USING THE HIDDEN VALUE OF INTELLECTUAL CAPITAL AS A MANAGEMENT TOOL

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ABSTRACT
Intellectual capital is the main ingredient of the future company valuation. It is, however, a hidden value driver and that is why it can be very difficult to determine its correct value. There are some studies in the research and academic community that emphasize the disclosure of intellectual capital information in a company's annual report.
Every such endeavor wants to invent the wheel all over again. In this paper no wheel will be invented, but an existing one will be turning.
In this manner it is created the possibility for all stakeholders to interpret the information about the intellectual capital value in the same way they are used to evaluate a company's financial situation and its future potential.

KEYWORDS: *company value, intellectual capital, structural capital, human capital, customer capital*

JEL CLASSIFICATION: *M19*

1. INTRODUCTION

Within the last period, the concept of Intellectual Capital represented a big research theme for specialists, in order to identify the best ways to recognize it, measure it and manage it in all the types and fields of economic activity. The importance of and the interest in the concept of intellectual capital are still growing. Research papers, various thesis, journal articles and even books have been written and conferences have been held to underline the high impact of Intellectual Capital in the real world. According to Leif Edvinsson (2012), on enterprise level, a number of significant prototyping project have been launched, such as:

- RICARDIS – Reporting on Intellectual Capital to Augment Research, Development and Innovation in SMEs, a European Commission project finished in 2006
- EFFAS - European Federation of Financial Analysts, officially published in March 2008, the *Principles for Effective Communication of Intellectual Capital*
- WICI - World Intellectual Capital Initiative, a public/private sector consortium researching and developing intellectual capital accounting and integrated reporting, with the backing of leading accounting firms and leading intellectual capital scholars

Globalization of the today's economy proves that organizational assets are no longer envisaged only on traditional assets such as capital and labor. To be updated and keep the pace with competition, a greater emphasis is placed on culture, brands and ideas. Besides the ones we mentioned, knowledge activities, collaboration skills and personal skills play a more central role. All these properties are

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collectively called intangible assets. The intangible assets are seen as the resources that could create a competitive advantage (Grant, 1997 and Roos and Roos, 1997) and that could enhance the innovative capabilities within the organization (Subramaniam and Youndt, 2005).

We live in a knowledge based economy and intellectual capital represents a source of company value. However, this added company value is not reported on the company's balance sheet. Moreover, it is a hidden value and its exact worth is difficult to determine. Therefore, traditional balance sheets only reflect the pure fundamental and basic situation, while the financial world mostly uses expectations, future perspectives and a company's potential to determine the value of a company.

This study represents the cornerstone of a larger research paper that will show that the underlying value of a company is higher than the value reflected on a company's traditional balance sheet by presenting a way of reporting the value of intellectual capital on a company's balance sheet. It will be done by unveiling a monetary value to a company's intellectual capital, which will be used to re-invent the company's balance sheet. This paper contributes by bringing knowledge to the research field of measuring and reporting the value of intellectual capital. Furthermore, this study could be used by managers in the process of managing their intellectual capital in a better way.

2. THE MEANING OF INTELLECTUAL CAPITAL

Within the last period of time a lot of research has been performed on the subject of intellectual capital. In the existing papers, books and related literature the term intellectual capital is mainly associated with terms like intangible assets, non-financial assets, information assets, knowledge capital, hidden value and human capital (Bontis, 2001).

A standard definition of the concept is still not available, although there is growing amount of research in this field. The definition used, often depends on different perspectives and disciplines (Marr and Chatzkel, 2004). According to Marr and Chatzkel, from an accounting perspective, intellectual capital refers to the 'non-financial fixed assets that do not have physical substance but are identifiable and controlled by the company through custody and legal rights' as defined by the Accounting Standards Board. From a human resource perspective, intellectual capital is associated with the individual skills and the tacit knowledge of the employees. One step forward in defining the concept from a marketing perspective would probably result in a definition including the words brand and customer satisfaction.

