for external actors such as shareholders, suppliers, and customers so that they can assess the quality of the management of a company and ensure that it is a reliable supplier or a worthy customer. of confidence. In order to achieve the desired utility, a system for measuring the performance of intangible assets must combine objective and subjective criteria, particularly from the human aspect and information technologies (Papmehl, 2004)[29].

Several authors have developed indicators that can help identify and measure the performance of a company's intangible assets. Starting with Kaplan and Norton who designed a performance measurement system based on non-financial indicators, then Edvinsson and Malone's measurement system was designed based on the "Skandia browser", then the classification of indicators. measurement made by Sveiby (2000) to identify and measure the performance of intangible assets, then the Scandinavian models produced by 40 researchers in which we cite Sanchez, Cheminade and Olea some of the researchers of this project who contributed to important results in this regard. which concerns the evaluation of intangible capital and finally the typology of Grasenick and Low (2004) mainly uses non-financial indicators based on strategic objectives. These will be presented and classified chronically and in more detail in the next paragraphs.

4.1 Kaplan and Norton (1992)

In 1992 a performance measurement system based on non-financial indicators was developed by Kaplan and Norton; according to these authors, non-financial performance measures are necessary to guarantee better management, especially for companies whose production is based on knowledge and skills rather than on tangible elements. Kaplan and Norton's performance measurement system, called "*Balanced scorecard*" or "*Balanced Scorecard*", allows executives to have an easy-to-read overview of the entire company, to observe existing interrelationships between several areas of strategic activities and to verify the evolution of the various performance indicators (Bessieux-Ollier and Lacroix, 2005) [30]. There are four dimensions that are exploited by this model:

• Customers; • The internal process; • Learning and growth; • Finances

The four perspectives can meet to four questions:

1. Customer perspective: *What is our performance in terms of customers?*
2. Internal process: *What are our internal advantages?*
3. Learning and growth: *Will we progress and how?*
4. Financial perspective: *What is our performance in the sense of shareholders?*

Each of these perspectives can be described as follows:

✓ Customer perspective: For this perspective Kaplan and Norton are based on four measurement criteria, namely:

✓ • Time; • The quality; • Performance or service; • The costs

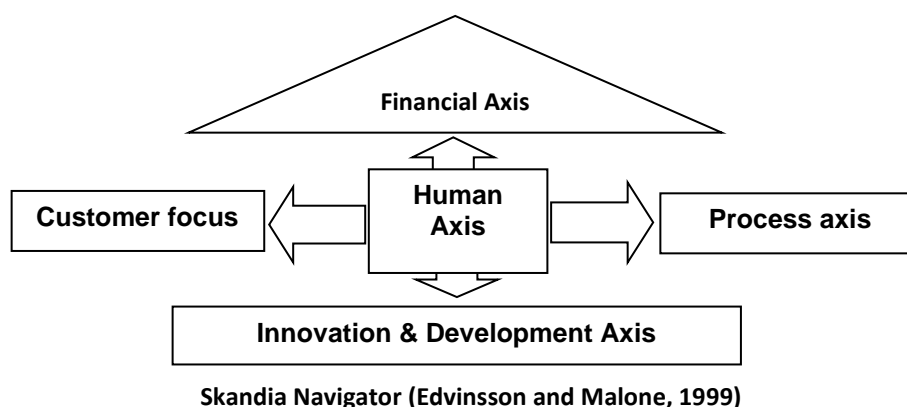
We note, according to the measurement criteria, that customer satisfaction is an index of the current and future performance of the company; satisfied customers are loyal and constitute a source of future income for the company. Edvinsson and Malone (1999) indicate that it is important for companies to go beyond customer satisfaction and to care about their success. Going from satisfaction to success makes it possible to have a closer relationship (long-term collaboration) with customers and thus to better retain them.

✓ Internal processes: This is the company's ability to meet the needs of its customers. On this basis, the company must be able to identify and measure the skills and technologies necessary to have a dominant position in the market.

