THE INTELLECTUAL CAPITAL STATEMENTS: EVOLUTION AND HOW TO GET STARTED

Miltiadis D. Lytras
Assistant Professor
Computer Engineering and Informatics Department
CEID (University of Patras).

Leif Edvinsson
Professor ADJ.
Lund University
Sweden
The Hong Kong Polytechnic University
Hong Kong
Phone + 46 70 5925078
Email: leif.edvinsson@unic.net

Patricia Ordóñez de Pablos
Professor
Dept. Administración de Empresas y Contabilidad
Universidad de Oviedo
Facultad de Ciencias Economicas
Avd del Cristo, s/n
33.071 Oviedo – Asturias
Spain
Phone + 34 985 10 62 06
Email patriop@uniovi.es
patriciaordonezdepablos@yahoo.com
BIOGRAPHICAL NOTES

Leif Edvinsson. Since 2000, Leif Edvinsson been the world’s first Professor, adjunct at Lund University on Intellectual Capital. In January 2006, he was also appointed professor adj. at The Hong Kong Polytechnic University. In January 1998, Leif received the prestigious Brain Trust "Brain of the Year" award (UK). He has been a special advisor on service trade to the Swedish Ministry of Foreign Affairs as well as Ministry of Industry, a special advisor to the United Nations International Trade Centre and is a co-founder of the Swedish Coalition of Service Industries. During 2004 he was one of the prime advisors for the German Ministry of Economics on initiating the now very successful project on Wissenskapital and IC Reporting. He is also one of the High Level Experts working for the European Commission on guidance for IC reporting. He has also been very active in transfer his experiences to Asia, working with among others METI in Japan.

Patricia Ordóñez de Pablos. She is professor in the Department of Business Administration and Accountability, at the Faculty of Economics of The University of Oviedo (Spain). Her teaching and research interests focus on the areas of strategic management, knowledge management, intellectual capital measuring and reporting, organizational learning and human resources management. She is Executive Editor of the International Journal of Learning and Intellectual and the International Journal of Strategic Change Management.

THE INTELLECTUAL CAPITAL STATEMENTS: EVOLUTION AND HOW TO GET STARTED

ABSTRACT

In light of the last developments in the field of intellectual capital measuring and reporting (Asia, Europe and USA), this paper aims to help managers to measure and report the intellectual capital of their companies. Having first hand experiences in collaborating with firms in the building of the “Intellectual Capital Report” (ICR) – and therefore knowing weaknesses and major mistakes-, the authors of the paper propose how firms should build the ICR, an innovative corporate report with strategic implications for the achievement and maintenance of a long term competitive advantage.
The first section of the paper presents a historical review of the development of the intellectual capital report since 1992. The second section analyses intellectual capital reports, discussing firm’s definition and goals for these reports. Based on the analysis of intellectual capital reports published by 38 firms from Europe (Austria, Germany, Iceland, Italy, Spain, Sweden and UK) and Asia (India and Japan) during the period 1992-2006. From here, we address how firms can get started to build the intellectual capital report, especially regarding the structure of the report as well as the specific indicators.

**KEYWORDS.** Asia, Europe, intellectual capital, measuring and reporting, recommendations.

---

**THE INTELLECTUAL CAPITAL STATEMENTS: EVOLUTION AND HOW TO GET STARTED**

**INTRODUCTION**

For more than a decade some pioneering firms from Europe and Asia have built an innovative corporate report called *Intellectual Capital Statement*. Based on these intellectual capital reports published by these firms, and their learning, this paper presents the evolution up to now on how managers *could now*
systematize measuring and reporting intellectual capital, rather than simply describing it.