The definition that best suits the problem at hand is the definition developed in collaborative effort. According to Petrash (1996), Edvinsson, Onge, Sullivan, the Canadian Imperial Bank of Commerce (CIBC) and Petrash together created the following definition:

Intellectual Capital = Human Capital + Organizational Capital + Customer Capital

Edvinsson, Sullivan and Onge developed a diagram, which underlines the direct relationship of the different elements of this definition and the way in which value is created when knowledge flows between them (Petrash, 1996). The dotted triangle represents the management of intellectual capital. The idea is to enhance the number of interrelationships resulting in maximizing the value space (Brennan and Connell, 2000).

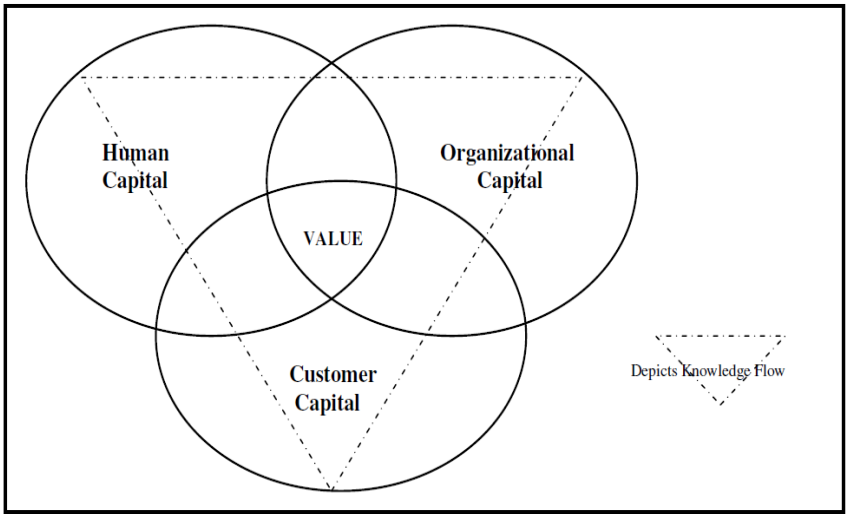

Figure 1. Visualization of intellectual capital
Source: Adapted from Janssen (2006)

These three forms of capital are also known as respectively, human capital, internal structure and external structure (Sveiby, 1997).
These building blocks and the issues belonging to each block are outlined in the framework presented below:

Table 1. Intellectual capital elements

Human Capital	**Organizational Capital**	**Customer Capital**
Employee Education Training Work-related knowledge Entrepreneurial spirit	Intellectual property Management philosophy Corporate culture Management processes Information/networking systems Financial relations	Brands Customers Customer satisfaction Company names Distribution channels Business collaboration Licensing agreements

Source: adapted from Guthrie et al. (2004)

We can now draw some conclusions on the main characteristics of intellectual capital and which elements belong to the different building blocks of the concept's definition. The question that arises is why it is useful to measure the value of intellectual capital.

3. MEASURING THE INTELLECTUAL CAPITAL

3.1. Reasons for measuring the intellectual capital

Finding some sort of measurement tool for the in intellectual capital is beneficial for both internal and external purposes. For internal purposes, to help management in formulating and executing their business strategy and to help them in developing compensation plans. For a more external

goal, intellectual capital could be used to communicate measures to external stakeholders (Bănacu 2004). This last rationale is crucial for companies to ensure a fair and stable share-price and therefore a more favorable cost of capital (Marr, Gray and Neely, 2003).

3.2. Measurement versus Valuation

In the related literature by Pike and Roos (2004), it is reasonable to say that we can observe two categories of methods. The first one is called 'measurement methods', which provides managers with a better knowledge about the intangible resources existing within their company. Examples of methods that belong to this category are the 'Balanced Scorecard' method, developed by Kaplan and Norton in 1992 and the 'Intangible Asset Monitor' created by Karl-Erik Sveiby in 1998. The second category is called 'valuation methods' which attempts to assign a monetary value to the company's intellectual capital. The value explorer, developed by Andriessen and Tiessen in 2000 is an example of a valuation tool.
There is one simple truth that is more difficult to attach a monetary value to intellectual capital, because knowledge flows and intangible assets are in essence non-financial. Researchers showed some reasons in favor of attaching a monetary value to intellectual capital. One step forward is that managers and stakeholders are used to determine a company's performance from the financial numbers stated in the annual report. They are used to review a balance sheet and to use these numbers to assess the financial health of an organization. Investors evaluate options for investment based on the information provided in the annual reports.