- ✓ **Learning and growth:** A hostile business environment forces the company to innovate given the high degree of competition and the instability of demand. Innovation activities will serve both to maintain or improve its position in the market and also to develop new markets if this is the wish of management, which can ensure growth.
- ✓ **Financial perspective:** These are performance indicators from financial statements (Kaplan and Norton, 1992)[31]. Despite the imperfection of these indicators, they are important and useful for managers because they allow to have an objective measure of the current performance of a company. It is useful to combine financial and non-financial indicators for performance measurement to have a balance between the short term and the long term as well as objectivity and subjectivity (Kaplan and Norton, 1.992) and, above all, because that financial data does not allow all the elements necessary for good performance management to be measured, as is the case for customer or employee satisfaction.

4.2 Typology of Edvinsson and Malone (1999)

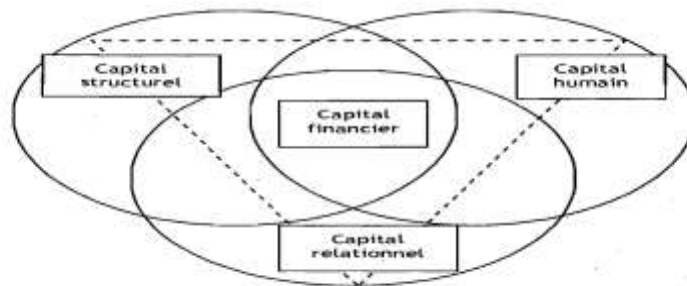
Edvinsson and Malone's measurement system was designed based on the "Skandia Navigator". The latter allows the company to better exploit intangible assets to create value. This Navigator is based on the idea that human capital is at the heart of value creation thanks to its interaction with the other components of intangible capital, namely process capital, innovation capital and customer capital.



Edvinsson and Malone's (1999) measurement system includes a list of 109 indicators that were developed for the service firm Skandia. The "Skandia Navigator" and the scheme for measuring the performance of intangible capital constitute a first formal attempt to identify and measure this capital. Edvinsson and Malone (1999) assert: "The closer we get to the foundations of the 'house' of intangible capital, the more our indices leave monetary logic to favor a logic of flow", hence the importance of non-financial indicators in the measure of the intangible.

All of these indicators revolve around 4 axes namely human capital, structural capital, relational capital and financial capital as presented in the value creation diagram based essentially on the importance of interactions and knowledge management as a source of value.

Diagram of value creation



Source: Saint-Onge, Armstrong and Petrash, 1996 in Edvinsson and Malone, 1999)

This diagram is based on two assumptions: first, the creation of value cannot be produced by a component taken separately but by the interaction of the three components namely human capital, structural capital, and relational capital (Edvinsson and Malone, 1999). Second, if only one component is weak, there can be no creation of value. In addition, the three components of intangible capital taken together associated with knowledge management make it possible to create a more homogeneous and balanced organization to the point of maximizing financial capital. Based on this platform, Edvinsson and Malone (1999) designed a set of indicators capable of identifying and measuring the performance of intangible assets.

The establishment of a system of measurement of intangible assets for the firm "Skandia" had a significant effect on innovation activity in the service sector, especially because of the good management of knowledge at the level of human capital, structural capital, and relational capital. In addition, this system allowed the early identification of major environmental trends to exploit them to create new business opportunities that Edvinsson and Malone (1999) used many indicators to identify and measure the performance of intangible assets

Edvinsson and Malone (1999) classify indicators into two groups:

- Competitive-type indices: Usually in the form of a percentage, they allow certain elements of a company's performance to be compared with other comparable firms in the same sector of activity.
- Comparative type indices: For example, this may be a ratio that considers two variables internal to the company, for example "added value / employee". Comparative indices are often used to open unexpected new perspectives by combining different components of intangible assets to exploit the synergy that exists between them.

In conclusion, the model developed by Edvinsson and Malone (1999) makes it possible to identify and measure the performance of intangible assets. Unlike the Kaplan and Norton model, this model focuses specifically on intangible assets and more explicitly measures human capital.

4.3 Sveiby typology (2000)

According to Sveiby (2000)[\[32\]](#), decision-makers need indicators that will measure trends, that is to say, the evolution of intangible assets, more than indicators that assess these assets at a given time. Thus, comparing the indicators used for two different periods gives an idea of the evolution of intangible assets as well as the future trend of the company's performance.