The paper is structured in 4 sections. The first section presents a historical review of the development of the intellectual capital report since the prototype of the first internal intellectual capital report in 1992 to the last advances in the development of intellectual capital guidelines. The second section analyses intellectual capital reports, discussing firm's definition and goals for these reports. Based on the analysis of intellectual capital reports published by 38 firms from Europe and Asia during the period 1992-2006, we discuss most frequent weaknesses and errors observed when preparing this innovative report. From here, we address how firms could build the intellectual capital report, especially regarding the structure of the report as well as the specific indicators for measuring each intellectual capital construct. The third section covers recommendations for the presentation the Intellectual Capital Report (ICR). The last section encourages managers to systematize measuring and reporting knowledge-based resources showing the tangible benefits derived from these activities. Finally we suggest new avenues for the future of the intellectual capital report.

HISTORICAL REVIEW OF THE DEVELOPMENT INTELLECTUAL CAPITAL REPORTS

The very first internal intellectual capital report was prototyped in 1992 and externally published for the first time in 1994. The Swedish stock and Fortune 500 listed the financial and insurance service company Skandia. This company drew up the first intellectual capital report or statement to be published anywhere in the world. It was based on the Skandia development of the
intellectual capital navigator and the newly launched taxonomy of IC, under the leadership of Leif Edvinsson to visualize the hidden value for a more systematised cultivation.

This publication represented an important milestone in the field of intellectual capital. At that time the attention of the academic and corporate world centred on this pioneering company and the intellectual capital statement that it produced. The great expectation generated by this innovative report resulted in a small group of European companies beginning to prepare and publish this type of statement in 1998. These included the Danish companies Carl Bro, Coloplast, Cowi and Systematic, Spanish companies BBVA, Bankinter and Unión Fenosa and the Swedish company Celemi.

In 2000, the Danish Agency for Trade and Industry (DATI) published, based on work of, among others, professor Jan Mouritsen (Copenhagen Business School), the document entitled *Intellectual Capital Statement-Towards a Guideline*, which represented an initial effort with respect to developing directives for quantifying intellectual capital and the preparation of intellectual capital statements using the results of these quantifications. Later, in 2001 and 2003, the DATI published a series of new directives and also the first law in the world for the preparation of intellectual capital statements.

In 2002, under the support from The Nordic Investment Bank, NORDIKA—a term that stands for "Nordic Project for the Measurement of Intellectual Capital"- published the *Intellectual Capital: Managing and Statement*. The report aims to give companies an overview of the vast number of possibilities open to them for using intellectual capital reports to manage and report intellectual capital. It gives priority to practical knowledge to be used for application. The
report is targeted at staff that will be in charge of initiating the intellectual capital process.

That same year MERITUM also published its own overview, namely *Guidelines for Managing and Statementing on Intangibles*. It was then followed by another important EU project on IC called PRISM (Policy-Making, Reporting and Measurement, Intangibles, Skills Development and Management). It is a multi-disciplinary European Commission initiative aimed at gaining a deeper understanding of the issues surrounding the management and measurement of intangibles in today’s competitive environment.

Since 2003 the BundesMinisterium fur Wirtschaft und Arbeit in Germany is prototyping with excellent success a project called Wissensbilanz (www.akwissensbilanz.org) for a systematised process for generating IC. This is already approaching one hundred applications, in Germany and has also got a free download of software from its website. On the other hand, The Ministry of Economics, Trade and Industry (METI) in Japan is also involved in prototyping IA reporting since some years ago. They introduced a guideline in 2005. Now five of the largest Japanese companies are publishing intellectual assets based management report. This guideline, compiled by METI, aims to “help corporations (managers) that prepare intellectual assets based management report and those who assess it. Based on the examination of Subcommittee on Management and Intellectual Assets, New Growth Policy Committee, Industrial Structure Council, it provides a guide for information disclosure concerning intellectual assets based management” (2005: 3). METI is now in December 2006 arranging its second annual IC and IA Week to
address a number of different perspectives on the subject. Together Germany and Japan seem to be the leading countries on the ICS subject.

