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Designing and Testing an Intellectual Capital Management Model within an Organization

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ABSTRACT

Purpose – The aim of this research is to design and test an intellectual capital (IC) management model in practice.

Design/methodology – This thesis is based on a case study developed in a particular company.

Findings – This thesis showed that the process of constructing and designing an IC model is perhaps the most significant feature of the whole project of implementing an IC management strategy. This means that even if there are some interesting results/values that the company can take into consideration, consequence of the KPI's measurement, the process of designing and testing the model was really central. The joint identification and definition of IC, as a result of multiple IC-centered discussions, allowed for its general concept and particular components to be recognized and embraced by the company's management, and easily associated to the specific situation of the company and its dynamics. The case study also showed that the contribution of IC to the value creation process is dependent on the specific organizational context and on the capacity of the management to convert "potential" value into "real" value.

Research limitations – The limitation that can be acknowledged at this research is related to the methodology embraced, a single case study, which does not allow the extrapolation of the conclusions to other companies.

Originality/value – To the best of our knowledge, this is the first published research detailing the construction of an IC management model in a company located in Portugal. Even in the international IC literature there are only a very limited number of case studies that describe the entire process of construction an IC management model.

Keywords – Intellectual capital, intangible assets, KPI's, measurement, value.

RESUMO

Objetivo – O objetivo desta investigação é projetar e testar um modelo de gestão de capital intelectual (CI) na prática.

Design/metodologia – Esta tese é baseada num estudo de caso desenvolvido numa empresa em particular.

Conclusões – Esta tese mostra que o processo de desenho e construção de um modelo de CI é talvez a parte mais importante de todo o projecto de implementação de uma estratégia de gestão do capital intelectual. Isto significa que mesmo existindo alguns resultados de interesse que a empresa pode tomar em consideração, consequência da medição dos indicadores de desempenho, o processo de criação de um modelo de teste foi realmente central. A identificação e definição do CI está diretamente relacionada com a gestão que tomou parte nas reuniões e com a situação específica da dinâmica da empresa. O estudo de caso mostra que a contribuição do CI para o processo de criação de valor é dependente do contexto organizacional específico e da capacidade de gestão para converter o valor de "potencial" em valor "real".

Limitações de pesquisa – A limitação desta tese está relacionada com a metodologia utilizada, um estudo de caso. O foco do estudo é uma empresa em particular, e sendo assim, as conclusões não podem ser extrapoladas para outras empresas.

Originalidade/valor – Que seja do nosso conhecimento, esta é a primeira investigação publicada que detalha a construção e teste de um modelo de gestão do CI numa empresa localizada em Portugal. Na literatura, há apenas um número muito limitado de estudos de caso que descrevem todo o processo de construção de um modelo de gestão de CI.

Palavras-chave – Capital intelectual, ativos intangíveis, indicadores de desempenho, medição, valor.

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INTRODUCTION

In recent decades, some gradual changes are taking place in global societies, culminating in a process of world globalization. The constant mutation of technologies, information and telecommunication, as well as other changes that suggest new perceptions and interpretations of society as a whole, have been mentioned by many scholars as representing a transition period from an Industrial Society to a Knowledge Society (Antunes, 2000). This concept mainly touches the economic structure of nations, and especially how to value the human being.

It has been understood over the years that the statements provided by Financial Accounting do not give a clear picture of certain company's realities. "The strategic role of intangibles in value creation is established at the academic level, but not so in the corporate world. Empirical studies confirm the existence of strong links between investment in intangibles and company's performance" (Demartini, et al., 2013, p.69). In fact, many aspects of the management and measurement of intangibles at the firm level are still debatable, due to the insufficiency of reliable tools to conduct it.

The terms 'Intangibles' and 'Intellectual Capital' are often used to refer to the same concept. Both are applied to non-physical sources of future economic benefits that may or may not appear in corporate financial reports. One problem with the plethora of views about measuring the components of Intellectual Capital (IC) is that no one view, other than the concept of intangibility, has consensus among practitioners and researchers (Dumay, 2009).

In this thesis, a lengthwise case study, a German multinational company will be illustrated. The aim of the case is to design and test an IC framework in practice and to show that IC measurement cannot be simply considered an accounting fact but one that promotes managerial and cultural changes within a company. The thesis will be proceeding as follows: in Part I it will be presented the literature review of the state of the art, IC management methodologies and IC measurement and reporting systems in

practice. In Part II, methodological and empirical aspect will be presented. Finally, conclusions and limitations of the study will follow in Part III.

This case study aims to analyze how the company deals with the design and implementation of the proposed IC framework. Remarks relative to the effectiveness of the implementation process and of the tools suggested will be drawn.

PART I: LITERATURE REVIEW

CHAPTER 1: INTELLECTUAL CAPITAL

1.1. Intangible assets and tangible assets

Most of the information provided by companies to their stakeholders relies on international accounting standards. As such, its focus is primarily based on traditional tangible investments in fixed assets. However, value creation is more and more dependent on investments in intangibles. The inexistent or insufficient information regarding intangibles can be a cause of important economic losses for companies and individuals, who make their decisions based on the financial information that companies report periodically.

The terms 'Intangibles' and 'Intellectual Capital' are often used to refer to the same concept. Both are applied to non-physical sources of future economic benefits that may or may not appear in corporate financial reports. Nevertheless, these two terms are likely to be used differently: Intangibles is an accounting term, whereas the Intellectual Capital was created in the human resources and strategic management literature and is mostly used in this field (Vickery, 1999). Still, it is convenient to take into account that when the term Asset is associated to Intangible, it should only refer to intangible investments that, according to accounting standards, may be recognized and reflected in the firm's balance sheet (MERITUM, 2002).

Intellectual Capital has been defined as the mixture of an organization's Human, Organizational and Relational resources and activities (MERITUM, 2002). The following figure shows the configuration of the Intellectual Capital in conjunction with Tangible Capital and Financial Capital.

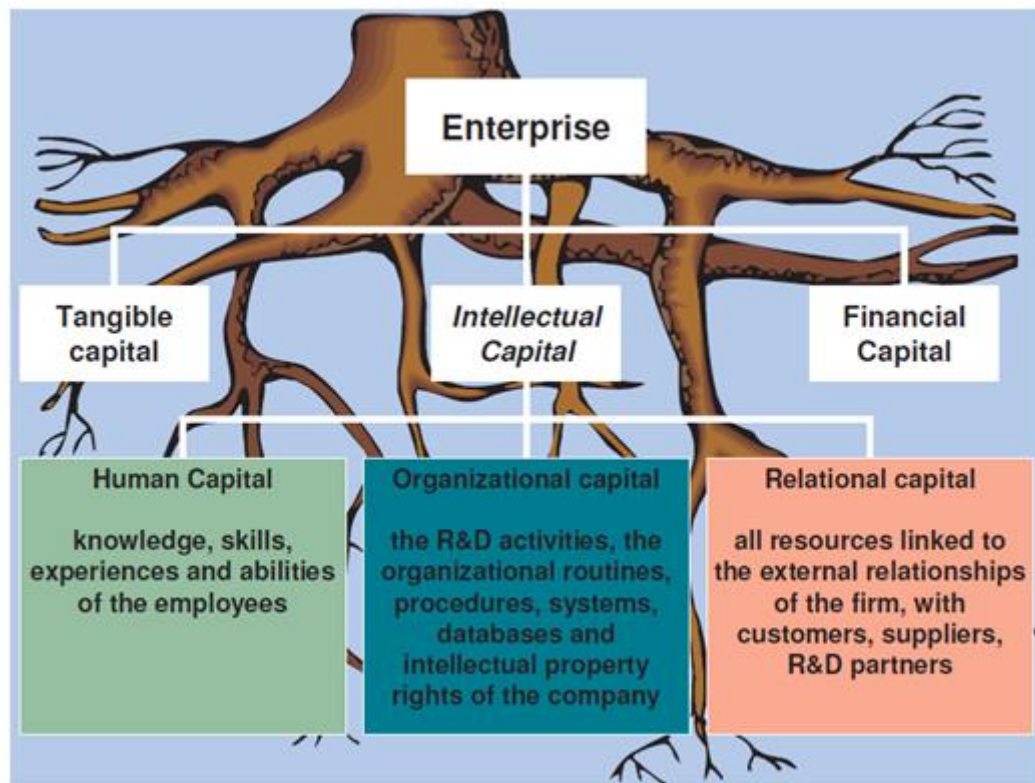


Figure 1: The IC roots of the enterprise

Source: RICARDIS (European Commission, 2006)

This picture represents the 3 main pillars that interact across the organization: Tangible capital, Intellectual capital and Financial capital. The focus of this thesis goes in the direction of the intellectual capital and its important role in organizations. The 3 main elements of IC will be addressed in the next sections.

1.2. First references to Intellectual Capital

The first references to intellectual capital are from John Kenneth Galbraith who in a letter to economist Michael Kalecki in 1969 wrote: "I wonder if you realize how much those of us in the world around have owed to the intellectual capital you have provided over these past decades." What we see here is the IC associated to the

dynamic effects of the individual's intellect, meaning more than intellect just for the intellect but also incorporating a level of intellectual action.

It is Tom Stewart who in his June 1991 article "Brain Power – How intellectual capital is Becoming America's Most Valuable Asset", brings IC firmly on to the management agenda. He defines IC in his article as every company depends increasingly on knowledge such as patents, processes, management skills, technologies, information about customers and suppliers, and old-fashioned experience and this knowledge added together is intellectual capital (Stewart, 1991).

Leif Edvinsson also introduced in this decade the concept of the "tree of knowledge" that suggested that a company is like a tree. There is one part that is visible, leaves, twigs, and fruits and the other part that is hidden, the roots. If we only care in reaping the fruits and maintain the twigs and leaves in good condition, forgetting the roots, the tree can die. In order to continue to grow and bear fruits, the roots needs to be treated. This is also applicable to companies: if we are only concerned with the financial results and ignore the hidden values, companies may not survive for long time (Edvinsson, 1997).

The generic concept of intellectual capital has been described as the combination of an organization's human, organizational and relational resources and activities that allow the organization to transform a bundle of material, financial and human resources into a system capable of creating stakeholder value (European Commission, 2006).

It is generally agreed that the main elements of IC can be structured in 3 components: Human capital, Relational capital and Structural capital (Martín de Castro et al., 2011).

1.3. Main components of IC

IC is a combination of the Human capital, Structural capital and Relational capital of an organization. It is efficient if this combination is seen as a sum of the 3 resources in a company, but not only this, it is also about how to let the knowledge of a firm work for it and have it create value. It can be accomplished by creating the right connectivity between those resources through the appropriate intangible activities (MERITUM, 2002).