The classification of measurement indicators made by Sveiby (2000) is presented by component of intangible assets. The growth and renewal indicators will make it possible to identify the intangible and the efficiency and stability indicators will measure its performance and its contribution to wealth creation.

Les indicateurs pour identifier et mesurer la performance des actifs

Capital humain	Capital organisationnel	Capital relationnel
Indicateurs de croissance / renouvellement		
- Niveau de formation	- Investissements en capital structurel	- Rentabilité par client
- Investissement en formation	- Investissements dans les systèmes de traitement de l'information	- Croissance organique
- Évaluation des compétences	- Contribution des clients dans le capital structurel	
- Rotation du personnel		
- L'apport des clients à la compétence		
Indicateurs d'efficience		
- Proportion de cadres dans l'entreprise	- Proportion représentée par le personnel administratif	- L'indice de satisfaction des clients
- L'effet de levier des cadres à la création de la valeur	- Chiffre d'affaires par membre du personnel administratif	- Indice de gain/perte de contrats
- Valeur ajoutée par cadre	- Mesure des valeurs et de l'attitude	- Ventes par client
Indicateurs de stabilité		
- Âge moyen	- Âge de l'entreprise	- Proportion de clients « grands comptes »
- Ancienneté	- Rotation du personnel administratif	- Pyramide des âges de la clientèle
- Situation salariale relative (salaire vs entreprise)	- Ratio de nouvelles recrues par rapport à l'ensemble des employés	- Ratio des clients fidélisés
		- Fréquence des commandes successives

Source : Sveiby (2000)

The indicators used by the author were established for consulting firms where the main source of wealth creation are experts. However, these indicators could be adapted to suit the needs of other types of organization, including SMEs. The indicators used by Sveiby (2000) are only examples, that each company can develop them further and adapt them to its needs. This model uses several non-financial indicators to identify and measure the performance of intangible assets. It also allows to have a more detailed idea on the other components of relational capital, such as strategic partners and suppliers, unlike Kaplan and Norton and Edvinsson and Malone, which limit themselves to measuring customer capital.

4.4 Scandinavian models

The research of Edvinsson and Malone (1999) and Sveiby (2000) gave rise to a series of works aimed at identifying, measuring performance, and communicating information on intangible capital. Most of this work, which has been developed in Europe and more specifically in the Scandinavian countries, has made it possible to set standards for the classification of the different components of the intangible asset and for the measurement of performance to improve its management. Thus, MERITUM is a research project designed since current business practices and the experience of experts in the communication of information on intangible assets. This project finds its justification in the insufficiency of existing models to improve the management of intangible resources (management control activity). The 40 researchers who worked on this project used observations from 80 European companies to design a model that harmonizes the practices of identifying, classifying, and measuring the performance of intangible assets. Sanchez, Cheminade, and Olea (2000), one of the researchers of this project produced the following results.

La classification des niveaux d'analyse, des actifs immatériels et des indicateurs

Niveau d'analyse	Classification de l'immatériel	Classification des indicateurs
- Ressources immatérielles (stock)	- Capital humain	- Général
- Investissements immatériels (activités)	- Capital structurel	- Spécifique à l'industrie
	- Capital relationnel	- Spécifique à l'entreprise

Source : Sanchez et al. (2000)

Note that there are two levels of analysis for intangible assets:

- Intangible resources (resources): this is the stock of human capital, structural capital, and relational capital such as the skills of employees.
- Intangible activities (process): these are the activities implemented to improve, strengthen, and develop intangible resources such as employee training.

The authors of MERITUM came to the following conclusions:

- Human resources are the most important elements of intangible capital. According to Edvinsson and Malone (1999), it is human capital that makes it possible to convert structural and relational capital into added value. Therefore, there are many indicators that allow it to be measured and to know the link with the other components of intangible capital.
- The indicators relating to relationship capital are essentially based on customer satisfaction. The frequency of monitoring this indicator varies from company to company.
- General type indicators apply to all companies.

Those that are of the specific type, whether for the industry or the company, are more precise and more adapted to the context of each firm.

- Most indicators are non-financial.

4.5 Typology of Grasenick and Low (2004)

The typology of Grasenick and Low (2004) mainly uses non-financial indicators based on strategic objectives. Measures of performance of intangible capital should be linked to the process of mobilizing resources to achieve objectives and ensure financial success. They should be described as measuring points in a chain in a process of creating economic value.