4. THE FOUR LEAF MODEL

The different building blocks of intellectual capital show overlapping characteristics. The 4-leaf model, developed by Areopa, recognizes this overlap. The model consists of four base classes and 15 overlapping sections. One building block is added to the definition, resulting in human capital (HC), customer capital (CC), structural capital (SC) and strategic alliance / partner capital (SA). The last building block is added, because partnerships, alliances and networks have become increasingly important in the process of gaining a competitive advantage in today's global economy (Leliaert, Candries and Tilmans, 2003). The visual representation of the 4-Leaf Model shows the 15 overlapping sections, which are labeled as stated below.

Structuralized intellectual capital

1) Structural capital: the pure structural capital is what remains when you think away the customers, the people and the strategic alliances. It refers to the capability of a company to capture its knowledge and culture.

2) Structural capital + human capital: the knowledge, skills, and competencies of people are deployed through the structure of the company. There are structural elements in a company that allow people to put their capabilities to better use than they could do on their own. Such elements exist without depending on people but they give a framework in which people can perform better (or worse if the structure gives a disadvantage).

3) Structural capital + human capital + strategic alliance capital: this section is about the structuralized human capital that plays a role in the contacts with the strategic alliance partners. Here too, the structure of the company may facilitate contacts with the partners.

4) Structural capital + human capital + strategic alliance capital + customer capital: this section revolves around the entire business environment of the company. It includes all the mutual links and contacts such as the education of the employees and staff, the development of new activities, the way in which the company relates itself to the outside world and tries to develop itself and its relations with that outside world. Its value depends on both the people, the relations they have with partners and customers, and the company's culture, working practices and attitudes.

5) Structural capital + human capital + customer capital: these are the structural elements that contribute to the relationship of the people of the company with the customers. It is positive for a company to have a structure in such a way that the contact with the customer can be optimal.

6) Structural capital + strategic alliance capital: this section represents the structuralized part of the links of the company with the strategic alliances. These links are concretized in the joint patents and registrations, for example. This is also a link with the authorities. Links can also be established with other entities that, for example, can provide third party knowledge transfer.

7) Structural capital + strategic alliance capital + customer capital: this can be considered as a core section since the use of existing products/services can be found here. Therefore, this section will count for a great amount of the total intellectual capital in most companies. It usually also represents the bigger part of the intangible book value (realized after an acquisition).
8) Structural capital + customer capital: in the present methodology, this section stands for the brand value of the company or its products. It is one of the more recognized examples of intangible assets, and may in some instances be very high.

Non-structuralized internal intellectual capital

9) Human capital: this section consists of the non-structural human capital. It contains the intrinsic qualities of the persons engaged in the company, such as their intelligence quotient (IQ), emotional quotient (EQ), etc. This value is very much at risk, since it reflects what the company will lose when the employee leaves (over and above the costs of recruiting a replacement).

10) Human capital + strategic alliance capital: this section contains the personal relations that personnel have with their counterparts at strategic alliances. An example here is the presales support given to the strategic alliance.

11) Human capital + strategic alliance capital + customer capital: this consists of the nonstructural interaction between these intellectual capital components. For example, specific project developments with a customer would be included in this area.

12) Human capital + customer capital: an example of this type of asset would be the personal networks with a customer. More generally, it consists of the non-structural interactions of staff with the different customers.

Non-structuralized external intellectual capital

13) Strategic alliance capital: in essence, this describes the assets that are purely defined by the strategic alliances, for instance the ecosystems of each partner and specifically how well the company itself is embedded in these.

14) Strategic alliance capital + customer capital: what is the relation of your respective partners with your joint customers? The answer to such questions would be found in this section.

