Intangible capital and performance: Overview over previous models

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Abstract

Intangible capital represents all of the company's intangible assets: these are separately identifiable assets that contribute to the company's current and future profitability, but whose value does not appear on the balance sheet.

Understanding intangible capital has become, today, a challenge for managers, financiers and accountants, because, in a context of increased competition, the role of this capital in the creation of value for all stakeholders is a recent concern. Similarly, the omnipresence of intangibles has accelerated reflection on the sources of business performance.

The overall value of a company is based on a mix of different types of intangible resources, but also on its dynamic ability to combine, renew, develop, etc. Thus, it is not necessarily the company richest in physical resources that is competitive because intangible capital has become the economic concept associated with the essential of the value of the company.

However, research from emerging nations reveals that there is a dearth of empirical study in Africa. Despite considerable contributions from experts overseas, the notion of intangible capital is still in its infancy in this emerging country. As a result, there is a strong need to investigate the idea of intangible capital and evaluate if existing metrics can be applied to all emerging nations.

All these elements lead us to ask the following question. How intangible capital, through its human components, organizational and relational, contributes to the performance of companies? To answer this question, we will attempt to analyze the mechanisms of interaction between the various components of the intangible capital of companies by presenting a narrative literature review that aims to investigate the relationship between intangible capital and business performance.

Keywords: Intangible capital; Performance; Human capital; Organizational capital; relational capital.

JEL Classification: M50

Paper type: Theoretical Research
Introduction

The tertiarianization of the economy, amplified by the explosion of services, has shown the difficulty of measuring the overall value of the company. Indeed, several studies find that the vast majority of the market capitalization of listed companies is made up of intangible assets, which necessarily implies a (increasingly large) gap between "market value" and "book value". Intangible capital, a concept that lies at the crossroads of the economic, accounting and managerial fields, is not intended to be valued quantitatively but qualitatively.

Intangible capital represents all the intangible assets of the company: they are separately identifiable assets that contribute to the current and future profitability of the company, but whose value does not appear on the balance sheet.

Understanding intangible capital has become, today, a challenge for managers, financiers and accountants, because, in a context of increased competition, the role of this capital in creating value for all stakeholders is a recent concern. Similarly, the omnipresence of immaterials has played a role in accelerating the reflection on the sources of performance of the company.

The enterprise derives its economic power and power more from its intellectual capacities and services than from its tangible assets, which is why intangible capital is an important source of competitive advantage. Edvinsson and Malone present the qualitative and intangible aspect as a vital source of value, performance improvement and competitiveness of companies (Edvinsson & Malone, 1999).

It is its monitoring over time and the improvement of its quality that will be a source of lasting value. With this in mind, the measurement of its quality goes through that of each indicator, such as the implementation of a monitoring policy (technological, competitive, strategic), the measurement of customer satisfaction with products and employees, information media for customers (newsletter, extranet, ...), the budget devoted to R&D and many others.

The rise of the concept of intangible capital in the academic literature over the last twenty years naturally raises the question of its evaluation, a question that challenges the researcher in management, economics but also the researcher in accounting and finance. To participate in the advancement of research in this field, we will synthesize previous research.

The overall value of a company is based on a mix of different types of intangible resources, but also on its dynamic ability to combine, renew, develop, etc. Thus, it is not necessarily the company richest in physical resources that is competitive because intangible capital has become the economic concept associated with the essence of the value of the company.

In a context characterized by global competition between companies, researchers are led to propose original conceptual and instrumental frameworks. To this end, several works carried out by researchers and institutions focus on the study of the immaterial in different disciplines. These works often translate partial or specific visions and in spite of the announced importance of the immaterial, several conceptual and instrumental ambiguities are not yet resolved and no compromise is yet established. As a result, all the research carried out to date does not yet seem to have led to a definite reflection on the nature of the problem and its theoretical and practical consequences. However, some tools relating to intangible capital are beginning to appear on an experimental basis, essentially in companies in northern Europe, the best-known case being that of Skandia (Edvinsson, Malone and Mazars Audit, 1999).