The measurement model of Grasenick and Low (2004) is based on two important stages: Firstly, the identification of the different intangible resources and secondly the conversion of intangible assets into added value. These authors have shown that it is possible to make the link between intangible resources and the overall performance of the company. This relationship is indirect insofar as the value creation process is complex and includes several stages. According to the logic of this research, intangible assets have a specific effect directly attributable to this investment and an overall effect on the financial results. The specific effect is best measured by non-financial and proximal-type indicators. However, the overall effect is measured by financial indicators of the distal type.

Proximal performance indicators will make it possible to measure preliminary objectives, the achievement of which will, in turn, make it possible to achieve another more general "ultimate" objective which will, for its part, be measured by a distal performance indicator (Weldon and Yun, 2000)[\[33\]](#).

V. Conclusion

The intangible takes more and more importance in the management of the company, in its development and its growth. Information and knowledge, which is at the center of the new economic context, constitute the main activity of companies. The human and qualitative aspect is also a crucial part of the company, especially with the importance of the skills that are required.

Based on the above, we conclude on the importance of the intangible capital of the enterprise in a new economy based on skills, technology, communication, and knowledge. Even if the definitions given to this concept are numerous but all revolve around the same concept.

The decomposition of intangible capital is also different from one author to another. But in the following we take the decomposition which has had most opinions, namely three components of intangible capital: human capital: the man in the company, organizational capital: all that remains in the company at the end of the day and customer or relationship capital: Everything that links the company to its environment.

Likewise, the methods of valuing intangible capital have been expressed in different ways and according to several authors. But there is no model that explicitly makes a difference.

VI. BIBLIOGRAPHICAL REFERENCES

- [1] Abeysekera, I. (2006). Intellectual capital. Financial Management, London: March, p. 38-39.
- [2] BECKER, Gary Stanley. Human capital: a theoretical and empirical analysis, with special reference to education. New York: National Bureau of Economic Research, 1964, XVI-187p. (National Bureau of Economic Research. General series, 80). ISBN 0-87014-080-9.
- [3] Bessieux-Ollier, C. & Lacroix, M. (2005). Intellectual capital, human capital: the challenges of measurement, Communication at the international conference on teaching research in accounting (IAAER day), Bordeaux.
- [4] Bontis, N. (2003). HR's role in knowledge management. Canadian HR Reporter, Toronto: Mar 10, 2003. Vol. 16 (5), p. 8-9.
- [5] Bozbura, FT (2004). Measurement and application of intellectual capital in Turkey. The Learning Organization. Bradford: 2004. 11 (4/5), p. 357-374.
- [6] Canibano, L., Garcia-Ayuso, M. & Sanchez (2000). Accounting for intangibles: a literature review. Journal of Accounting Literature, Gainesville, 19, p. 102-124.
- [7] Chen, J., Zhu, Z. & Xie, HY (2004). Measuring intellectual capital: a new model and empirical study. Journal of Intellectual Capital, Bradford, 5 (1), p. 195-212.
- [8] DENISON, Edward Fulton. The sources of economic growth in the United States and the alternatives before US. New York: Committee for Economic Development, cop. 1962, 297p. (Supplementary papers of the Committee for Economic Development, 13).
- [9] Edvinsson, L. & Malone, M. (1999). The intangible capital of the company: identification, measurement, management. Paris: Éditions Maxima.
- [10] EDVINSSON L., (2000): "Some perspectives on intangibles and intellectual capital 2000", Journal of Intellectual Capital, vol 1, No 1, pp.
- [11] Gallego, J. & Rodríguez, L. (2005). Situation of intangible assets in Spanish firms: an empirical analysis. Journal of Intellectual Capital, 6 (1), p. 105-120.
- [12] Grassenick, K. & Low, J. (2004). Shaken, not stirred: defining and connecting indicators for the measurement and valuation of intangibles. Journal of Intellectual Capital. Bradford, 5 (2), p. 268-281.
- [13] Green, A. & Ryan, JCH (2005). A framework of intangible valuation areas (FIVA): aligning business strategy, Journal of Intellectual Capital, 6 (1), p. 43-67.
- [14] MATALON, Vincent, 2012. American justice closes the Megaupload download site. francetv info January 20, 2012. Available at: http://www.francetvinfo.fr/culture/la-fermeture-de-megaupload-en-trois-questions_52829.html
- [15] OECD (2000), A New Economy? Transforming the Role of Innovation and Information Technology in Growth, OECD, Paris.
- [16] OECD (2001), The New Economy: Myth or Reality, OECD, Paris.
- [17] OECD (2006). Intangible assets and value creation: <http://www.oecd.org/dataoecd/531/18/36701585.pdf>
- [18] Pappmehl, A. (2004). Accounting for knowledge. CMA Magazine, March. vol. 23, n° 3 (March), p. 47-62.
- [19] Pépin, J. (2006). Intangible capital, 7 days to understand, study days. CIGREF 2006.
- [20] Persais, E. (2004). Societal relations: challenges and limits. Revue Française de gestion, 30, p. 88-102. And Persais, E. (2004). Sustainable excellence: towards the integration of stakeholders. La Revue des Sciences de Gestion, 205, p. 65-83.
- [21] QUINN, James Brian. The smart enterprise: knowledge, services and technology. Paris: Dunod, DL 1994, cop. 1994, 514p. ISBN 2-10-002212-1.
- [22] SIMON, Herbert Alexander. Models of man social and rational: mathematical essays on human behavior in a social setting. New York: Wiley, 1957, XIV-287p.
- [23] SMITH, Adam. An inquiry into the nature and causes of the wealth of nations. London: W. Strahan and T. Cadell, 1776.
- [24] Solleiro, JLF Castanon, R. (2005). Competitiveness and innovation systems: the challenges for Mexico's insertion in the global context. Technovation. Amsterdam, 5 (9), p. 1059-1068.
- [25] Stewart, TA (1997). Intellectual capital: the new wealth of organizations. New York: Doubleday.