Human Capital

It is the accumulated value of the principles, knowledge, capacities and abilities of the people within the organization (Bueno et al., 2002). The capacity to solve problems, creative competences and leadership is also mentioned by Brooking (1996). For Martín de Castro et al. (2011) human capital can be structured into 3 main components: (i) knowledge, embedded in the organization's employees that may include education and training; (ii) experience and abilities, or the employee's know-how; and (iii) personal behaviors, willingness or attitudes, towards its task, jobs and organizations.

Relational Capital

This concept is based on the assumption that companies are not isolated systems. On the contrary, they are actively and permanently connected to multiple external entities. This includes not only the relations with customers, suppliers and shareholders, but also with all internal and external stakeholders (Roos et al., 1997). Relational Capital refers to the value to the organization of the relationships it maintains with the main agents connected with its basic business processes – customers, suppliers, etc., as well as the value to the organization of the relationships it maintains with other social agents and its surroundings (Martín de Castro et al., 2011).

Structural Capital

This IC component represents the systematic and explicit knowledge that the company has managed to internalize, such as values, culture, routines, protocols, procedures, systems, technology development and intellectual property, known as the firm's intelligence (Bueno et al., 2002). Martín de Castro et al. (2011) refers to structural capital as a combination of technological capital (including efforts in research and development, technological infrastructure and intellectual and industrial property), and organizational capital (including organizational culture, values and attitudes and organizational structure).

Structural Capital belongs to and stays at the organization - in its structure, its processes or its culture, even when the employees leave the company (Bontis et al., 2000).

Figure 2 presents a practical example of several intellectual capital elements, distributed by its three components.

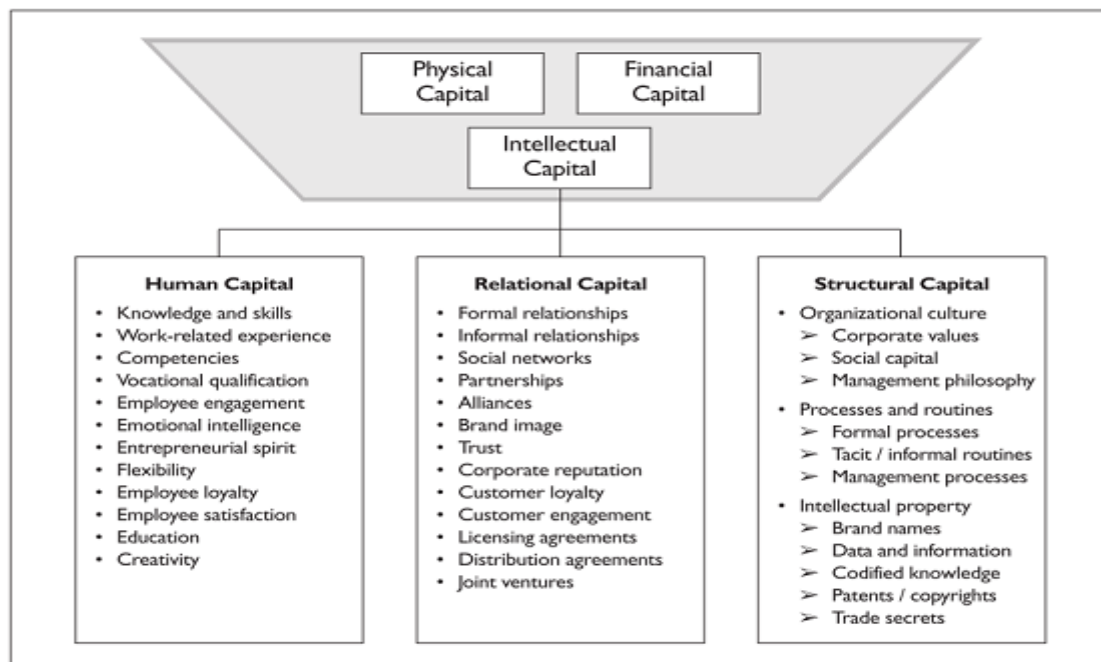


Figure 2: IC components and elements

Source: Marr (2008)

1.4. Intellectual capital Measurement Models

The growing awareness of the impact and importance of intangibles in making business decisions, disputing the pervasiveness of traditional financial data, is so obvious that we can bring to question whether we are facing a paradigm shift (Bontis, 2001). In this process, the creation (and increasing use in business) of models to measure and manage IC has played a key role, contributing decisively for the concept of IC to evolve from a "metaphysical truth", or something we believe in but cannot prove, into something whose practical utility is provable and almost unanimous.

For this reason, in the context of a review of concepts of IC, it seems inevitable to mention some of the most representative IC models.

Creating an IC model will very much depend on the objectives and corporate strategy of the company that intends to implement it, which will inevitably be reflected in the assets and indicators to consider (Bontis, 2001). Furthermore, the type of model used will also depend on the purpose of the company when developing the model (to assess IC by estimating its monetary value, to manage IC by measuring indicators that are comparable over time, etc...). For this reason, it is not possible to identify a standard or universal IC model, but rather a multiplicity of alternatives created by companies or suggested by academics. The purpose of this section is to review some of the most important IC models, in order to understand how intangible resources began to be incorporated into business decisions. Some examples of pioneer models are mentioned below:

- 1- *Skandia Navigator (Leif Edvinsson, 1997)* - in order to evaluate its market value Skandia proposed to split market value into financial capital and IC. The Skandia approach, therefore, splits IC into the following four categories: human capital, customer capital, process capital and innovation capital.

- 2- *Balanced Scorecard (Kaplan and Norton, 1996)* – this model is based on a “scorecard” approach, which generates indicators and indexes for identified intangible assets. As defined by (Kaplan and Norton 1996, p.3), “The Balanced

Scorecard translates an organization's mission and strategy into a comprehensive set of performance measures that provides the framework for a strategic measurement and management system". This strategic management system measures organizational performance in four 'balanced' perspectives: Financial, Customer, Internal Business Process, Learning & Growth.

- 3- *Intangible Asset Monitor (Sveiby, 1997)* - IC is mainly approached as a stock, as something that can be identified, located, measured and valued, just as any other resource, and is useful to visualize and understand the gap between market value and book value.
- 4- *The Technology Broker (Brooking, 1996)* - attempts to calculate a Dollar value for the non-tangible part of the organization called IC. Brooking interprets IC as containing the following components: market assets, human-centered assets, intellectual property assets and infrastructure assets.
- 5- *Intellectual Capital Services IC Index (Goran and Johan Roos, 1997)* - an approach that consolidates IC indicators into a single index in order to provide a more comprehensive visualization of the company's IC. The IC-Index approach is based on an IC distinction tree which splits IC into human capital and structural capital, separating "thinking" and "non-thinking" knowledge assets.

Recent literature has probed the evolutionary trail of IC research and practices with a critical approach, particularly in what concerns the creation and use of IC models. In fact, some authors argue that IC research and practices need to shift from the measuring paradigm to a learning paradigm. "The measuring paradigm is known for its two severe limitations: first, it treats IC as an asset that is placed under parsimonious conditions within a reporting system; and second, it also accepts the managerial adage of "what gets measured gets managed" uncritically, at the risk of reinforcing management control in organizations" (Yu, et al., 2013, p. 39). Therefore, much more

important than the mere measurement of IC assets in organizations, the understanding and management of IC flows gains particular relevance, as it can activate a firm's future earnings potential by allowing for value-added activities and by developing a strong learning culture.

1.5. Benefits of an IC management and reporting model

In recent years a surprisingly high number of models have been proposed to measure knowledge assets. They can be considered as an indicator of the ineffectiveness of traditional measurement frameworks in capturing the knowledge dimensions within an organization (Marr, 2004).

The assessment of knowledge in organizations is thus a difficult, even controversial matter. However, since knowledge is of significant importance for a company's competitiveness, many authors argue that its assessment is indeed a fundamental issue. Leif Edvinsson, ex-corporate director of intellectual capital at Skandia, highlights this: a company grows, because it has hidden values, to continue growing the company must surface them, care for them, and transfer them through the business - if managers can measure it, they will value it (Stewart, 1994).

The benefits to the companies in the construction of an IC model for management and reporting, which goes far beyond the plain measurement and/or valuation of IC assets, are recognizable. Knowledge is today's driver of company life (Bontis et al., 1999) and the wealth-creating capacity of the company is based on the knowledge and capabilities of its people (Savage, 1990).

Today, many companies see themselves as learning organizations chasing the objective of continuous improvement in their knowledge assets (Senge, 1990). This means that knowledge assets are essential strategic controls in order to manage business performance and the continuous innovations of a company (Boisot, 1998). Measuring intangibles positively affects managerial competences; in fact, the analysis of company drivers and cause and effect relationships not only increases the

understanding of the business but it also improves the quality of company management, making it more rational and professional. Additionally, publishing an IC report can help reduce the doubts of investors and banks and consequently, helps the company to have greater access to funds. In this way the dialogue with investors, banks and capital market is improved (Chiucchi, 2008).

In the RICARDIS report (European Commission, 2006), it is emphasized that communicating information on company IC through an IC statement can also improve communication with other actual and potential stakeholders, such as employees, customers, partners, citizens and also the political system.

Concluding then, it can be said that an IC statement produces confidence effects on the company's external as well as internal reputation, which increases the trust from all stakeholders in the firm's management. "Making visible what is usually invisible, it reduces the uncertainties and the risks for all the stakeholders" (Chiucchi, 2008, p.3).

1.6. Different approaches to IC

Different approaches have been developed over the years regarding the role of IC within organizations. In this section an overview of those approaches will be conducted, in order to understand which approach better fits the general research goal of this thesis.

Strategic approach

From a strategic perspective, IC is the starting point to the optimization of intangible resources, as a means to create and enhance value and contribute to the company's effort to achieve its strategic objective. IC is more closely associated with value creation (management perspective), rather than with valuation (financial perspective). Many authors are more interested in visualizing, controlling and managing value creation, than in valuing the assets themselves (Alcaniz, 2010). Marr and Roos (2005) emphasize the strategic importance of intellectual capital resources,

in a context where corporate strategy is developing from a market-based to a resource-based paradigm.

Accounting approach

The accounting perspective focuses on the effort to create new accounting mechanisms allowing that non-financial, qualitative aspects are measured and reported in parallel with traditional financial data (Alcaniz, 2010).

The accounting approach aims to measure the intangible assets of a company. For Brooking (1997) the development of an IC monetary unit of measurement is necessary, in order to calculate the success and the growth of stocks of intellectual capital. This reflects the traditional (monetary) valuation perspective that has served financial accounting and reporting so well for generations. When confronted with contemporary examples of intellectual capital such as corporate reputation, that is, how customers, investors, employees, suppliers, analysts, the public, the media or regulatory bodies see the company, the capacity to be in a position to provide credible, reliable information has a potentially deep impact in the business opportunities and in the ability to attract the resources to finance those opportunities (Alcaniz, 2010). However, to this day, the accounting standards have been unable to incorporate a comprehensive valuation of intangible assets into corporate financial reports.