This article aims to first address the question of the definition of the intangible in a general way and to highlight the context of the appearance of intangible capital. Then, we will detail the different components of this capital to finally close with the discussion of the different possible interactions between the components of intangible capital and their links with the performance of companies.
1. Conceptual framework of intangible capital

The notion of intangible capital was first highlighted by the Scandinavian school. Indeed, Edvinson and Sulivian (1996), Edvinson and Malone (1997) defined this concept and emphasized its components, its evaluation and its management. In France, Bounfour (2000) was the first to take an interest in the study of this concept. Defining intangible capital turns out to be a delicate and complex mission for theorists, because this notion raises a conflict between several disciplines, in particular economics, finance and accounting.

This concept therefore suffers from imprecision and a lack of a universally accepted definition (Bardes, 1997, Bounfour, 2000, Cazavan-Jeny, 2003, Montalan and Vincent 2010). Several authors consider it a delicate concept to grasp because of its nature and the heterogeneity of the fields it covers. This sometimes generates contradictions and inconsistencies in the terminology and in the understanding of the different concepts used.

1.1. Intangible capital: at the crossroads of several disciplines

The definition of intangible capital uses many terms such as intangible, intangible or intellectual that we consider synonymous like other authors (Montalan and Vincent 2010). This concept of intangible capital is very recent and lies at the intersection of several streams of research.

1.1.1 Financial and accounting approach:

The researcher wishing to study intangibles notes the predominance of the accounting aspect in the literature. The conceptual framework of previous research is limited by the “expenditure” aspects; “Investment” and “asset” of intangibles. The distinction between these concepts remains difficult which is due to the ambiguity of the borders separating them. Thus, a study of the literature reveals that the choice of such and such a concept (capital, assets, investment ...) is dictated by the angle of attack of the research in question.

Thus, Bessieux-Ollier and Walliser (2010) emphasize the terminological precision of the intangible. According to these authors it is perhaps more appropriate to privilege the economic concept of "capital" to that of "assets" especially since "capital" is also a legal term that the accountant cannot ignore.

To differentiate capital and assets, we can say that the term capital comes from the economy as a factor of production. It is in this idea that the notion of “human capital” specific to the Nobel laureate in economics in 1992, Gary Becker, was developed by analogy to physical or financial capital (Bessieux-Ollier and Walliser 2010).

An asset, as it results from the current definition of the PCGE (general accounting plan for companies) is "a series of" net uses "of the balance sheet available to the company at the date thereof, and made up of elements of heritage having a positive economic value for the company and jobs in "non-value" ".

For international accounting standards (IFRS), an asset is a resource capable of generating future economic benefits. This last definition allows us to use the terms asset and capital interchangeably.

The use of the term "intangible" is a way of opposing "material" to qualify items that are non-material, whether they are resource assets or property rights. Tangible capital 'takes into account the past of the company while intangible capital is more concerned with the possibilities of creating future long-term wealth.

The qualifier 'intellectual' derives from a sociological approach: rather "Intellectual investment is the implementation of a global thought which deliberately relies on the introduction of intelligence in the various processes of the company" (Caspar and Afriat 1998 cited Bejar 2006). This use of the term “intellectual” gives space to the intelligence of the personnel.
working within the company, to their knowledge and know-how (Bessieux-Ollier and Walliser 2010). Before January 1, 2005, the international accounting nomenclatures (IAS-IFRS standards) recommend recording intangible elements among expenses and not as investments to be activated in the Balance Sheet. However, the current trend is to consider intangible assets as investments resulting from research and development efforts and therefore to activate them (Lev and Zarowin, 1999).

This decision aims to guarantee the reliability of financial information intended for investors and to facilitate the overall assessment of companies. This implies for the company to take more and more into account its intangible assets, while developing valuation techniques applicable to certain elements such as trademarks or patents. However, the know-how of a team is still very difficult to promote.

To close this accounting aspect, we can say that until now, accounting has failed to capture the intangible capital of the company. Only for the sake of clarity vis-à-vis shareholders and partners that company directors incorporate voluntary information relating to intangible capital in the social accounts.