- [26] Subramaniam, M. ft Youndt, MA (2005). The influence of intellectual capital on the type of innovative capabilities. Management Journal, Briarcliff Manor, 48 (3), p. 450-465.
- [27] Sveiby, KE (1997). The new wealth of companies: Knowing how to take advantage of the intangible assets of one's company. Paris: Editions' Maxima.
- [28] Sveiby, KE (2000). The new wealth of companies: Knowing how to take advantage of the intangible assets of one's company. Paris: Editions' Maxima.
- [29] Weldon, E. ft Yun, S (2000). The effects of proximal and distal goals on goal level, strategy development, and group performance. The Journal of Applied Behavioral Science, Arlington: 36 (3), p. 336-344.

References footnotes:

- [1] Doctoral researcher in Economic Sciences and Management, Research Group in Economics and Territory (GRET), Faculty of Legal, Economic and Social Sciences of Tangier .
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- [3] OECD (2000), A New Economy? Transforming the Role of Innovation and Information Technology in Growth, OECD, Paris. OECD (2001), The New Economy: Myth or Reality, OECD, Paris.
- [4] SMITH, Adam. An inquiry into the nature and causes of the wealth of nations. London: W. Strahan and T. Cadell, 1776.
- [5] SIMON, Herbert Alexander. Models of man social and rational: mathematical essays on human behavior in a social setting. New York: Wiley, 1957, XIV-287p.
- [6] DENISON, Edward Fulton. The sources of economic growth in the United States and the alternatives before US. New York: Committee for Economic Development, cop. 1962, 297p. (Supplementary papers of the Committee for Economic Development, 13).
- [7] BECKER, Gary Stanley. Human capital: a theoretical and empirical analysis, with special reference to education. New York: National Bureau of Economic Research, 1964, XVI-187p. (National Bureau of Economic Research. General series, 80). ISBN 0-87014-080-9.
- [8] OECD (2006). Intangible assets and value creation : http://www.oecd.org/dataoecd/531_18_/36701585.pdf
- [9] MATALON, Vincent, 2012. American justice closes the Megaupload download site. francetv info January 20, 2012. Available at: http://www.francetvinfo.fr/culture/la-fermeture-de-megaupload-en-trois-questions_52829.html
- [10] QQUINN, James Brian. The smart enterprise: knowledge, services and technology. Paris: Dunod, DL 1994, cop. 1994, 514p. ISBN 2-10-002212-1.
- [11] Edvinsson, L. & Malone, M. (1999). The intangible capital of the company: identification, measurement, management. Paris: Éditions Maxima.
- [12] Pépin, J. (2006). Intangible capital, 7 days to understand, study days. CIGREF 2006.
- [13] Abeysekera, 1. (2006). Intellectual capital. F i nandal Management, London : March, p. 38-39.
- [14] Gallego ,. & Rodrfiguez, L. (2005). Situation of intangible assets in Spanish firms: an empirical analysis. Journal of Intellectual Capital, 6 (1), p. 105-120.
- [15] Green, A. & Ryan, JCH (2005). A framework of intangible valuation areas (FIVA): aligning business strategy, Journal of Intellectual Capital, 6 (1), p. 43-67.
- [16] EDVINSSON L., (2000): "Some perspectives on intangibles and intellectual capital 2000", Journal of Intellectual Capital, vol 1, No 1, pp.
- [17] Sveiby, KE (1997). The new wealth of companies: Knowing how to take advantage of the intangible assets of one's company. Paris: Editions' Maxima.
- [18] Stewart, TA (1997). Intellectual capital: the new wealth of organizations. New York: Doubleday.
- [19] Bontis, N. (2003). HR's role in knowledge management. Canadian HR Reporter, Toronto: Mar 10, 2003. Vol. 16 (5), p. 8-9.