Rodríguez Antón (2005) argues that we should not simply talk about intangible assets. The other side of the balance sheet (the liabilities side) must also be taken into account. As such, he defines intellectual capital as the difference between the intangible assets and the intangible liabilities of a business. He provides a number of examples of intangible liabilities; for instance, to have a deficit of employees with entrepreneurial spirit or a largely inflexible organizational model that does not strengthen learning. In order to account them as liabilities, a company requires knowing the average for the sector. If a business is below average, that part would be accounted as a liability and if it is above average it would be accounted for as an asset, because in principle the business would only achieve a competitive advantage if it is above average (Caddy, 2000).

Lev, Canibano and Marr (2005) pointed out that the uncertainty of the future economic benefits, the lack of full control, and the absence of markets to measure and value intangibles reliably, has made accounting regulators reluctant to adopt more liberal measures. Academic research supports the capitalization alternative and a fair value approach. Both approaches have advantages and disadvantages. Nevertheless, regulators are still cautious and prefer to devote efforts to harmonize current practices and develop a framework of voluntary disclosure for intangibles.

Reporting approach

The traditional accounting model is based on the principle of historic cost and that's why just a few intangibles are included within financial statements. There is no doubt that historic cost accounts provide a useful starting point in assessing the performance of a business. Nevertheless, without advancing-looking information, the picture that they provide is incomplete.

A new approach was needed to help companies report their intangible assets, and thus provide a forward-looking perspective of their business. IC Statements are mainly about internal reporting, management and control of the business. This internal focus is an essential prerequisite for management to develop the ability to communicate what they are doing to external audiences; this is of particular importance when the organization needs to seek finance from banks, or equity from investors (European Commission, 2006).

In RICARDIS (European Commission, 2006), research concludes that IC Reporting is the process of creating a story that shows how an enterprise creates value for its customers by developing and using its intellectual capital. This involves identifying, measuring, and reporting its intellectual capital, as well as constructing a coherent presentation of how the enterprise uses its knowledge resources. Often this process leads to the writing of an IC Statement, a report on the organization's intellectual capital that combines numbers with narratives and visualizations, which can have two functions:

- 1- Complement management information (internal management function);
- 2- Complement the financial statement (external reporting function).

National approach

Ann-Liang Chew et al. (2014) concluded that other than the traditional focus on tangible outcomes, nations should also focus on the effects of innovation to their growth and development. Having a critical mass of knowledge assets that is spread across Human Capital, Structural Capital and Relational Capital is considered essential for long-term sustainability. It is also important to track the use and growth of such assets. The essence of the IC national approach is thus to apply the IC logic to a whole nation.

National intellectual capital performance is a constructive process that includes input, process, output and outcome perspectives. The national intellectual capital is seen as a combination of processes and direct outputs. However, some authors argue that a more comprehensive approach should be integrated into this perspective: without relating national intellectual capital to national strategy (values, objectives, assumptions) and to national performance (social, economic, ecological), it is impossible to recognize in detail whether the national intellectual capital is in progress or decline; or whether it contributes to knowledge-based development or to knowledge-based deterioration (Jonna Käpylä et al., 2012).

In fact, looking to the most recent literature, research on national intellectual capital has largely neglected the strategic perspective by focusing solely on international rankings and comparisons for their own sake (Jonna Käpylä et al., 2012).

1.7. New ways of looking into intellectual capital

Some authors argue that IC research is now entering a third stage (Dumay and Garanina, 2013). The first stage consisted in developing a framework of intellectual capital, basically raising awareness of why intellectual capital is important. On the second stage of IC research, approaches to measuring, managing and reporting IC came to the forefront and efforts were focused on gathering evidence in support of its further development. These first and second stages of IC research contributed to ascertain that intangible assets are driving value creation in today's global economy.

The emerging third stage of IC research is mainly focused on examining IC in practice, devoted to the managerial implications of how to use IC in managing a company (Guthrie et al., 2012).

In a recent empirical paper, Oliver (2013) comes up with an innovative idea that IC theory can be applied to address and resolve many practical issues we face regardless of the context. This notion emphasizes the educational part, contrarily to the creating of monetary value. It also stresses that a collaborative approach can be effective from a bottom up perspective, rather than the typical top down approach.

It also highlights Dumay's (2013) new found view that one of the problems we face with spreading the word of IC is that we do too much preaching, and not enough educating. He refers that it is possible to educate so that "IC is created without the students being formally aware of its extent". Dumay's view is that most of the involved in researching IC often preach about IC rather than help develop its practice.

CHAPTER 2: INTELLECTUAL CAPITAL MANAGEMENT METHODOLOGIES

2.1. Initiatives and milestones in the development of IC reporting

The importance of IC management has grown over the years and more companies nowadays understand the need of having such methodology in place.

Several national and supranational institutions have produced guidelines and frameworks for externally reporting IC. In many cases regulators, the accounting profession and accounting scholars have driven these initiatives. Although IC reporting has been identified as an important aspect of reporting not only in large corporations but also in small and medium enterprises and in the not-for-profit sector, the existing guidelines for reporting of IC have not been embraced by organizations (Abhayawansa, 2014).

One of the original proposals to incorporate non-financial information within the annual report was put forth by the **Konrad Group** (Sveiby, 1989) – a group of accounting practitioners from Sweden. They argued that the existing annual report did not provide information required by shareholders of know-how companies.

Later in the 90's some practitioners such as **Stewart, Edvinsson, Malone and Sullivan** strengthened the case for IC measurement and reporting from a practitioner point of view. This work highlighted how important IC measurement and reporting is for an economy, which was increasingly being recognized as knowledge intensive. It also further developed and clarified the concept of IC, its various subcategories/elements and interrelationships (Abhayawansa, 2014).

In 1991 a study commissioned by the **American Institute of Certified Public Accountants (AICPA)** was conducted in order to “determine the information needs of users to identify the types of information most useful in predicting earnings and cash flows for the purpose of valuing equity securities and assessing the prospect of repayment of debt securities or loans” (American Institute of Certified Public Accountants [AICPA], 1994, Chapter 1). AICPA formed a special committee on financial reporting under the chairmanship of Edmund L. Jenkins (hereafter Jenkins committee).

Jenkins Committee commissioned research into the information needs of sell-side and buy-side analysts and creditors and made recommendations on types of non-financial information that companies should provide in external reports.

The first IC statement was published in 1995 by **Skandia AFS**, an insurance and financial services company in Sweden, in which Edvinsson was the Director of intellectual capital (Edvinsson, 1997).

Over the years a number of conferences were held under the sponsorship of the OECD, the most notable being the **International Symposium for Measuring and Reporting intellectual capital: Experience, Issues, and Prospects** held in Amsterdam in 1999.

In 1995 the **Danish Trade and Industry Development Council** (1997) commenced work on analyzing and synthesizing IC accounting practices of selected Scandinavian companies which prepared IC accounts. The purpose of this work was to establish why and how companies actually prepared intellectual capital accounts. A memorandum was published presenting the findings of this study with examples of how the selected companies reported and accounted for their IC.

About the same time as the Danish Agency for Trade and Industry (DATI) commissioned its project on preparing IC reporting guidelines, the European Union too boarded on a similar project. It organized the Measuring Intangibles to Understand and Improve Innovation Management (**MERITUM**) project in 1998 with the participation of Denmark, Finland, France, Norway, Spain and Sweden to develop a set of guidelines to measure, manage and disclose information on intangibles (MERITUM, 2002).

Another European initiative on IC reporting was the '**The Intellectus Model**' (in Spanish, Modelo Intellectus) developed by academics and practitioners in Spain based on the "Intellect One" model introduced by Euroforum (1998). In 2000 the IC reporting movement had spread beyond the West. In 2002, the Japanese government issued a policy document entitled the Intellectual Property Policy Outline with the intention of promoting the creation, protection and exploitation of intellectual property to make

Japan a 'nation built on intellectual property' (Japan Ministry of Economy, Trade and Industry [JMETI], 2004).

In 2004, Germany started a project called **Wissensbilanz Made in Germany**, under the leadership of BMWA – BundesMinisterium für Wirtschaft und Arbeit (www.wissensbilanz.org). It has now evolved to incorporate small as well as large German enterprises, both public and private. It has resulted in open software to download from their web sites, which now distributed more than 100,000 copies to enterprises in Germany (Edvinsson, 2013).

A number of other significant IC prototyping projects on an enterprise level have been launched, including: **RICARDIS** – Reporting on intellectual capital to Augment Research, Development and Innovation in SMEs, a European Commission project finished in 2006: (http://ec.europa.eu/invest-in-research/policy/capital_report_en.htm); **EFFAS** – European Federation of Financial Analysts, officially published in March 2008, the Principles for Effective Communication of intellectual capital (www.effas.net); **WICI** – World intellectual capital Initiative, a public/private sector consortium researching and developing IC accounting and integrated reporting, with the backing of leading accounting firms and leading IC scholars (www.wici-global.com) (Edvinsson, 2013).

A significant European Commission project was launched in 2007 called intellectual capital Statements (**InCaS**). It was focused on expanding the learning from the German Wissensbilanz project and includes five countries (see www.incas-europe.org). InCaS was then followed by another European Commission project called CADIC – Cross Organizational Assessment and Development of IC, with a strong focus on IC flows (see www.cadic-europe.org).

In Asia, both **Japan (with METI)** and **China** have leveraged this IC work and launched research and application work. Another related unique global group for refined reporting is International Integrated Reporting Council (see www.theiirc.org). In Hong Kong, the Intellectual Property Department has successfully prototyped a project on ICR with about 600 SMEs (see www.ipd.gov.hk/eng/icm.htm) (Edvinsson, 2013).

The **IIRC (International Integrated Reporting)** issued the Prototype Framework in November 2012, followed by a Consultation Draft in April 2013. The final International Integrated Reporting Framework was issued in December 2013 after a period of consultation. The Integrated Reporting Framework establishes guiding principles for the preparation of an integrated report and recommends content elements that should form part of an integrated report. IIRC is working towards aligning its framework with the International Accounting Standard Board (IASB) framework for corporate reporting. Recently, a Memorandum of Understanding was signed by the IASB Chairman and IIRC Chief Executive Officer that will enable the two organizations to improve cooperation on the IIRC's work to develop an integrated corporate reporting framework (International Financial Reporting Standards Foundation, 2013).

In order to compile the most relevant IC guidelines, a grid was created to help understand their main features (Table 1).