As the new economic value is in the longitude - i.e. lateral dimensions instead of vertical dimensions -, as described in the PRISM website (see www.eu-intangibles.eu), we have to develop more lateral, benchmarking, accounting of value creation potential of intangibles (Edvinsson, 2002). We have to acknowledge such new intangible indicators and get the accountants to audit those, as well as annual reports to present transparency of such intellectual capital, to be able to navigate these new organizational value creations.

The Intellectual Capital Statement made in Germany Project - where Leif Edvinsson together with Mart Kivikas and his colleagues Manfred Bornemann and Kay Alwert initiated this method for a process report on a method for Intellectual Capital Statements for Germany based on international experiences. It includes 14 prototypical Intellectual Capital Statements as best practice examples in representative German SMEs from different regions and sectors implemented. The German approach to prepare the intellectual capital report (“the Wissenbilanz”) includes four milestones: Milestone I: Why? Initial situation, What? Intellectual Capital, How good? Evaluation; Milestone II: How much? Indicators; Milestone III: Who? Communication; and finally, Milestone IV: How? Management. This Statement proposes an interdependency process flow chart among the major IC components of intellectual capital. All factors of the human capital, relational capital and structural capital, respectively are systematized, ranked, into a transparent decision oriented map for better knowledge navigation, knowledge investment and generation of IC.
One of the most refined recent experiences from prototyping intellectual capital reporting at Skandia has during first years of 2000 emerged at Seibersdorf Research Center, Austria by leader then Professor Guenter Koch (with his team of Karl Heinz Leitner, Manfred Bornemann and Alexander Welzl as pioneering IC colleagues such as professor Ursula Schneider, Graz University). In 2002 the Austrian Ministry for Education, Science and Culture issued the new university law (UG 2002): All Austrian universities will have to publish IC reports from 2006 on. According to the UG (2002): “Each university shall submit an intellectual capital report for the past calendar year to the Minister, by way of the university council, by 30 April of each year. This shall, as a minimum, present in itemised form: 1. the university’s activities, social goals and self-imposed objectives and strategies; 2. its intellectual capital, broken down into human, structural and relationship capital; 3. the processes set out in the performance agreement, including their outputs and impacts.” During 2003 there has been implemented in Austria a law requiring all Universities and Colleges to publish a knowledge capital report annually, showing knowledge goals, knowledge processes as well as knowledge indicators. The very first prototype was done by University of Kremz (Austria). In Sweden the very first similar prototype has now been launched by CMM-Center for Molecular Medicin at Karolinska Institute (see www.cmm.ki.se) with a special prototyping focus for the science sector.

Since 2006 intellectual capital reporting has become mandatory for all Austrian universities. Back in 2002 the Austrian Ministry for Education, Science and Culture released a new university law for the reorganization of all public Austrian universities. The Ministry’s goals were to enhance transparency, foster
the management of intangible resources and set initiatives for performance orientation. As the European Comission states: “The IC statement should serve as a management instrument for the university as well as a communication instrument between universities and the Ministry” (p. 35),

In Spain, professor Eduardo Bueno Campos and his research group at the Intellectus Forum (www.iade.org) developed the Intellectus Model in 2003. The model consists of five fundamental elements: its structures, principles, internal logic, development of the model (definitions) and table of indicators (Bueno-CIC, 2003). The structure of the Intellectus Model is described through the components, elements (Ei), variables (Vi) and indicators (Ii). According to this model, intellectual capital is divided into human capital, capital structural and capital relational. In turn structural capital is subdivided into organizational capital and technological capital, while the relational is disaggregated into business capital and social capital.