- [20] Edvinsson, L. & Malone, M. (1999). The intangible capital of the company: identification, measurement, management. Paris: Éditions Maxima.
- [21] Subramaniam, M. & Youndt, MA (2005). The influence of intellectual capital on the type of innovative capabilities. *Management Journal, Briarcliff Manor*, 48 (3), p. 450-465.
- [22] Chen, J., Zhu, Z. & Xie, HY (2004). Measuring intellectual capital: a new model and empirical study. *Journal of Intellectual Capital, Bradford*, 5 (1), p. 195-212.
- [23] Canibano, L., Garcia-Ayuso, M. & Sanchez (2000). Accounting for intangibles: a literature review. *Journal of Accounting Literature, Gainesville*, 19, p. 102-124.
- [24] Grasenick, K. & Low, J. (2004). Shaken, not stirred: defining and connecting indicators for the measurement and valuation of intangibles. *Journal of Intellectual Capital, Bradford*, 5 (2), p. 268-281.
- [25] Solleiro, JL & Castanon, R. (2005). Competitiveness and innovation systems: the challenges for Mexico's insertion in the global context. *Technovation, Amsterdam*, 5 (9), p. 1059-1068.
- [26] Persais, E. (2004). Societal relations: challenges and limits. *Revue Française de gestion*, 30, p. 88-102. And Persais, E. (2004). Sustainable excellence: towards the integration of stakeholders. *La Revue des Sciences de Gestion*, 205, p. 65-83.
- [27] Bozbura, FT (2004). Measurement and application of intellectual capital in Turkey. *The Learning Organization, Bradford*: 2004. 11 (4/5), p. 357-374.
- [28] SVEIBY, KE (2000), "Knowledge management, the new wealth of companies", Paris, Maxima editions
- [29] Papmehl, A. (2004). Accounting for knowledge. *CMA Magazine, March*. vol. 23, n ° 3 (March), p. 47-62.
- [30] Bessieux-Ollier, C. & Lacroix, M. (2005). Intellectual capital, human capital: the challenges of measurement. Communication to the international conference of teaching research in accounting (IAAER day), Bordeaux.
- [31] Kaplan, RS & Norton, DP (1992). The Balanced Scorecard - Measures That Drive Performance. *Harvard Business Review, Boston*: (Jan / Feb), 70 (1), p. 71-80.
- [32] Sveiby, KE (2000). The new wealth of companies: Knowing how to take advantage of the intangible assets of one's company. Paris: Editions' Maxima.
- [33] Weldon, E. & Yun, S (2000). The effects of proximal and distal goals on goal level, strategy development, and group performance. *The Journal of Applied Behavioral Science, Arlington*: 36 (3), p. 336-344.