Guideline	Purpose
Intellectus Model, Spain (1998)	<p>The Intellectus Model ® (Modelo Intellectus®) facilitates the R+D decision making process by bringing into focus a series of key factors that directly influence the results of an organization's innovation. Within the different classes of Intellectual Capital the following aspects are highlighted:</p> <p>Human Capital:</p> <ul style="list-style-type: none"> - Watchful culture; - Researcher's qualifications. <p>Structural Capital:</p> <ul style="list-style-type: none"> - Full time research staff; - Projects in hand; - Equipment; - Intellectual and industrial property. <p>Relational Capital:</p> <ul style="list-style-type: none"> - Scientific alliances with public centres; - Associations; - Collaboration with companies. <p>(Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs, June 2006).</p>
Meritum (2002)	<p>To communicate to stakeholders the firm's abilities, resources and commitments in relation to the fundamental determinant of firm value: intellectual capital.</p> <p>The purpose of the Guidelines is, on the one hand, to assist companies in the development of their ability to identify, measure and control its intangibles, in order to increase the efficiency of their management and to improve their financial performance. On the other hand, the Guidelines attempt to provide useful guidance for firms willing to disclose information on the intangible determinants of their value creation capability, in order to help the providers of capital to efficiently estimate the future payoffs and the risks associated with their investment opportunities. MERITUM distinguishes between Human, Structural and Relational Capital (GUIDELINES FOR MANAGING AND REPORTING ON INTANGIBLES (INTELLECTUAL CAPITAL REPORT, January 2002).</p>
GRI- Global reporting initiative (2002)	<p>To provide a balanced and reasonable representation of the company's sustainability performance, disclosing outcomes and results that occurred in the context of the organisation's commitments, strategy, and management approach. (Milestones in the Development of Intellectual Capital Reporting - Subhash Abhayawansa, January 2014)</p>
Danish Ministry of Science, Technology and Innovation (DMSTI) (2003)	<p>It can support companies and organisations in building up, developing, sharing and anchoring the knowledge that can make their products and services worth more to consumers. In other words, this guideline gives companies and organisations the opportunity to work more systematically and comprehensively with the many initiatives within knowledge management that many companies have already started. The guideline also provides a good basis for communicating knowledge management policies to existing and potential employees, customers, investors and the general public (Intellectual Capital Statements – The New Guideline, February 2003).</p>
Wissensbilanz, Germany (2004)	<p>Is a German guideline supported by the Federal Ministry of Economics and Labour. The Guideline targets SMEs, as well as other forms of organization which have a comparable structure. In particular, it targets all decision-makers in an organization, from the Managing Director via the controller and those responsible for personnel matters, to the quality management commissioner, strategy managers, knowledge managers, as well as the heads of sales and marketing. The model is drafted in six steps with four milestones (Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs, June 2006).</p>
ICV calculation, Belgium (2004)	<p>ICV calculation has been developed by Areopa, a Belgium consultancy company specialized in change management, knowledge management and IC measurement.</p> <p>IC Value calculation is a complete set of 77 formulas that can be applied for a comprehensive calculation of the IC Value of an enterprise, or organization.</p> <p>(Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs, June 2006).</p>

Guideline	Purpose
ARC IC Report, Austria (2005)	The ARC IC Report is a model developed by the Austrian Research Centers. The logic of this model combines goals, intellectual capital, knowledge processes and intangible results. The process of acquiring, applying and exploiting knowledge starts with the definition of specific knowledge goals, which can be derived from the corporate strategy. Knowledge goals define the areas where specific skills, structures and relationships should be built up, or increased, to ensure that the corporate strategy can be put to work. These goals shape the framework for the exploitation of the IC, which is composed of Structural, Human and Relational Capital. These intangible resources are the input for the knowledge production process, which, in turn, is manifested in the different kinds of projects or processes carried out in the organization. In the case of research-intensive organizations, the processes are noticeably different kinds of research, such as basic research, applied research, contract research projects, but also include services, teaching and etc (Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs, June 2006).
IC-Rating, Sweden (2005)	IC-Rating is an initiative of Intellectual Capital Sweden, a private company specialized in measuring and describing non-financial assets that are not reported or described in traditional financial statements. IC-Rating™ is based on three focus areas: Efficiency - Present value of IC efficiency in creating future value Risk - Threat against present efficiency; probability of threat coming true Renewal and Development - Efforts to renew and develop present efficiency (Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs, June 2006).
IC-dVAI, France (2005)	The IC d-VAL® defines and measures Intellectual Capital in terms of relative indexes as well as in monetary terms. The starting point is a clear definition of the main components for the four dimensions – Resources, Processes, Assets and Outputs. Then a benchmarking process is conducted for these items. Basically we compare the position of an enterprise or a nation to those considered as best performers. The benchmarking exercise leads to calculating ad hoc performance indexes, as well as to a composite index per activity, company, group, country, region or any community. (Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs, June 2006).
Guiding Principles on Extended Performance Management, Australia (2005)	The Australian Guiding Principles on Extended Performance Management were developed by the Society for Knowledge Economics. The Society was established in June 2005 following a mandate from the Australian Government Consultative Committee on Knowledge Capital and the Australian Government Information Management Office. The Guiding Principles propose a framework performance account for structuring an extended that supplements traditional financial statements. The framework distinguishes between three forms of Intellectual Capital: Human Capital, Structural Capital and Relational Capital. It suggests that for each type of capital, companies report on their strategic objectives, their managerial efforts (both current and planned), and related indicators; including indicators on the external social, environmental or economic impact of the efforts. The aim is to produce a one page account, which provides a summary of the value and performance of the organization's knowledge intensive resources and activities relative to its strategic objectives. (Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs, June 2006).
Ricardis (2006)	In December of 2004 the Directorate General for Research and Technological Development (DG Research) of the European Commission (EC), set up a High Level Expert Group (HLEG) to propose a series of measures that could stimulate reporting of Intellectual Capital in research intensive SMEs. The deliverables are: 1. Guidelines for research intensive SMEs, on how to highlight the business case for R&D investments by reporting on their Intellectual Capital. 2. Recommendations for investors and other private stakeholders on how to interpret and value IC Statements and how to encourage companies to report on their Intellectual Capital. 3. Recommendations for public policy makers on how to stimulate companies to report on their Intellectual Capital (Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs, June 2006).
Guidelines for Disclosure of IA Based Management, Japan (2006)	The Guidelines for Disclosure of Intellectual Assets Based Management were published by the Japanese Ministry of Economy, Trade and Industry. They describe the outline of a voluntary intellectual assets based management report that explains the probability of future cash flow by using intellectual assets as sources of future profits as well as historical performance. The guidelines suggest that an intellectual assets based management report should have the following structure. (Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs, June 2006).
Incas (2010)	Strengthen the competitiveness and innovation potential of European organisations by systematically activating their Intellectual Capital; Establish the Intellectual Capital Statement (ICS) as an important and valuable management tool in a knowledge driven economy; Integrate and consolidate individual national approaches on Intellectual Capital Statements on a European level (InCaS: Intellectual Capital Statement, 2010).

Table 1: Selection of IC guidelines

2.2. A closer look at some intellectual capital guidelines

As presented in Table 1, there are several studies and guides to help monitor IC management. In this thesis three of those guides will be analyzed in detail: “**RICARDIS**”, “**Danish Guidelines**” and “**InCaS**”. These 3 guides will serve as the main inspiration for the construction of our measurement and reporting model. The main reason for this choice was that these three guides share the same basic assumptions: looking for IC inside the company; managing IC with planning purposes; reporting IC.

Regarding **RICARDIS**, five dimensions are established in preparing an IC Statement:

Dimension 1 – Taking Stock of intellectual capital

- Piloting the preparation of an IC Report;
- Linking intellectual capital to companies’ objectives;
- Producing a Knowledge Narrative (the narrative articulates connections between activities and provides the logic for what needs to be done and why it is important);
- Where to look for intellectual capital?

Dimension 2 – Planning Investments in intellectual capital

- Management challenges and initiatives;
- Investing in intellectual capital;
- Project appraisal.

Dimension 3 – Internal Communication of intellectual capital

- Internal reporting on intellectual capital;
- Selecting indicators;
- IC Reporting as a means to work on the business.

Dimension 4 – Internal Management using intellectual capital

- Role of the Board and intellectual capital;

- Benefits to internal management;
- The role of audit in IC Reporting.

Dimension 5 – External Reporting of intellectual capital

- Disclosure to attract resources to support innovation & value creation;
- Selective disclosure.

The Danish guideline for intellectual capital statements is a revised version of the 2000 edition. It is the result of extensive co-operation between researchers, companies, industry organizations, consultants and civil servants and has been coordinated by the Danish Ministry of Science, Technology and Innovation.

The Danish guideline *consists* of the following four parts:

Part 1 briefly describes the 4 elements of the intellectual capital statement and gives two examples of how they can look. This part focuses on the intellectual capital statement as a knowledge management tool and is a short introduction on how to prepare intellectual capital statements.

Part 2 describes in detail how to prepare intellectual capital statements, through going through each phase of the work to identify, build up, develop and anchor a company's knowledge resources.

Part 3 gives a number of directions on how to communicate and how to write external intellectual capital statements. It is often very challenging to draw the many strings generated by analysis together in an easily accessible publication.

Part 4 gives practical suggestions as to how the intellectual capital statement work can be organized.

In regards to each element some relevant questions must be asked to the management. According to Danish Guidelines, the critical questions in each topic are:

- *Knowledge narrative
- *Management challenges
- *Initiatives
- *Indicators

The **InCaS** methodology is a practical guide to a comprehensive and trustworthy report and is based on the individual experiences of 25 European organizations. This InCaS management tool has been elaborated with the strong support of the European Commission over the last years and is ready to support companies throughout the EU. The InCaS approach is used in this thesis in order to better illustrate the KPI's split, specifically into *Human Capital, Structural Capital and Relational Capital*.

CHAPTER 3: IC MEASUREMENT AND REPORTING SYSTEMS IN PRACTICE

The experience of introducing an IC measurement and reporting system in practice is surprisingly absent from the IC literature. To the best of our knowledge, few researches actually describe such process in detail. Two notorious exceptions are case studies from Giuliani (2011) and Chiucchi (2008), which we will now analyze in some detail.

On Giuliani's case study the aim was to reflect on how the specific nature of intellectual capital influences its own valuation process, in practice, and how it impacts on some of the qualities of its value. This study was based on a case study developed by adopting a modest interventionist approach.

It highlights the relevance of the intellectual capital valuation process in spite of the intellectual capital value itself. In fact, while intellectual capital value seems to present a limited level of objectivity, consistency, comparability and understandability, its valuation process can be considered an opportunity to visualize and understand intellectual capital and its influence on financial performance. In other words, intellectual capital valuation can be considered as useful practice to attract the attention of the managers on intellectual capital in action (Giuliani, 2011).

The case study at "Aimag", an Italian company (Chiucchi, 2008) was aimed at analyzing how the company has dealt with the design and implementation of the IC measurement and reporting system (ICMRS) proposed by the author. Observations relative to the effectiveness of the implementation process and of the tools suggested were drawn, also shedding light on the actual benefits and the drawbacks that were observed.