1.1.2 Economic approach

Schumpeter is the first economist to discuss the role of innovation (or intangible investments in R&D) in economic growth. However, research in economics only began to address the concept of intangible capital in the late 1990s. Until now, there is no consensus among authors on the definition of the concept of intangible (Cazavan-Jeny 2004). Epingard (1998) defines intangible capital as being a detour through the production of knowledge that is incorporated in the long term in objects, people and organization, this capital thus makes it possible to boost the creation and dissemination of knowledge and skills serving to increase the productivity of human labor in organizations. This production detour materializes in the case of intangible investment through the production of knowledge (Alcouffe and Louzani 2003). Thus, the definition of intangibles should evoke its purpose, which is the improvement of human productivity and the creation of value.

According to Denison (1962), skill and hard work were the most important determinants of economic growth in the United States, but valuing these determinants remains difficult to achieve. Thus, the researchers of this current insist on the importance of other factors of production, other than capital and labor.

To this end, we can say that the intangible contributes positively to the productivity of the company by allowing the production of knowledge and the improvement of the level of human capital.

1.1.3 Strategic approach

The 'resource-based-view' serves as an important theoretical foundation for understanding the concept of intangible capital. This theory is centered on determining the key strategic resources available within the company and which contribute to the creation of its competitive advantage. Thus, according to its supporters (Wernerfelt, 1984, Barney, 1991, Grant, 1991), the difference between the performance of firms is due mainly to their internal resources rather than to the external industrial environment. is understood as a strategic internal resource allowing the company to have a sustainable competitive advantage.

Wernerfelt (1984) defines resources as follows: "The resources of a firm at a given time can be defined as those of assets (tangible and intangible) which are semi-permanently linked to the firm. These are, for example, brand names, internal knowledge and technologies, employment of qualified personnel, commercial contacts, machines, procedures". For Grant (1991), resources are inputs in the production process and they are its basic units of analysis. It identifies

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six types of resources within the business (financial, physical, human, technological, reputation and organizational).

Dierickx and Cool (1989) emphasize the importance of developing a strategy of accumulating strategic resources such as reputation and quality, through appropriate choices. With regard to intangible investments (R&D, advertising), several authors, including Bounfour (2000), consider them as strategic expenses incurred by the company with the prospect of accumulating resources or intangible assets (brand loyalty, patents, development of technological expertise, cooperation networks, product quality, etc.). According to this theory (RBV), intangible assets (human, organizational resources, etc.) are critical or strategic resources that make it possible to create a sustainable competitive advantage for the company because they are valuable resources, rare, not perfectly imitable by competitors and not substitutable (Barney, 1991).

In addition, several works and researches, in parallel with the theory of resources, have tried to propose tools for measuring the intangible capital of the company. Based on this work, several companies have for some time published information on their intangible capital in their annual reports.

The Swedish insurance company SKANDIA is the pioneering case in being able to establish a dashboard measuring intangible capital called 'Skandia Navigator'. This model is designed by Leif Edvinsson who is recognized in the managerial literature as the main founder of the approaches to measuring intangible capital. The adoption of intangible capital valuation models as well as their disclosure are becoming more and more widespread in companies at the international level such as: Canadian Imperial Bank of Commerce, Dow Chemical, Grandvision, (Bounfour, 1998; Cazavan-Jeny, 2003).

The starting point of the RBV approach was the empirical finding that companies in the same industry are heterogeneous in terms of the resources they use and that these differences persist.

We can say that this approach is centered on the potential of strategic intangible resources to create sustainable competitive advantages for the company. This is based on the capacity to make of these resources specific factors allowing to increase the intangible capital.

1.2. The history of the concept of intangible capital

The importance of taking intangible elements into account emanates from precursors of economics such as Adam Smith (1976), who made a link between the increase in the skills of workers and economic progress. Taylor, at the start of the 20th century, also highlighted the importance of taking the human factor into account in organizations.