In 2004, one year later, the 3R Model for Intellectual Capital Statements was developed (Ordóñez de Pablos, 2004). This model proposes three reports for building the Intellectual Capital Statement: 1) the Intellectual Capital Report, which shows the situation of the intellectual capital of the firm, and includes information of each of its components. Intellectual capital components will be quantified based on indicators that measure diverse categories of each component; 2) the Intellectual Capital Flow Report: It addresses the increases and decreases of intellectual capital during the year as well as the intellectual capital variation or net flow; and finally 3) the Intellectual Capital Memo Report, which complements and further explain the information included in the two previous reports.
In December 2004 the Directorate General for Research and Technological Development (DGRTD) of the European Commission set up a High-Level Expert Group to propose a series of measures to stimulate the reporting of Intellectual Capital in research-intensive Small and Medium-Sized Enterprises (SMEs). The report by this Expert Group with professor Daan Andriesen as Secretary, presents six recommendations to stimulate the reporting of intellectual capital SMEs by raising awareness, improving reporting competencies, promoting the use of Intellectual Capital Reporting and facilitating standardization (RICARDIS, 2006:7). The acronym RICARDIS reflects the objective of the High Level Expert Group to stimulate Reporting of Intellectual Capital to Augment Research, Development and Innovation in SMEs (see http://europa.eu.int/comm./research/rtdinfo/index_en.html).

Based on these recommendations another EU sponsored project is now starting to distribute the learning from mainly Germany to cover 5 major European countries, called InCas - Intellectual Capital statements. The countries to prototype this is besides Germany, UK, France, Poland and Slovenia.

Furthermore Taiwan initiated a Research Center on Intellectual Capital (TIRC) in 2003. Its most important task is promoting industrial intellectual capital research and development, and assisting to progress intellectual capital in this country. The main mission of TICRC is to implement the projects to enhance industrial intellectual capital and accelerate the upgrading of industry. The concrete tasks of TICRC are: Strengthening national or industrial intellectual capital policy plans; integrating aggregation of various fields related to intellectual capital; Developing intellectual capital key technologies for
industries; promoting practical experience of intellectual capital transfers to Taiwan; Establishing an environment conducive to intellectual capital development; Intensifying the publicizing of intellectual capital management and other achievements; and promoting international research exchange and cooperation. Several countries are now also establishing such IC research centers.

As the IC statements initially were focused on enterprise, started in 1996 in Sweden another prototyping work by professor Edvinsson to start to report on IC of Sweden as a Nation. This was then followed of among others Israel, Denmark, Holland, France, Finland and lately Austria. This pioneering work is also looking into IC of regions and cities (Bounfour and Edvinsson, 2005; Viedma, 2004).

It is important to mention the special case of USA, which could be considered as a “special space” in the development of ICRs. It very much started in the early 1990’s with the initial work by professors Thomas Johnson and Robert Kaplan with the book on *Relevance Lost-The Rise and Fall of Management Accounting* (1987), and in the early 1990’s professor Baruch Lev, then at University California, Berkeley as well as activities by Conference Board, New York. In 1996 at Berkeley was also formed The ICM Gathering by Patrick Sullivan, Gordon Petrash and Leif Edvinsson focused on the aspects of Intellectual Capital Assets and Intellectual Property issues.

Professor Baruch Lev together with the Brookings Institute Task Force, Washington published the first White Book on intangible assets, in collaboration with SEC-Securities and Exchange Commission. It resulted in Lev B.: “Intangibles - management, measurement, and reporting” as well as Blair M.
and Wallman, S. The Unseen Wealth, in 2001. More recently, the US Federal Reserve and the University of Maryland have renewed their research in the field of intellectual capital and reported as Unmasking the Economy, in Business Week Feb. 2006.

The following figure summarises major milestones in the history of the field of intellectual capital measuring and reporting.

Figure 1. Some milestones in the field of intellectual capital measuring and reporting.
Now there are more and more emerging generally accepted official directives to guide companies in the preparation and presentation of an intellectual capital statement. In light of the experience of 38 companies from 9 different countries, and the analysis of the intellectual capital statements that have been published during the period 1992-2006, the proposal put forward by this work is offering and providing managers with recommendations on how to prepare an intellectual capital statement and avoid the weaknesses observed in the statements analysed and the mistakes made by the companies during their preparation.

THE INTELLECTUAL CAPITAL STATEMENT

Distinctions and objectives
What is an intellectual capital statement? Before proposing our own definition, it is advisable to analyse how the pioneer companies in the field define this type of report. You will find some of these distinctions in Table 1.