The case shows that an ICMRS cannot be simply considered an accounting phenomenon but one that promotes managerial and cultural changes within a company. It also highlights that for IC measuring and reporting to give the maximum benefits it must be considered an "internal issue". So it has to be viewed, first of all, as a process that permits planning and managing intangible resources consistently with the company strategy for creating value. Only afterwards can it lead to IC disclosure. It

is the process that makes it possible, for the personnel involved, to understand what the company's intellectual capital is, how it works, how it creates value. Thus, the organizational capital and especially the relationships with employees and other stakeholders become the focus of managerial attention and are improved, since their understanding, their management and their integration into the company strategy are adopted. Basically the value is created also for them. Consequently, the most important benefit gained from the ICMRS is the spread of the "intellectual capital culture" within a company (Chiucchi, 2008).

Going forward, the aim of this research will be somewhat similar to the cases presented. The idea is to go through the process of creating an IC management model on a real firm, regardless of the IC value itself.

PART II: METHODOLOGICAL AND EMPIRICAL ASPECTS

CHAPTER 4: METHODOLOGY

4.1. Case study methodology

The methodology to apply in this research consists on *a single Case Study*, based in an intensive method (using qualitative and quantitative data, documents and databases analysis). This decision has been made due to the fact that the case study is *an empirical study that allows in depth research of contemporary phenomena in a real-life context*, especially when the boundaries between the phenomenon and the context are not evident. Focusing on a single case will force this thesis to devote careful attention to that specific case.

This case study is an experience that will be applied into an organization, with the purpose of designing and testing an IC management model that currently does not exist. It will be conducted through systematic research, analysis and reporting.

Case study-based research is becoming increasingly popular and is cited on many professional and scientific sources. Case studies are designed to ask the questions *"how" and "why" of an event, procedure or phenomena*. Compared to other methods, the strength of the case study method is its ability to examine, in-depth, *a "case" within its "real-life" context* (Yin, 2004).

The case study will go through the complete cycle of case study research: *design, selection, analysis, and reporting*. An important phase of this methodology is to use theory development to help to select the case, develop data collection protocols, and organize initial data analysis strategies.

Case study research is not limited to a single source of data and this particular case will not be an exception to this rule. A questionnaire and interviews will be used to assess the management's perspective on different areas of IC within the company. Additionally, the case will benefit from having *multiple sources of evidence* such as the access to quantitative data, dashboards, data base analysis, documentation, etc.

CHAPTER 5: EMPIRICAL WORK

5.1. Introduction to empirical work

In this thesis the design and the implementation of an IC measurement system will definitely not consist on a copy paste of one of the guides presented in the literature review section.

Contrariwise, the challenge will be to develop a process and create a “model” that fits one particular company and its unique environment. The guidelines proposed by the literature offer different advantages and disadvantages, so their study will lead to a better perspective of what should be the right approach and what kind of framework can be designed to this precise company.

Taking in consideration the concepts shown, this thesis aims to develop an IC management system that is able to support the identification, measurement and management of the company's intangibles value - referred to as IC - which might be crucial for a successful development of its strategic vision.

5.2. Research questions

Initial research goal

How can IC identification, measurement and management be improved within a particular company?

Building on our general research goal, our aim is to answer the following research questions:

- 1- How to identify the most relevant IC variables to a particular company?**
- 2- How to build a model that allows the dynamic measurement of the most relevant IC variables within a particular company?**
- 3- How can the design and implementation of an IC model impact IC management within a particular company?**

5.3. Company description

The case study will be developed in a German organization, located in Portugal since 2003, that renders services to its international subsidiaries companies within a Corporate Group. Over the years, several functions were incorporated. The initial concept of European Accounting Shared Service Center developed to a European and North American Multifunctional Shared Service Center. As of FY 2010, the majority of the new incorporated activities are non-accounting related. The team has 142 employees at September 2014, is young, dynamic and qualified, providing Accounting Services and other Business Services on the basis of Service Level Agreements with customers. The main goal and company's strategy is to continue the development and integration of other areas apart from Accounting and Finance area such as Purchasing, Legal, Audit and HR services, amongst others to serve different locations within Europe and America.

5.4. Building an intellectual capital model in practice

According to our research questions, we will now try to address the following:

How to identify the most relevant IC variables to a particular company?

How to build a model that allows the dynamic measurement of the most relevant IC variables within a particular company?

In order to evaluate the current situation at the company in what concerns intellectual capital management, a plan was designed based on the different existing guidelines. To start this process the analysis were based in the Danish guidelines, RICARDIS and InCaS methodology.

A- Help questions to obtain coherence in intellectual capital statements

The following figure illustrates the 3 critical elements to kick start the development of an IC statement, as per the Danish Guidelines. These 3 elements are divided in **knowledge narrative, management challenges and initiatives.**

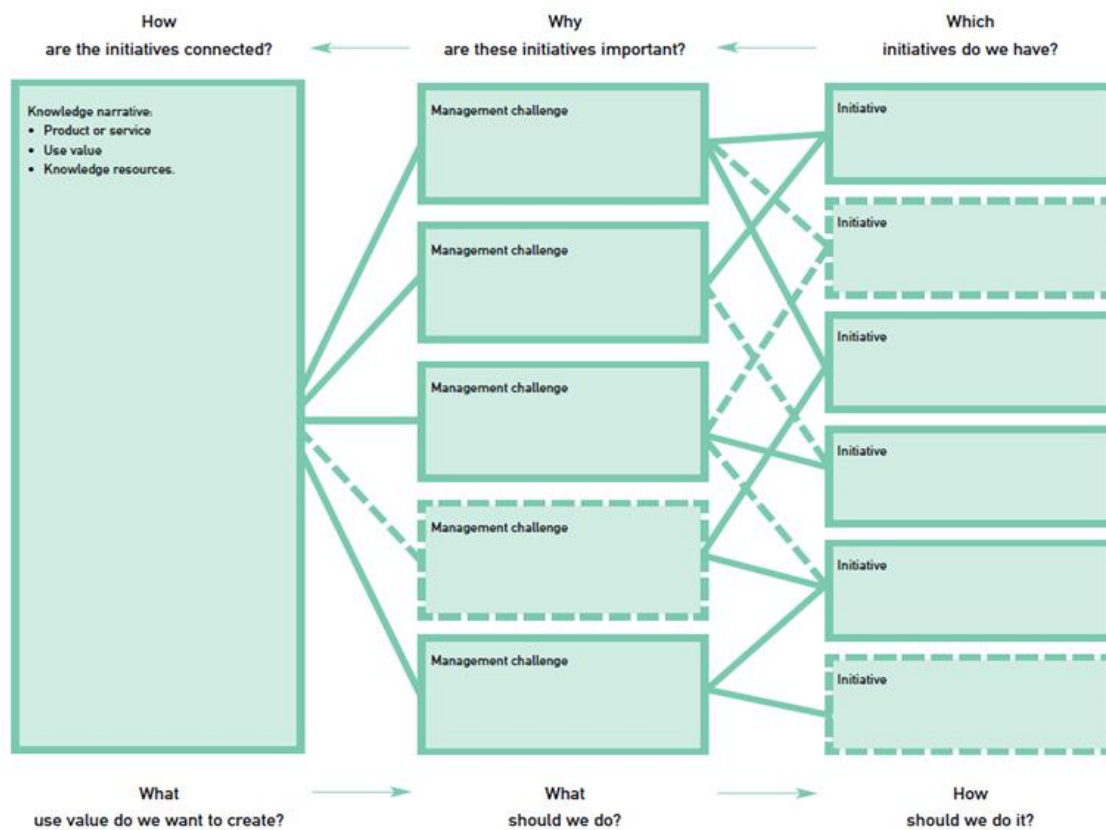


Figure 3: Help questions to obtain coherence in intellectual capital statements

Source Danish Guidelines

And the following figure illustrates the same as above plus the indicators which are representative of the IC model from Danish Guidelines. The right selection of the KPI's is based on the 2 previous questions "What use value do we want to create? What should we do? How should we do it?" The KPI's battery is the consequence of the analysis of the 3 elements of IC.



Figure 4: The intellectual capital statement model

Source Danish Guidelines

The study conducted in the company followed the same approach of the model seen above. Some interviews to the management of the company were done in order to get answers to the questions of the 3 elements of IC. The questionnaire used is explained below and it was the base for the initial analysis.

B- Different steps for the analysis:

B1- First the analysis of the company's current situation – the company's top management perspective:

The company is expanding the business, focusing on its internal customers that are mainly other entities from the same group. This company is a shared service center (SSC) that incorporated over the years different functions - these areas are under Finance, Controlling and Tax, Purchasing services, Human resources administrative activities, Recruiting, Legal and patent services, Audit, amongst others. The vision is to continue investing in a multifunctional shared service center, which operates looking for quality and excellence for its customers.

All actions are taken in accordance to the three focus areas aligned for the SSC: quality, expansion, automation. The value that is created to the customer is in these areas: services are delivered with higher quality (e.g. accurate, reduced error rate, employees are more knowledgeable and act with ownership, higher alignment of expectations and closer communication with customers); center is prepared to expand the SSC concept to other areas and Business Administration team is supporting this

change (adaptability of SSC concept, management of different reporting lines, alignment of different functional managers into one similar code of conduct); services are continuously revised and improved (employees initiate actions that challenge the status quo, tools are upgraded not only to speed up the process but to turn it more compliant and easier for customer usage, productivity is supposed to increase in parallel to improved quality of data).

B2- Secondly the analysis of the IC statement knowledge narrative

***Knowledge narrative:**

- What services does the company provide?

The company provides Audit, Accounting, Controlling, HR, legal, purchasing services and HR to the group in Europe and America.

- What makes a difference for the customers?

The users are internal customers which are mainly the consolidated companies within Europe and US. The services are used on a daily basis and it works as a support center to the local teams.

The users benefit from these services due to the fact that they can better focus on strategic matters of the company instead of focusing on transactional and administrative work and activities.

- What knowledge resources are necessary to be able to supply the services?

The company requires qualified people in different technical areas, in some cases experienced people in order to face the needs. Additionally it requires language skills, specially English and German natives or proficient, to communicate in the different areas. This company also requires people with leadership skills, due to the fact that is increasing dramatically its dimension and it involves teams with responsible managers and team leaders that can manage the HR and the processes.

B3- On a third point some help questions to identify the management challenges, company's initiatives and current indicators:

***Management challenges:**

- Which existing knowledge resources should be strengthened?
- What new knowledge resources are needed?

***Initiatives:**

- What initiatives can be launched?
- What initiatives should be prioritized?

***Indicators:**

- Which indicators can be associated to each initiative (new or already in place)?

The table below (Table 2) was used to assess the company's view. The goal was to capture the perspectives of the management concerning the challenges for the future, which initiatives have been launched and others that need to be launched, and which indicators are being measured or can be in the future.

In order to capture the management feedback some open interviews were done to the Shared Service Center Head and Human Resources Director. The collection of the material was done during those open interviews and questionnaire completion.