The concept of 'intangible capital' was first introduced by Kenneth Galbraith in 1969 (Bontis, 1998) which characterized it as the ability to transform knowledge into valuable products for the company.

The 'RBV' resource theory, on the other hand, proposes a paradigm shift in business strategy. Thus, according to this current, competitiveness comes directly from a difference in the resources used by the enterprise. In addition, Nobel Laureate in Economics, Gary Becker (Becker, 1964) is considered the founder of human capital theory with an emphasis on investment in education. It thus forms one of the pillars of the theory of endogenous growth.

The authors of the theory of dynamic capacities (Teece, Pisano and Shuen, 1997) deal with the intangible side of assets, particularly organizational ones, and the impact of their accumulation on the acquisition of skills and on learning. They define the dynamic capacities of a firm as being its capacity to build, integrate and reconfigure internal skills and to quickly adapt to changes in the external environment.

The theory known as "knowledge-based" (theory of knowledge), affirms that knowledge is the most important resource of the firm; it is a strategic resource.
This theory describes the firm as a dynamic, evolving and autonomous system of production and application of knowledge (Drucker, 2001). It insists on the interaction between individuals and the group to share and create knowledge as well as the impact of this interaction on the competitive advantage of the firm. The founders of this current (Nonaka and Takeuchi, 1995) consider that the priority of the company is to maximize the value of the knowledge built in order to develop and strengthen its performance potential.

For the sake of clarification of the notions of investment and asset, Boisselier (1993) focuses on the definition of technical capital "all material goods, which are used in production detours and increase the productivity of human labor. ". This ability of capital to increase the productivity of human labor alone justifies the integration of intangibles (such as R&D) into the sphere of capital. Technical capital would be, according to Boisselier, "all tangible and intangible goods, which are used in production detours and increase the productivity of human labor". Fustec and Marois (2011) define intangible capital as “all the wealth of the company that is not read in the financial statements”. This is what the financial markets value by the ratio between the market capitalization of companies and their net book value.

Moreover, we can say that intangible assets have the same role as tangible assets. They help generate future profits for the benefit of the company, and this is how they constitute capital. But their substance is different, without physical containment.

1.2.1. Definition of intangible capital

Due to its nature and the heterogeneity of the fields covered, several authors consider it a difficult concept to grasp. This sometimes creates contradictions both in the terminology and the understanding of the different concepts related to intangible capital.

In order to understand this concept, we think it necessary to present the different definitions of intangible capital, so that we can then synthesize them and come up with our own definition. Since the emergence of the concept of intangible capital, researchers in the field of management sciences have not yet reached a consensus on its definition, which is why we see various definitions. This heterogeneity of existing designs creates further complications, which slow down the understanding and analysis of the concept.

Marois et al. (2003) propose a simple definition: “intangible capital is constituted by all that is not “material”, in the assets of a company, excluding therefore: real estate (offices, factories, warehouses), equipment, stocks of raw materials or finished products »

The intangible capital of a company is unique and absolutely specific to it: the nature of the elements on which a company can play depends on a certain number of factors which vary from one company to another. As a result, one company will include in its definition a factor that another company will exclude. The concept of intangible capital is not a concept that goes without saying. We notice multiple procrastination around this one which are presented in the following table:

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<th>Authors</th>
<th>Definition</th>
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<tr>
<td>Gathering (1995)</td>
<td>Intangible capital is knowledge that can be converted into profit.</td>
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<tr>
<td>Brooking (1997)</td>
<td>IC is the term given to the combination of intangible market assets, intellectual property, human and organizational infrastructure assets that help the business operate.</td>
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Walid BENYAKHLAF & Mohamed LOTFI. Intangible capital and performance: Overview over previous models