15) Customer capital: this last section describes the intellectual capital assets that are solely customer related and explicitly not structural. One of many examples here is the relevant market and/or economic situation and evolution. At this moment in time, this section is suffering across the board due to the economic recession.

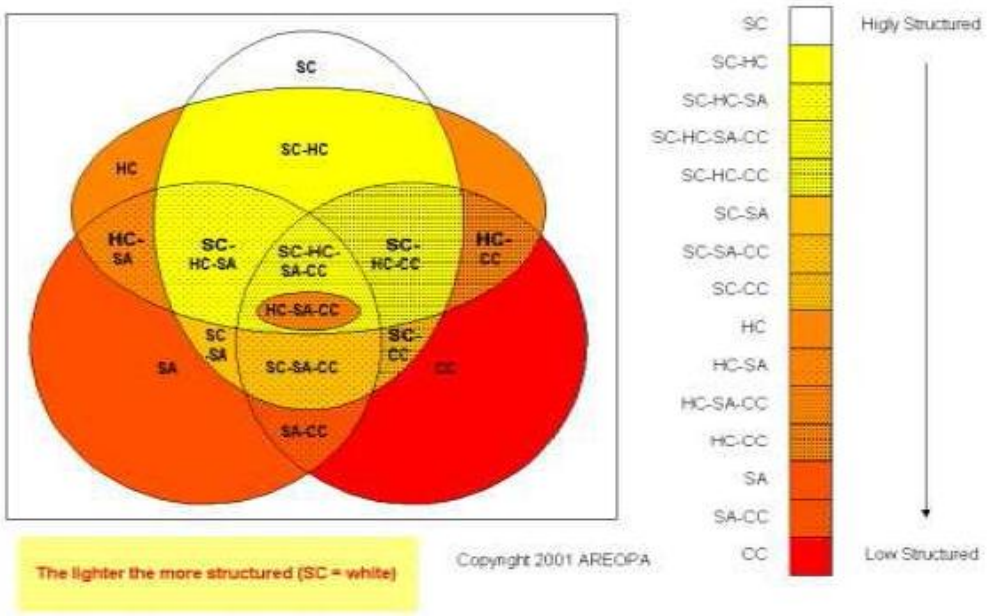

Figure 2. Intellectual Capital - The 4-leaf model
Source: AREOPA Web Presentation, http://www.areopa.com

Based on the 4-leaf model, Areopa developed an intellectual capital - Calculation Tool (that consists of 77 formulas. These formulas are used to calculate the monetary value of intellectual capital within a company. Management can use the results to control and manage their intellectual capital. Figure 2 shows the different sections, each with its own different color. The darker the color is, the more risky the intellectual capital element. Risky, in this case, implies that the chance of losing this element is higher. For example, structural capital on top of the figure is colored white, implying it is relatively easy to control and manage. In contrast, customer capital has a red color, implying this section is the most difficult to control and manage. Customer capital is risky, because the company does not own customers. They have their own will and they could be lost in a blink of

the eye. The 4-Leaf Model provides management with the insights which elements fall into which of the 15 overlapping sections. This way, company management can try to transform the unstructuralized, more risky elements to more structuralized, easier to control and manage elements in the future.

4. CONCLUSIONS

In Europe, steps have been taken by national governments, especially in the Nordic countries, to produce some legislation to force private organizations to make public some Intellectual Capital items. The European Commission is investing heavily in the research and promotion of Intellectual Capital, which, at some point in time in the near future, will hopefully result in some general rules and instructions for the economic community at large to start reporting their Intellectual assets next to the traditional financial values.

The lack of means to determine the intellectual capital value of an investment opportunity often makes investment decisions very risky. A company with a large share of intellectual capital, which is not illustrated in line with the traditional accounting principles, and which has a high future earnings potential, can easily be wrongfully valued. The consequences may be under capitalization and reduced ability for the company to perform optimally. Further research is necessary to solve these problems and develop a management tool using properly a company's intellectual capital. This tool will allow to improve the process of managing intellectual capital and to increase the total net worth of the company.

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