IC	Existing actions and initiatives	Existing objectives and strategies
Relational, Human and Structural Capital	What actions and initiatives have been launched: • To ensure the right customer/employees/business portfolio? 1. for the start-up: *external recommendation of experienced consultants; *participation in Shared Service Center conferences; *meetings with customers to align portfolio of services; *visit other SSC's already established 2. on going: *analysis of SSC market evolution by participating in external studies and receiving studies of market trends; *analysis of portfolio by customer and negotiation of harmonized portfolio *understand customers' needs (where do they spend time? can the activity be done remotely? Is it clearly defined and standard? Does it require local expertise?...); *top management support and belief on SSC concept; *participation in SSC groups to understand peer's experiences and development; *revision of portfolio of services on a yearly basis and sign-off by customer; *discussion of potential new areas of service in Jour Fix/Business Review's; *employees are encouraged to propose new services to management	What objectives exist: • For the customer/employees/business? *increase usage of shared services concept; increase harmonization of processes *reduce costs *improve processes (ensure compliance and efficiency) *reduce audit findings *ensure completeness of internal controls *ensure that SSC delivers services according to policies • For upgrading of customer/employees/business relations and customer/employees/business competencies? *continuous improvement of customer satisfaction survey *higher revision of processes via Route Cause Analysis *internal targets to provide info/training sessions to customers in areas where it is detected less competencies *involvement of customers in process changes and implementation of new tools (e.g. Shared Service Framework) *maintenance of process handbooks
	• To upgrade customer/employees/business relations and customer/employees/business competencies? *regular jour-fixes / Business reviews with customers *reorganization focused on customer (instead of processes), promoting a single point of contact for the entire process and development of employees within their customer's site *involvement of a customer representative in SSC shareholder meeting *increased sharing of information • To promote customer/employees/business satisfaction? *quality dashboard *customer satisfaction survey *improvement and development of tools which facilitate the communication (Shared Service Framework, dashboard, invoicing, 55255, Route Cause Analysis, Internal quality assessments, ...) *higher communication with customers (sharing of ISAE (International Standards for Assurance Engagements) reports), sharing of common audit findings, sharing of customer survey results and actions to be taken) *Great Place To Work	• For customer/employees/business satisfaction? *align expectations between service provider and customer *understand customers' experience and receive feedback *setup communication center to promote a closer communication and quicker resolution of issues *ensure that new tools bring an advantage also for customers (publicize this perspective) *share more info from SSC to customers (result of ISAE reports, result of benchmarking, detailed result of customer satisfaction survey) *take actions that customer clearly identifies that it came out of the customer satisfaction survey

Table 2: Definition of existing and future initiatives, existing objectives and strategies

After the collection of the material above illustrated, it is time to connect KPI's with the management feedback, developing new ones or analyzing the past ones used on the company. The goal is to assess which are the core issues for the top management in what concerns the company's current situation and company's future, and to represent them in a KPI's structure.

For that purpose, the main inspiration was the InCaS reporting model, which is represented below in the form of a base framework. The challenge to build up the base framework was to understand the main concerns of the company's management.

IC Management Model						
IC component	Knowledge narrative	Management challenges	Existing or future initiatives	Existing or new indicators	Measurement	
					Target value FY14	Value FY14/FY13
					Improvement needed <70%	Good 70%-90%
						Above average >90%
						Frequency
Relational Capital	Customer relationship					
Human Capital	HR structure	Organization's Goals and focus for future	Organization's Initiatives current or future and action items	Key performance indicators already been measured and new		
	Professional competence					
	Employee motivation					
	Leadership culture					
Structural Capital	Corporate Culture					
	Compliance					
	Business process					
	Knowledge Processes					
	Knowledge infrastructure					

Table 3: IC Management Model

On the IC component **Relational Capital**, where the Knowledge narrative identified was **Customer relationship**, some management challenges were acknowledged and some important initiatives, either existing or new ones, were recognized.

The same happens at the **Human Capital** component where the Knowledge narrative identified was **HR structure, Professional competence, Employee motivation and Leadership culture**. This company recently started a program called “Great Place to Work” (<http://www.greatplacetowork.com/>), which is known worldwide. This is a global **human resources consulting, research and training firm** specializing in **organizational trust**. The Great Place to Work Model is built on 25 years of research and data collected through Trust Index Employee Survey, which is taken by over 10 million employees annually worldwide. It provides leadership coaching and culture consulting services to businesses, non-profits and government agencies in 45 countries on all six continents. The aim of this program is to develop the satisfaction of the employees and to create really a great workplace.

Regarding **Structural capital** the approach was the same and the Knowledge narrative identified was **corporate culture, Compliance, Business Process, Knowledge Processes and Knowledge Infrastructural**.

This proposal for an IC Management Model comprises a similar structure as the one suggested in InCaS - Relational Capital, Human Capital and Structural Capital but with knowledge narratives newly created and adapted to the company's reality. This framework was built as a result of the management feedback and the identification of several challenges in different areas. At the end two columns were created with existing and new key performance indicators.

5.5. KPI's selection and testing

In order to test the proposed KPI's (both the new ones and the ones that the company already measured and were preserved), it was decided to take an entity as pilot (basically the pilot entity that the company is already using on a so called "Quality Dashboard"). This decision has been taken due to the restrict KPI's calculation that are already available and also because the company's strategy is to apply the quality dashboard to all entities within the scope of its services. We chose not to use the "Quality Dashboard" structure, as its general logic and goals are totally distinct from those of the IC framework we are trying to develop on this research.

All the KPI's already measured in the company are identified in Table 4 below as "in place". Regarding the new ones an intensive research was done, in order to find and define the best KPI's that fits management challenges and initiatives in this particular organization. The main inspiration sources for KPI's selection were the "Modelo Intellectus: medición y gestión del capital intelectual" (IADE, 2003), InCaS and Danish Guidelines.

Regarding the existing KPI's all company's data bases were analyzed and the measurement was done accordingly with what the company defined in past. If the management challenges and initiatives for any reason mentioned elements that can be evaluated through those KPI's, meaning that can be linked to the existing KPI's, the selection was done. Some examples in order to illustrate this are:

Management challenge on customer relationship

*continuous improvement of customer satisfaction survey – existing KPI selected: customer satisfaction survey; improve quality of services rendered – existing KPI selected: number of registered complaints.

Management challenge on employee motivation

*employee satisfaction – existing KPI selected: employee satisfaction survey.

Management challenge on compliance

*reduce audit findings – existing KPI selected: number of audit findings.

Management challenge on business process

*increase of harmonization of processes – existing KPI selected: % harmonization level.

Management challenge on knowledge processes

*sharing process knowledge – existing KPI selected: knowledge sharing in days.

The new KPI's selection was done in the same way. Basically the selection was done taking in consideration the feedback from management. Some examples in order to illustrate the selection and definition are:

Management challenge on customer relationship

*align expectations between service provider and customer – new KPI selected: average number of visits to Local teams.

Management challenge on human resources structure

*increase of the head count in Human resources department – new KPI selected: HR employees vs. total SSC employees.

Management challenge on employee motivation

*maintain good physical/psychological working conditions – new KPI selected: employee's satisfaction feedback on social activities promoted by the company (result from GPTW survey).

Management challenge on corporate culture

*ensure cultural alignment across different functions specially areas that reports functionally outside SSC – new KPI selected: number of harmonized processes taking in consideration the SSC model.

Management challenge on business process

*create Global Shared Service Center concept in Finance integrating Asia in this model – new KPI selected: existence of common Service portfolio worldwide.

Management challenge on Knowledge processes

*sharing Process knowledge – new KPI selected: number of process descriptions published.

Management challenge on Knowledge infrastructure

*increase communication between parts – new KPI selected: recurrent usage of communication channels.

On the following table the bold management challenges are the ones that the company's management showed as the most important and critical for the future. This means that the strategy of the company will be more focused on these challenges and initiatives. Nevertheless all of them are still part of the day to day goals.

Finally, the model architecture included a few last columns where the KPI's would actually be quantified. This included three categories: "target value fiscal year 14" (from October 2013 to September 2014); "value achieved FY13" (from October 2012 to September 2014) and "frequency of the measurement". The company measures all targets in fiscal years, so the same approach was adopted.

On the target value columns, values in bold correspond to the actual achievement. Possible outcomes are "improvement needed", "good" or "above average".

It is also important to mention that for all targets defined, especially on the new ones, the feedback from management was essential. On the Human Capital category, for instance, some of the Global company guides were taken into

consideration for the selection. This means that all targets were defined according to the management vision and expectations.

Additionally, the calculation of the new KPI's was particularly methodical and thorough, in order to reproduce as much as possible the reality of the company.

5.6. Results

The final results, displayed in Table 4, were based on the company's performance during fiscal year 2013 and 2014. Most of the KPI's show the calculation in regards to fiscal year 2014. As previously mentioned, in some cases this was not possible, so values from FY2013 were used.

The next tables shows the final model outcome, following the base framework presented before, including all the KPI's values that could be calculated at this stage.

IC Management Model									
IC component	Knowledge narrative	Management challenges	Existing or future initiatives	Existing or new indicators	Measurement				
					Target value Fiscal Year14			Value FY13/FY14	Frequency
					Improvement needed <70%	Good 70%-90%	Above average >90%		
Relational Capital	Customer relationship	- continuous improvement of customer satisfaction survey - improve quality of services rendered - understand customers' experience and receive feedback	*regular jour-fixes / Business reviews with customers *customer satisfaction survey *take actions that customer clearly identifies that it came out of the customer satisfaction survey *internal targets to provide info/training sessions to customers in areas where it is detected less competencies *reorganization focused on customer (instead of processes), promoting a single point of contact for the entire process and development of employees within their customer's site	*Number of training hours prepared and given or published in e-learning tool to internal customers/partners *Customer satisfaction survey (in place) *Number register complaints (in place) *Variation of the complaints registered (FY13 and FY14) *Execution of Agreed actions (in place)	<8 <3 >5 increase <70%	8_16 3-4 1-5 decrease 70-90%	>16 >4 0 n/a >90%	32h-FY13 4,3 2 decrease (from 5-2) 92%	Annually Half yearly Quarterly Annually Quarterly
		- align expectations between service provider and customer	*meetings with customers to align portfolio of services; *local content visits to SSC and SSC to visit LC locally	*Average number of visits to Local teams	<30	30_70	>70	40 visits FY14	Annually
		- show customer advantages when Shared Service Center changes processes or tools (think in customer side)	*care on the communication *involvement of customers in process changes and implementation of new tools (e.g. Shared Service Framework) *think that is not only an advantage to SSC but also a value add to the customer	*Number of communication channels used within customers relations	<4	4_6	>6	email+Call center+ishare+SAP ticketing+ Internal messenger+ face2face=6	Annually
		- share more info from SSC to customers and increase ownership at customer	*sharing of ISAE(International Standards for Assurance Engagements) reports, sharing of common audit findings, *involvement of a customer representative in SSC shareholder meeting	*Number of shareholder meetings	<2	2	>2	2 meetings a year	Annually

Table 4: Relational Capital - customer relationship

Starting on **Relational Capital** component - **customer relationship** the following conclusions can be taken:

- 1- All KPI's calculated set forth an achievement of "Good" or "Above average" result. This means that considering this restrict analysis, which involves only one category of Relational Capital - customer relationship, the company shows an intensive focus on the customer cooperation and a continuous working on the increase of the customer ownership. Most of the initiatives are in place already, even if they are not being measured in KPI's format.