Table 1. Definitions of intellectual capital statement

<table>
<thead>
<tr>
<th>Organization</th>
<th>ICS definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actell</td>
<td>“In line with our belief that intellectual capital is the source of competitiveness and future value, we not only assist our client companies with IC-based management, but also practice what we</td>
</tr>
</tbody>
</table>
preach, by implementing and executing this methodology on ourselves as we strive to maximize our own corporate value. We created a report called “Intellectual Capital (IC) Report” in order to present the results of our own implementations “(2005:4).

| **Center for Molecular Medicine-Karolinska University Hospital** |
| **CMM aims to use intellectual capital reporting to benchmark against similar distinguished international institutions to evaluate and improve its performance. This will also increase the visibility of Swedish research abroad and help attract talent to Sweden. Furthermore the annual analysis and report will help control the knowledge-based value creation process and help increase transparency for the public” (2003: 9). |

| **Danish Agency for Trade and Industry** |
| It is “an integrated part of company knowledge management. It identifies the company’s knowledge management strategy, which includes the identification of its objectives, initiatives and results in the composition, application and development of the company’s knowledge resources. It also communicates this strategy to the company and the world at large” (2003: 7). |

| **Intercos** |
| “The intellectual capital statement represents "an important communication means to promote the results relating to corporate performance towards clients and all main interest groups [...] a powerful tool for internal management [...] a system to control the vitality of the organization whereby ensuring company’s global evolution excellence and future" (2003: 2). |

| **RICARDIS** |
| “IC statements are primarily about internal reporting, management and control of the business but this internal focus is an essential prerequisite for the ability of management to communicate what they are doing to external audiences which is of particular importance when the organisation needs to seek finance from banks or equity from investors [...] It is complementary to a financial statement as it provides insight into important resources that are not found on the balance sheet including knowledge, access to networks, and human resources” (2006:7). |

| **Systematic** |
| The report “gives a broad, comprehensive picture of Systematic and illustrates our vision, mission, values and objectives. In this way, the intellectual capital report functions as a window to the world - a kind of business card. The target group is current and future customers, employees and cooperation partners (2004:).

| **Tolvumidlun** |
| “Our IC report cover the three aspects of IC: human capital, relational capital and structural capital and is an addition to our financial report, describing our intangible assets” (2005:3). |

As RICARDIS Report states “Intellectual Capital Reporting is the process of creating a narrative that shows how an enterprise creates value for its customers by using its IC. This involves identifying, measuring, and reporting its IC, as well as constructing a coherent presentation of how the enterprise uses its knowledge resources [...] it is complementary to a business plan as it shows how value will be created through R&D and what the role is of the various
components of intellectual capital. Therefore it can provide – unlike a business plan – transparency into the hidden value drivers of R&D investments and pinpoint the availability (or absence) of key complementary assets crucial to bring the results of R&D to the market” (2006:9).

Following Bounfour and Edvinsson (2005)’s work, RICARDIS (2006) proposes two types of intellectual capital: on the one hand, “Autonomous IC” (A), which is less dependent on people and consists of those assets with a secondary market like patents, brands, software etc. (A-1), and those without a secondary market such as methodologies, reputation, image etc. (A-2); and on the other hand, “Dependent IC” (B), which is more dependent on people and consists of innovation capital (B-1), informational and organisational capital (B-2), marketing & distribution capital (B-3), and relational capital (B-4). These resources are considered as dependent because of they are embedded in the corporate organisation and are therefore of an inseparable nature.

Intellectual capital statements represents all the value creating resources in an organisation that are not captured in traditional financial statements but are of critical importance to a firm’s long-term competitive advantage.