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<th>Source</th>
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<td>Bontis (1996)</td>
<td>IC is elusive, but once discovered and harnessed, it can provide the organization with a new resource base with which we can compete and win.</td>
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<td>Stewart (1997)</td>
<td>IC is the intellectual material, knowledge, information, intellectual property, experience that can be used to create wealth.</td>
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<td>Roos (1998)</td>
<td>The IC contains all processes and assets that are not normally seen in the balance sheet of the company and all intangible assets relating to trades, patents or brands. It also encompasses the sum of the knowledge of the members of the organization as well as the translation of this knowledge.</td>
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<tr>
<td>Edvinsson et Malone (1999)</td>
<td>IC is the possession of knowledge, practical experience, organizational technology, customer relations and professional skills that give the company a competitive advantage in the market.</td>
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<tr>
<td>Bontis, Dragonetti, Roos &amp; Jacobsen (1999)</td>
<td>We call intangible or intellectual capital the set of intangible resources as well as the links that unite these different resources, immaterial capital therefore corresponds to the set of immaterial resources and their flow.</td>
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<tr>
<td>Petty et Guthrie (2000)</td>
<td>The IC is an indicator of the economic value of two categories (organizational and human) of the firm.</td>
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<tr>
<td>Rastogi (2003)</td>
<td>IC is the ability of a company to coordinate, orchestrate and deploy its knowledge resources towards the creation of value in pursuit of its future vision.</td>
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If we summarize all these definitions, we will get the following definition: "CI is elusive. It involves knowledge in the business. It is a combination of intangible assets, intangible resources, personal skills and technology. It helps organizations create wealth and gain a competitive advantage in the marketplace."

We note that in this perspective, intangible factors are far from being limited to knowledge or information. Intangible factors include everything that induces preferences, human decisions, in the private and professional context, and therefore gives value to products and services, efficiency to organizations. These factors also cover all that, in man, nourishes or inhibits creation and production.

1.2.2. The components of intangible capital

Intangible capital can be defined through its main components but it is necessary to note a controversy on the intangible elements in the company (Bessieux-Ollier and Walliser, 2010) because the concept of intangible capital is very recent. From the work of Edvinsson & Malone (1997) and Sveiby (1997) emerges a certain compromise on the breakdown of intangible capital into three components: human capital which concerns the men of the company (individual capacities, knowledge, experience), organizational capital which includes the company's organizational systems, information technologies and relational capital which concerns relations with customers and external partners of the company, etc.

We will try to detail, in what follows, these three main components of intangible capital.
The distinction between three forms of intangible capital is the subject of an agreement between several authors, namely human capital HC, structural capital SC and customer capital CC or relational. On the other hand, the breakdown of each capital differs from one author to another.

1.2.2.1. Human Capital

Human capital is the knowledge that employees possess when they leave the company (MERITUM guidelines, 2002). This includes people's knowledge, skills, experience and abilities. Therefore, human capital is a dynamic process involving multiple aspects and spanning different time horizons. It represents the stock of personal knowledge in the organization, which is expressed in terms of skills, attitudes and intellectual capacities or agility of its employees (Roos, Dragonetti, Edvinsson, 1998).

The Human capital can be divided into three main components. The first component is skills which represent people's ability to apply their knowledge and know-how to form business knowledge under given restricted working conditions. Capacity, therefore, can be realized in action: it is a process that transcends knowledge and expertise, it involves people's behaviors, interpersonal skills and moral attitudes. (Grundstein, 1995).

The second component is attitudes which usually depend on personality, that’s why it is difficult to prove them. They are related to behavior, dynamism and motivation. Most authors believe that attitude is indeed composed of three related but distinct elements. The concept of attitude is always global and is intrinsically linked to the coexistence of these elements. In fact, any attitude depends on the interactive trilogy between cognitive component which evokes knowledge, ideas and beliefs related to the object of this attitude. Then come the emotional or affective component based on our bodies and react with them through various manifestations, and finally the conative or behavioral component which is an incentive to action, not an incentive to transform an action into a behavior. (Aubert et al, 1991).

The last component is intellectual agility that refers to the ability to transfer knowledge from one situation to another, to understand the common factors between two different pieces of information and to combine them. It is also the ability to link knowledge to the final product through innovation. Therefore, intellectual agility refers to the ability to use knowledge in real-life situations and to increase knowledge through learning.