IC Management Model									
IC component	Knowledge narrative	Management challenges	Existing or future initiatives	Existing or new indicators	Measurement				
					Target value Fiscal Year14			Value FY13/FY14	Frequency
					Improvement needed <70%	Good 70%-90%	Above average >90%		
Human Capital	HR structure	- Develop SSC HR structure (documentation, guideline, transparency)	*increase the Head count at HR *document processes and guidelines *SSC HR to adopt all methodologies from a service provider (handbooks, Service catalog, tasks separation, usage of tools, etc.)	*HR employees vs. total SSC employees	<2	2	>2	2 HR people for 142 employees	Annually
				*Number of processes documented in proportion with all needed (number of Hanbooks, Service Catalog complete)	<100%	100%	n/a	12 processes document. 12% out of-44 processes Service Catalog base	Annually

Table 5: Human Capital - Human Resource structure

On **Human Capital – Human Resource structure** the following conclusions can be drawn:

- 1- In order to develop the shared service center HR structure, the management identified some initiatives. One additional head count for the HR team was recently hired, in order to improve the processes and to face the growth of employees in the whole organization. In order to assess the ratio of HR employees versus total SSC employees, a new KPI was built. This KPI will allow the management to understand if that ratio is within the recommended values. As a reference, the suggestion from the Human Capital Benchmarking Study

(SHRM, 2009) was used. This study categorized the median for 100 to 249 total employees, which is 1,36 $((142*1,36)/100= 1,9312)$. As stated in the table, currently the company has 2 HR employees for 142, signaling that this is adequate to the company's needs.

- 2- The second KPI proposed was the number of processes documented in proportion with all needed. As stated on the table after the calculation it can be concluded that the documentation is not 100% available. This means that there is no process transparency to the organization. Our recommendation is to fully develop the documentation and publish it accordingly, dependent on level confidentiality.

IC Management Model									
IC component	Knowledge narrative	Management challenges	Existing or future initiatives	Existing or new indicators	Measurement				
					Target value Fiscal Year14	Improvement needed <70%	Good 70%-90%	Above average >90%	Value FY13/FY14
Human Capital	Professional competence	- Competence is not the main selection criteria	*Great Place To Work program on going: -define clear recruitment model where all selection criteria and advertising would be transparent to the organization -share succession plan concept to organization	*% of employees with competency development plans	<100%	100%	n/a	100%	Annually
				*% of newly appointed employees having completed tutor/mentor schemes	<80%	80%	99%	100%	Annually
				*% of employees with a University degree	<70%	70%	99%	100%	In 142 -96%
				*Average number of years service (experience)	<5	5_7	8	6 years experience	Annually
				*Proportion of particularly important employees groups (IT, HR, TA)	<6	6	>6	5,30 para 142 (1,3IT,2 HR, 2TA)	Annually
				*Sucess of the recruitment in %	<80%	80%	90%	>90%	n/a
				*Employees experience in average	<2years	2-3 years	>3years	6 years experience	Annually
		- definition of Training & growth opportunities process	*Great Place To Work program on going: -Define a training process -Prepare the training plan including the providers, the decision internal/external/, target group, timeline, subject name -Training landscape in the iShare -Communications -Prepare Info Session/team meetings to inform all employees Include the new process in the new hire process -Budget -Managers to formally develop employees identified in the succession planning -Process communication to the organisation -Create opportunities to grow more in a specific area (e.g. Business Process Owner, specialists) -Define a process and promote job rotations between areas	*Number of training hours per employee 2014	<35h	35h	>35h	35hours in average per employee	Annually
				*Number of performance reviews	<100%	100%	n/a	100% (trainees included)	Annually
				*Number of travels related to projects and growth opportunities	<120	120_200	>200	198 travels related projects and others	Annually
				*Training process defined complete	NO	YES	n/a	On going preparation not completed	Annually

Table 6: Human Capital – Professional competence

On **Human Capital – Professional competence** the following conclusions can be drawn:

- 1- Looking at the results most of the indicators show that the company is looking carefully at the inhouse competences. 100% of all employees have a competency development plan established, this means that the employees performance evaluation is done for the whole community. This is an indication of the company's concern regarding the employees career and competencies's development.
- 2- There is one indicator that shows improvement needed, which is the proportion of particularly important employees groups (IT, HR, TA). This means that in these 3 main pillar areas of the company there is a lack of employees. This was detected specially on the IT area. Going through the recommendation ratios on the IT area, they point to an average of 45,7:1. The company shows a 142:1,3 ratio, which is too low. According to the benchmark MetricNet study (Rumburg, 2012), the SSC should have a 3,10, instead of 1,3 head count on the IT department.
- 3- An additional management challenge detected was the definition of a training & growth opportunities process. All KPI's on this area revealed that the SSC is in a good position, with the exception of one indicator showing a lack of a defined training process, known by all employees. The information obtained was that under the "Great Place to Work" program there is one focus group that is working at the moment on this implementation.
- 4- A new KPI recommended that was not possible to measure is the success of the recruitment in %.

that promote the team spirit and that maintain people together in a good environment.

- 2- In contrast, KPI's such as "flexible working hours conditions" shows the openness of the company to adjust working hours schedule depending on employees needs. The employees satisfaction survey also confirmed the percentage of satisfied employees in the SSC environment.

IC Management Model									
IC component	Knowledge narrative	Management challenges	Existing or future initiatives	Existing or new indicators	Measurement				
					Target value Fiscal Year14			Value FY13/FY14	Frequency
					Improvement needed <70%	Good 70%-90%	Above average >90%		
Human Capital	Leadership culture	- Managers are not walking their talk	*Great Place To Work program on going: -Include employee's performance feedback in the management meeting (potential high/low performance) -Steps follow up "bi-directional"- Announce the possibility of the employee requesting/scheduling a follow up session with the manager -Define an internal communication plan -Formal agreement in the periodicity of the department meetings -Define new ways to effective collaboration	*Number of agreed actions with the team and implemented	<100%	100%	n/a	n/a	Annually
		- Develop management leadership culture	*training in leading people in High performance company *leadership dialogs *cultural changes workshops *GPTW participation *managers Kpi's to implement actions to implement leadership culture	*Average number of training held to management *Average number of initiatives to develop leadership skills (held by SSC or manager initiative)	<2 <1	2 1	>2 >1	1 3 (Leadership Dialog, Great Place To Work,GPT W manag.)	Annually Annually

Table 8: Human Capital – Leadership culture

On **Human Capital – Leadership culture** the following conclusions can be taken:

- 1- The KPI "number of agreed actions with the team and implemented" was not measured at this stage, but was considered as extremely important by the HR director, so at least for future calculation it should be taken in consideration. The management challenge detected was "managers are not walking their talk". With the help of this KPI it would be possible to understand how the managers are behaving with their employees. Also, by monitoring these actions

employees could address the topics they feel that are not progressing as agreed.

- 2- In order to promote leadership culture, a challenge identified by the management, a new KPI (“average number of training held to management”) was proposed. The result was not so good due to the fact that there is a guideline within the Global company that declares 2 training sessions should be attended by the management per year. After the calculation it was detected that on FY14 only one training session was held by the management team.

IC Management Model									
IC component	Knowledge narrative	Management challenges	Existing or future initiatives	Existing or new indicators	Measurement				
					Target value Fiscal Year14			Value FY13/FY14	Frequency
					Improvement needed <70%	Good 70%-90%	Above average >90%		
Structural Capital	Corporate Culture	- Ensure alignment (cultural) across different functions specially areas that reports functionally outside SSC	*ensure these functional teams have a legal managers inside SSC that brings SSC culture (all actions taken to promote the alignment sharing SSC methodologies were not really put in place) - model that would combine both methodologies btw functional reporting and SSC governance * for future in order to align cultural behavior and gain synergies trough the overall agreement btw parts (same tools, similar governance, similar targets, structures, methods etc.)	*%of processes are harmonized taking in consideration the SSC model	<100%	100%	n/a	not 100%	Annually
	Compliance	- reduce audit findings - ensure completeness of internal controls	*internal quality assessments (follow up of actions results from Quality Assessment) *monitor process improvements *internal quality assessments (responsible person to monitor the actions and deadlines) *check list to monitor internal controls maintenance and due dates	*Number of audit findings (in place) *Process improvements (in place)	>3 <3	1--3 3--5	0 >5	0 4	Annually Annually
		- ensure that SSC delivers services according to policies	*revision of portfolio of services on a yearly basis and sign-off by customer	*Number of audit findings (in place) *Process improvements (in place) *%Harmonization level (in place)	>3 <3 <80%	1--3 3--5 80-95%	0 >5 >95%	0 4 78%	Annually Annually Annually
		- increase harmonization of processes	*analysis of portfolio by customer and negotiation of harmonized portfolio	*% Harmonization level (in place)	<80%	80-95%	>95%	78%	Annually
		- increase usage of shared services concept	*top management support and belief on SSC concept *analysis of portfolio by customer and negotiation of harmonized portfolio. *employees are encouraged to propose new services to management and part of managers targets *discussion of potential new areas of service in Jour Fix/Business Review's with customer	*Increase of new service areas comparing with last year	NO	YES	n/a	FY14 controlling servives, PUR, HR recruitment , CBO+FA - YES	Annually
	Business process	- reduce costs	*monitoring of cost through Controlling costs department *proper process in place for costs authorization * defined guidelines for cost approval *HC approval requires board acceptance	*Existence of proper guideline for cost approval	NO	YES	n/a	YES	Annually
		- Create Global SSC concept in Finance integrating Asia in this model (is a complex challenge due to different experiences)	*higher contact with Asia, recurrent communication btw both sides *share projects and data btw parts *create a common service catalog *build up a harmonized process guidelines to be follow by all	*Existence of common Service portfolio worldwide	NO	YES	n/a	NO	Annually
		- understanding SSC's evolution and development as per best practices	*analysis of SSC market evolution by participating in external studies and receiving studies of market trends; visit other SSC's already established *participation in SSC groups to understand peer's experiences and development;external recommendation of experienced consultants; *participation in SSC conferences	*Number of benchmarkings and self evaluations	<12	12	>12	FY13 -12 and FY14 - 12	Annually

Table 9: Structural Capital – Corporate culture, Compliance, Business Processes

On **Structural Capital – Corporate culture, Compliance and Business processes** the following conclusions can be taken:

- 1- Most of the KPI's show a good performance or above average, such as "audit findings" with a perfect result, "process improvements" also with a good result, which leads us to think that the management challenge in reducing audit findings and monitor process improvements is being tracked on.
- 2- Additionally, one concern from the management is to ensure cultural alignment across different functions specially areas that report functionally outside SSC. This challenge is still not yet in a good position due to the fact that the processes are not harmonized taking in consideration the SSC model. This is another area of improvement in the future, as it is a very important initiative for the development of the SSC.
- 3- The management mentioned that in the future the strategy of the SSC should be creating a Global SSC concept in Finance, integrating Asia in this model. It is a complex challenge due to the different cultural realities involved and the proposal is to create a kind of common Service portfolio worldwide.