Based on the analysis of intellectual capital statements published by 38 firms (Actell, ARCS, Balrampur Chini Mills, Bankinter, BBVA, Brembo, BSCH, Caja Madrid, Carl Bro, Celemi, Center for Molecular Medicine (Karolinska University Hospital), Coloplast, Cowi, Creadesign Oy, Dieu, DLR, EES Group, Experimentarium, Genetrix, Intercos, Kronsberg, Mekalki, NANONET-Styria, Navneet, OENB, Plastal, Reinisch, Reliance, Shree Cement Limited, Sentencia, Skandia, Systematic, Telia, TM Software, Tölvmidllun, Union Fenosa and 24-Seven Office) from 9 countries (Austria, Germany, Iceland, India, Italy, Japan,
Spain, Sweden and UK) during the period 1992-2006, the intellectual capital statement can be defined as innovative corporate report that basically covers information on knowledge-based resources not covered in traditional annual reports. It also presents information on knowledge management strategies, activities and results.

Why do organizations build the intellectual capital statement? The opinion of some firms and organizations committed with the building of the intellectual capital statement is summarised in Table 2.

**Table 2.** The goal of the intellectual capital statement is…

<table>
<thead>
<tr>
<th>Firm/Organization</th>
<th>ICS Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actcell</td>
<td>“The goal of this report is to share the current progress of our IC-based management efforts with our shareholders, as well as those associated with us in the business community. We believe that disclosing a current assessment on our IC and our management style based on the IC concept will help us build long-term relationships with shareholders, thereby solidifying our overall Intellectual Capital” (2005:4).</td>
</tr>
<tr>
<td>Center for Molecular Medicine-Karolinska University Hospital</td>
<td>“CMM aims to use intellectual capital reporting to benchmark against similar distinguished international institutions to evaluate and improve its performance. This will also increase the visibility of Swedish research abroad and help attract talent to Sweden. Furthermore the annual analysis and report will help control the knowledge-based value creation process and help increase transparency for the public” (2003: 9).</td>
</tr>
<tr>
<td>Creadesign Oy</td>
<td>“The aim is to monitor the initiatives and goals and show results of how the company develops its resources and cares for its values using IC monitoring as a management tool” (2005:3).</td>
</tr>
<tr>
<td>Danish Agency for Trade and Industry</td>
<td>This statement “informs about organizational efforts to achieve, develop, share and institutionalize knowledge-based resources which are necessary to create value for the company by means of improving their growth, flexibility and innovation” (2001: 13).</td>
</tr>
<tr>
<td>Experimentarium</td>
<td>With the intellectual capital statement, “we can ensure quality and renewal and strengthen the company's ability to reach its goals. At the same time, the intellectual capital statements enable the surrounding world to gain an insight into Experimentarium status and development” (2004:20).</td>
</tr>
<tr>
<td>Nanonet</td>
<td>“[…] is to provide a transparent, verifiable overview of the effects of the research funds invested in nanotechnology […] it provides a modern communication and control instrument for knowledge-intensive issues” (2003:2-3).</td>
</tr>
</tbody>
</table>
| OENB                                   | The OENB’s Intellectual Capital Statement “makes transparent the stock of knowledge-based capital as well as internal and external knowledge flows. It thus helps document the OENB’s intangible
assets, which the Annual Statement fails to capture in a comprehensive way" (2003:8).

<table>
<thead>
<tr>
<th>RICARDIS</th>
<th>&quot;A good IC report will improve an organisation’s internal processes for managing its overall resources, both tangible and intangible and more importantly it will provide a sound basis for improving the quality of the dialogue with financiers by explaining why the organisation does what it does and how it is building the resources and capabilities necessary to succeed in the future. IC statements help to clarify the way in which competitive advantage is being built by providing a narrative which explains both value chain positioning and the business model which is to be used to create value” (2006:7).</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM Software</td>
<td>“In the last four annual reports we have included a detailed IC chapter that formally tries to shed light on development of the company’s assets that are not registered in the annual accounts” (2004:12).</td>
</tr>
<tr>
<td>Tolvumidlun</td>
<td>“Our IC report […] is an addition to our financial report […] Combined the two reports are a fuller and more complete account of the real assets and future potential of an IT company” (2005:3).</td>
</tr>
<tr>
<td>Sentencia</td>
<td>“IC report is to give a holistic view of the company, based on well-defined indicators on the basis of the company vision, strategy, basic values and goals” (2005:2).</td>
</tr>
<tr>
<td>24 Seven Office</td>
<td>“We will in this report try to give our stakeholders a better insight in our company then the financial report can give alone. Since most of our assets are intangible assets, we feel this is our most important report” (2004:3).</td>
</tr>
<tr>
<td>Skandia</td>
<td>“To increase the visibility of hidden value for better management as well as renewal to gain truly sustainable earnings” (1994:3).</td>
</tr>
</tbody>
</table>