1.2.2.2. Structural Capital

Structural capital is a subset of intangible capital, a complement to human capital in it, including the organizational structure, software, databases, patents and trademarks, the quality of social relations in the company, the quality of customer relations (Silem, Albertini et al, 2010).

The structural capital of the company is at the same time the expression of the human capital and its infrastructure, it is also all of its organizational systems, including those used to transmit and store knowledge. (Edvinsson & Malone, 1997)

The structural capital can be divided into two main components. The first component is the organizational Capital which represents the company's internal structure, infrastructure (technologies, methodologies, communication systems, etc.), processes and culture. (Roos et al 1997).

The organizational capital mainly consists of two elements. The first element is the innovation capital which represents innovative achievements in the form of licenses, property rights and the launch of new products and services, and the good management of this capital allows you to see, to anticipate, to invest in a timely manner, to remain vigilant and at the same time to have strategic flexibility.

The second element is the capital process which refers to the operational process that improves the efficiency of producing goods or services. It is practical knowledge that can be used for the continuous creation of value.
The second component of structural capital is the relational capital or clientele which is defined as: “all the resources related to the external relations of the company”. Indeed, relational capital or customer capital represents the relationship of the company and external actors (such as suppliers, shareholders, external partners, alliances and customers). It represents an organization’s employee or network relationships, industry knowledge, customer and supplier relationships, industry associations, and a deep understanding of the impact of government policies. Customer capital represents the value of the customer list and associated information, the value of the relationship between the company and the customer, the customer’s satisfaction and loyalty to the organization. (MERITUM Guidelines (2002))

2. Intangible capital and performance

2.1. Models based on Intangible capital:

2.1.1. A study of intangible capital in Malaysia:

This empirical study aims to investigate the intangible capital’s three components: Human Capital (HC), Organizational/Structural Capital (OC) and Relationship Capital (RC) and their interactions in two Malaysian industry sectors. Bontis et al (2000) conducted a Psychometric Testing Survey already administered in Canada. Their model was solved by Structural Equation Modelling (SEM). They found a significant correlation between the intangible capital different components on one hand and an interconnection between these elements and the firm’s performance on the other.

This is the first study ever conducted on Malaysia, knowing that research on intangible capital in developed countries are numerous, including Roos (Great Britain), Edvinsson (Scandinavian countries), Sveiby (Australia), Bontis (Canada), Stewart (USA).

According to this study, despite the importance of technology and intangibles in the Malaysian context, most firms use traditional financial tools and old tangibles measuring methods. For example, Malaysian companies use the concept of Goodwill (the difference between the company’s fair market value and its book value), yet intangible capital management is neglected in both service and non-service sectors.

Research in Malaysia shows that knowledge and learning are important to firms and they are considered as a strategic tool for competitiveness. The authors attempted to examine the relationship between the different intangible capital components in Malaysia as knowledge-based opportunities have been growing recently in this country.

The objective of this research was to test the interrelationships between the independent variables (HC, OC, RC) and the Firm Dependent Variable Performance (FDVP) in Malaysia. The final model of this study shows a robust explanation of business performance variance in the Malaysian context that can help in future research in different situations.

This study leads us to understand that human capital is the most important component, it has a major influence on the other two elements of intangible capital, in addition the study reveal that the relationship capital has a significant influence on organizational capital and also that the development of organizational capital has a positive impact on firms’ performance.

2.1.2. The intangible in Spain:

Martinez-Torres M.R (2006) sought to present and understand the use of intangible capital in knowledge organization. She also addressed the relationship between the different intangible capital components namely: Human, organizational and relationship capital, through Structural Equations Method. In her study, the author considered intangible capital to be the only factor that help the company to achieve its strategic objectives. In order to validate the indicators, Martinez-Torres used Structural Equation Modelling (SEM).

She proposes three hypotheses to be validated in this work:
- H1: HC has a positive effect on OC.
- H2: OC has a positive effect on RC.
- H3: RC has a positive effect on HC.