IC Management Model									
IC component	Knowledge narrative	Management challenges	Existing or future initiatives	Existing or new indicators	Measurement				
					Target value Fiscal Year14			Value FY13/FY14	Frequency
					Improvement needed <70%	Good 70%-90%	Above average >90%		
Structural Capital	Knowledge Processes	- sharing Process knowledge	*maintenance of process handbooks *creation of knowledge sharing sessions btw teams (creation of BPO position and process experts (VAT, workflow, etc.) *creation of short assignemnts in different teams in order to increase the knowledge btw teams (Short Term Assignment, job rotation)	*Number of process descriptions published	<70%	70%-90%	>90%	not all published due to confident. restrictions 80%	Annually
				*Knowledge sharing within team (days) (in place)	<2days	2_5	>5days	2	Monthly
				*Proportion of working hours spent on knowledge related activities (in seminars, courses, etc)	<2hours	2_8hours	>8hours	n/a	Annually
		- ensure proper documentation for projects (Transfer activities, project development and monitor)	*project management officer position created	* Number in project management trainings	<1	1	>1	1	Annually
	Knowledge infrastructure	- improve processes (ensure compliance and efficiency)	*higher revision of processes via Route Cause Analysis *implementation of controls in different areas	*Increase of usage of route cause analysis - RCA received comparison of FY13 and FY14	NO	YES	n/a	46 FY13 and 61 FY14 - YES	Annually
		- increase communication btw parts	*setup communication center (call center) to promote a closer communication and quicker resolution of issues *usage of internal communication platform (employees exchange) *usage of internal communicator (customer and employees)	*Recurrent usage of communication channels	NO	YES	n/a	YES	Annually
		- ensure that new tools bring an advantage also for customers (publicize this perspective)	*SAP Service Framework, invoicing, volumes and performance evaluation Dashboard, quality dashboard, Route Cause Analysis tool, ERP(SAP modules), workflows that monitor work, electronic archiving, usage of standard templates, BI portal. *new video promoting SSC activities, team and structure *ishares(share info btw Local teams, btw Local Content and SSC, btw SSC employees) *IT experience	*Increase number of information systems implemented FY13 and FY14 *Number of experience in years of qualified people in IT.	NO <3	YES 3_5	n/a >5	10 - YES IT 5years ((6+3)/2)	Annually Annually

Table 10: Structural Capital – Knowledge Processes, Knowledge infrastructure

On **Structural Capital – Knowledge Processes and Knowledge infrastruture** the following conclusions can be drawn:

- 1- Regarding the challenge “sharing process knowledge” the KPI “proportion of working hours spent on knowledge related activities (in seminars, courses, etc)” was suggested. Although it was not possible to assess its value at this stage, this is a truly critical KPI, as it became clear through the literature revision of this thesis.

- 2- Most of the other management challenges in these 2 areas are being addressed already and, as we can conclude from the results of the suggested KPI's, they seem to be on the right track.

In the end, 48 KPI's were created, portraying the distinct initiatives associated to each management challenge. This intense work was unquestionably useful to understand how an intellectual capital model can help on the assessment of the company's perspective and the real facts.

In this particular company most of the KPI's evaluated and calculated showed a good performance 28 KPI's, 9 KPI's were above average, 8 KPI's showed improvement needed while 3 KPI's were not actually measured. In our opinion this results show that over the years the company showed awareness regarding intellectual capital components and consequent initiatives. Most of the challenges recognized by the management have an action item identified and some initiatives are already in progress for the implementation. The question now can be: How can the company improve on this matter? This thesis showed that one important action might be monitoring the IC evolution and development over time. At this moment the monitoring is almost nonexistent. The recommendation is exactly to maintain a battery of indicators such as the ones previously suggested, which will allow an evaluation of each indicator's status and evolution over time. This analysis will enable the company's management to understand IC management development and eventually take some measures to adapt, if necessary.

PART III: CONCLUSIONS

CHAPTER 6: CONCLUSIONS

6.1. Introduction

Having completed this case study research, the first thing to reflect upon in order to extract valuable conclusions is to what extent the initial research goal has been accomplished:

How can IC identification, measurement and management be improved within a particular company?

In the beginning of the study, it was noticed how critical it was for the company to understand what intellectual capital management really is.

In the first meeting point with the management this question was raised in order to assess the real importance of the study for this particular company.

From that moment, it was clear that the interest of this subject was fully acknowledged by the Head of the Shared Service Center. As this service provider was established in Portugal in 2003 with the aim to perform accounting tasks for the group, the term “Intangibles” is an accounting term very often used and known, whereas “Intellectual Capital”, a concept originating from the human resources and strategic management areas (Vickery, 1999), was not.

The definition of IC as the mixture of an organization’s Human, Organizational and Relational resources and activities (MERITUM, 2002), allowed for an instant recognition that this concept and its ramifications are an integral part of the company reality and also of the management’s concerns.

Hereafter, the company understood that the measurement and management of IC was inexistent. The effort that the company does in terms of quality improvement, expansion and automation is more focused on the processes than on the monitoring of the evolution of IC in its entirety. It was also recognized as a challenge for the company to retain their IC internally in order to achieve their goals

on the 3 pillars mentioned throughout the study. Over the years this focus turned into a Human resources mind set from the management and consequently in a cultural behavior change. This study emphasizes exactly the reflection of the company management on this matter and certainly after this study the company will look at their initiatives and challenges as part of an IC management system as well.

This research contributes to underline that intellectual capital is becoming more and more pertinent in organizations. Strategy permeates the entire organization, identifying the lane that all the departments and functions have to follow in order to accomplish the objective of creating value. IC resources are often performance drivers; therefore, there is a fundamental relationship between those resources and value creation. Success and value creation of any organization in today's economy might be driven by intellectual capital.

6.2. Conclusions and research contributions

The thesis was structured in a way that all research questions are answered. It is now time to address them more directly:

How can the design and implementation of an IC model impact IC management within a particular company?

In reality this thesis showed that the entire construction process of the IC model is perhaps the most significant part of the whole project. This means that, even if there are some interesting results/values that the company can take into consideration, consequence of the KPI's measurement, the process of designing the model was really central.

Due to a clear identification and definition of IC, as a result of multiple IC-centered discussions, it was possible to conclude that its general concept and particular components were recognized and embraced by the management who took

part in the meetings, and easily associated to the specific situation of the company and its dynamics.

This leads us to highlight the relevance of the social or organizational dimension of the IC valuation process (Mouritsen, 2009). In fact, the company showed interest and availability to take some hours on the discussions and interviews, which shows its extreme interest regarding IC, which was a source of added value for this research. The results show this company deals with IC on its day to day work and strategic decisions, even if done unconsciously, which means that the management is not thinking in this as part of the IC management but as part of the company management as a whole. It was interesting to see while describing the actions and initiatives, how the management immediately recognized that those elements could be identified as IC elements as well.

On the other hand, most of the KPI's chosen were part of the discussions with the HR management and Quality department. In these discussions the people involved acknowledged that for the future those KPI's calculation can be maintained. This acknowledgment was important because, even if IC valuation was not the main aim of this thesis, it helped these departments understand that if they follow the evolution of the KPI's, they can help the management making better decisions, especially in what regards the IC component Human Capital. As the company is growing a lot in the last years, there is the need to rethink Human Capital, as the most important intangible for the company. Being a service provider, this company relies on the knowledge that people create inside the organization or that new people can bring to the organization.

These conclusions are inevitably bonded to the actual individuals that were interviewed, meaning that if another focus group would be involved, they might have a different opinion and consequently we would probably have different IC KPI's. Nevertheless, what can be certain is that at this point the intervenient people are part of the management and lead the strategic view of the company, which certainly ensures the adherence of this research with the present reality of the company and also with its near future evolution.

This case study shows that the contribution of IC to the value creation process is dependent on the specific organizational context and on the capacity of the **management to convert “potential” value into “real” value**. In fact, IC performance is not stable but unstable, i.e. can decrease or increase, depending on the development or the regression of the IC resources and of the interactions among them (Giuliani, 2011).

One additional benefit of this research is that our proposed model induces an increase in the transparency of the information released. In this sense, it has already been possible to see how an ICMRS is not simply an accounting occurrence, but it is one which brings about managerial, cultural and organizational changes. Additionally, as already specified in the state of the art revision, this whole process emphasizes how the **wealth-creating capacity of the company is based on the knowledge and capabilities of its people** (Savage, 1990) and **continuous improvement in their knowledge assets** (Senge, 1990).

With the intention of finalizing the conclusions it is important to mention that a combination of different approaches to IC was analyzed and tested. A **strategic approach** from a strategic perspective, where IC is the starting point in visualizing, controlling and managing value creation, more than in valuing the assets themselves (Alcaniz, 2010); **an accounting approach** that aims to measure the intangible assets of a company. Brooking (1997) argues that the development of an IC monetary unit of measurement is necessary, in order to calculate the success and the growth of stocks of intellectual capital; and also **a reporting approach** that aims to provide a forward-looking perspective of the company’s business. In RICARDIS (European Commission, 2006), research concludes that IC Reporting is the process of creating a story that shows how an enterprise creates value for its customers by developing and using its intellectual capital.

6.3. Limitations and future research guides

The limitation that can be acknowledged in this thesis is related to the methodology embraced, a single case study, since the focus of the study was one single and particular company. For this reason, conclusions cannot be extrapolated to other companies. Some people might also point out that the researcher might have been partial and subjective in the analysis, due to the proximity to the company, but in this case, even if the researcher took part in the valuation process, it was mainly for scientific and methodological purposes and with limited direct intervention. Therefore the practical reality was not influenced and the management insight was not changed or interpreted in a subjective manner.

Future research opportunities might be focused on the following:

- Develop studies on “How to convince companies to continue to monitor their particular IC management models?”
- Conduct and compare similar experiences among other companies located in Portugal.
- Follow up on the implementation, development and actual usage of the model proposed herein, in order to add a dynamic perspective to this research and evaluate its long term usefulness.

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