Yet, she also specifies that these relationships form a sort of feedback where the influence between the different elements is reciprocal in both directions. To validate her model, she chose a university system (a university department) and used the social law department specifically. The validation of the structural equations was done by PLS (Partial Least Square).

2.1.3. The study of intangibles in South Korea:

Moon and Kym (2006) proposed a classical tool used by managers to track and handle their organizations’ intangible capital with the aim of identifying areas that require more resources. The proposed model can also be used as a prototype to estimate the firm's IC (Intangible capital).

Moon and Kym (2006) report that despite the fact that it is recognized as being important by all companies, the valuation of intangible capital has remained problematic. They used the literature to develop a three-dimensional model, for each dimension they defined a set of sub-factors and they looked for indicators within each one of these sub-factors. This model was validated using the structural equation method.

2.1.4. Intangible capital and value creation:

This study conducted by Tseng and Goo (2005), focusing on financial perspectives, describes how to apply the concept of value creation to intangible capital. This study attempts to connect intangible capital and deployment through changes in Enterprise Value (EV), and more specifically attempts to link both of them. This study comes to terms that human capital, organizational capital, financing innovation and relationship capital are four components of intangible capital.

According to this study’s empirical results, not only the relationships between the four components of intangible capital are needed, but eight value-creation paths must also be defined. This study concludes that human resources and organizational capital indirectly have a positive influence on the companies’ value, in contrast to innovation and relationship capital that have a direct positive impact. Human capital has a high interaction level with the other three components, whereas organizational capital also has a positive influence on innovation and relationship capital. Finally, Innovation capital positively affects relational capital.

Currently, firms face the challenge of measuring and managing the key ingredient in the new economy, namely intangible capital which are difficult to achieve, but once identified and exploited, they can provide a path to value creation.

This study made various contributions to both researchers and practitioners. In addition to that, it conducted one of the first empirical tests of the association between intangible capital and enterprise value (Figure 1).
This study has many practical implications for managers. The ability to innovate is very important for increasing enterprise value. Effective management of human capital has a positive effect on firm innovation. In fact, hiring the brightest employees is not enough. A company must establish a human resource management system, increase its human capital stock; Foster leadership and management skills, improve workforce attitude and expand knowledge and skills.

The common point between the four above-mentioned works, is that they used the structural equation method in order to define the different existing relationships and measure the values of the various intangible capital components, hence proving the existence of a dynamic that is created by intangible capital at a corporate level.

2.2. IC/PE Relationship Processing Method:

Since the 2000s, several research studies on intangible capital have been conducted in different countries. Numerous studies have dealt with the interactions between intangible capital components and elucidate the importance of these interactions for company’s performance. Indeed, Bontis et al (2000) propose that human capital positively affects the relationship capital and that both affect organisational capital: Human capital is therefore the most important component. Martinez-Torres M.R (2006), Moon and Kym (2006) and Hsu and Fang (2008) propose different hypotheses concerning possible interactions connecting the three components. In the following points, we will summarize these main studies.

2.2.1. Western Ontario University Model

This model, derived from a study developed by Bontis (1998), explored the impact of intangible capital on the responsible management of Western Ontario University. It is based on a pioneering study developed using principal component analysis and Partial Least Squares Regression. It suggests a causal relationship between the dimensions of intangible capital and organizational outcomes.

The most significant result they found is that human capital has a noteworthy influence on organisational and relationship capital. Similarly, it proclaims that the relationship between capitals is beneficial in case of responsible management. Therefore, the block or explanatory factor of the model is represented by human capital. These relationships are demonstrated in Figure 2.
Figure 2: University of Western Ontario model

2.2.2. The direct and indirect impact of intangible capital components on performance: Wang and Chang (2005)

With a sample of companies quoted in the IT (Information Technology) industry in Taiwan, this study examines the causal relationship between intangible capital’s components and firm performance. The authors discovered, step by step, the interrelationships between the four elements and how they affect performance. The results reveal that, apart from human capital, all other components (Innovation, organisational and relationship capital) have a direct effect on performance (Figure 3). Although, human capital does not have a direct impact on performance, it does have a direct impact on the other capital elements, which in turn affect performance (Figure 4).

There is also a correlation between the elements of intangible capital. Human capital has a direct impact on innovation and organisational capital which still influence relationship capital which influences by its turn the performance. Also, it is important to mention that the innovation capital directly influences organisational capital (Figure 5).

In short, human capital is the main factor in which management should put the most effort. This study shows how the elements of intangible capital affect the performance of the firm in Taiwanese industry and provides some implications for the IT sector.

Figure 3: The direct impact of the components of intangible capital on performance

2.2.3. The effects of intangible capital on Argentinian industry performance

This study analysed the impact of intellectual capital on the relationship capital performance. Therefore, policies that promote employee learning and their professional qualifications, instigate the firm's tangible capital indirectly. On the other hand, the authors demonstrated that relationship capital acts on organisational capital. Consequently, the latter is based on a combination of human and relationship capital, i.e., the relationships between customers, suppliers and other social actors together with the proper training of the company's employees will facilitate the emerging of a coherent corporate culture and an efficient use of organizational systems and processes. In conclusion, it can be said that human capital is the source of intangible capital. When unfolding in the environmental relationships, it generates an increase in relationship capital.

The results suggest a series of policies and control strategies in these companies that are certainly extensible to other areas of developing countries. In order to maintain a successful growth in the companies, it is fundamental to intensify the efforts aimed at raising the company’s human capital because it is the source of intangible capital.

Developing the relationship capital is done by promoting relations with external individuals, even informal, as they will be a capable source contributing to the company performance growth. Consequently, any firm must consider this as a fundamental strategy of development and progress. In this respect, the training of entrepreneurs and workers must be included in the development policies which are consistent with the generation of intangible capital. Thus, it is desirable that companies foster their relationships with different partners with the aim of building up a stock of relationship capital through staff training in this sense.

3. Conclusion

Intangible capital is increasingly important in the management, development and growth of businesses. Information and knowledge are at the heart of the new economy and constitute the
main business activities. Humanity and qualitative aspects are also a key element of the company, in particular the importance of the skills required. Intangible capital is made up of three types of capital (human capital, organizational capital and customer capital). These three types of capital are at the origin of the creation of company value. However, it is not the absolute sum of capital that creates value. On the contrary, the interaction between them is the source of value creation. Although intangible capital represents an element of business that has existed for years, as a concept it is relatively new. However, it is rapidly becoming more important in understanding the value, and value potential, of business. This influence of the components of intangible capital should not be seen in isolation, but we must take into account the necessary interaction between these elements. These three components are closely linked. Indeed, thanks to its human capital, the company can build and develop organizational and relational capital. Organizational capital can itself contribute to the development of human capital. For its part, relational capital includes commercial assets that contribute to the creation and marketing of innovations. In other words, the three components of intangible capital implement the mechanisms and structures that help the company achieve optimal performance. Intangible capital is the energy that allows the company to innovate, to face changes, to value its customers, shareholders and employees and to adapt to changes to face the future without fear. It is necessary to have the three elements of immaterial capital: people, organization and customers, but it is not enough. These elements should interact and complement each other. The company's performance is not the result of just one of these components of intangible capital, but of their interaction. Indeed, if the organization is strong in one or two of these components, while the third is weak or poorly managed, it has no possibility of converting its intangible capital into value for the company (Edvinsson and Malone). Therefore, to better allocate, manage and save resources on the one hand, and to attract investors and highly competent employees on the other hand, human capital had to be transformed into organizational and relational capital. In this perspective, Bounfour (2003) introduces the notion of the dynamic value of intangible capital to understand its potential to create a competitive advantage for the company through a structure integrating four dimensions, namely inputs (intangible investments), the process (the skills), the intangible assets and the outputs (improved financial performance). This structure demonstrates that intangible capital requires intangible investments such as those in R&D, training, new technologies, in order to be able to generate a competitive advantage and improved performance through distinctive skills.

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