**The most frequent weaknesses and errors when doing the intellectual capital report**

1. Not including an intellectual capital model that links these strategic resources with the company’s overall vision, mission and strategy in the one hand and with the organisational results on the other.
2. Reducing the intellectual capital statement to a series of simple tables with indicators, without explaining either why these indicators were chosen or the knowledge flows that exist between the intellectual capital components.
3. Once the intellectual capital statement has been published, this corporate report is not really used in the decision-making process.
4. Not stating specific objectives for each intellectual capital indicator to get a benchmark.
5. The use of new intellectual capital indicators and/or elimination of previously used indicators without any justification as to why.
6. Not seeing the systemised interdependencies.
Content of the intellectual capital statement
The analysis carried out on the intellectual capital statements highlights the lack of standardisation with respect to the structure and content of the information presented. Generally speaking, what the majority of companies include fundamentally boils down to a company profile, namely basic details (number of employees, sales volume, profitability) and the indicators chosen for measuring some of the intellectual capital.

However, it is our belief that this information is insufficient and that more intelligence should be included, especially that related with knowledge management activities and the systematized generating of intellectual capital. On the one hand, in its Intellectual Capital Statement the company should include the activities it carries out and the investments it makes with respect to knowledge management and provide an analysis of its objectives and performance in these fields, how they were developed and the degree to which they were achieved. On the other hand, with respect to intellectual capital, the company should clearly define what it understands by intellectual capital and what it sees the component parts thereof as being. The company should then incorporate the actions it has carried out as well as the indicators it has used to measure each component of its intellectual capital, making mention of the significant factors related with these components. Likewise, the company should analyse the methodology used to quantify its intellectual capital, the incorporation of new indicators and the elimination of others plus the dynamics and interdependencies of the critical IC components.

Structure of the intellectual capital statement
Next, we shall analyze the categories of indicators and the indicators that we recommend companies use to measure their intellectual capital. It is important to point out this is a general recommendation of categories and indicators that each company shall have to adapt taking its particular sector of activity into account and relate to the process flow. Below we present a list of tentative IC indicators that might lead up to an emerging standard for benchmark. However they have to be relevant for its context.

**Table 3.** Structure of the ICR

<table>
<thead>
<tr>
<th>HUMAN CAPITAL</th>
<th>Year t</th>
<th>Year t-1</th>
<th>Assessment</th>
<th>Short term goal</th>
<th>Medium term goal</th>
<th>Long term goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RELATIONAL CAPITAL</th>
<th>Year t</th>
<th>Year t-1</th>
<th>Assessment</th>
<th>Short term goal</th>
<th>Medium term goal</th>
<th>Long term goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STRUCTURAL CAPITAL</th>
<th>Year t</th>
<th>Year t-1</th>
<th>Assessment</th>
<th>Short term goal</th>
<th>Medium term goal</th>
<th>Long term goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**HUMAN CAPITAL**

The principal indicator categories that should be used for quantifying the knowledge, skills, experience and competence of the company’s employees—in other words its human capital—are the following:
**Employee Profile**
- Total number of staff
- Distribution of staff (Production, Distribution, IT Department, etc.)
- Gender distribution (male, female)
- Age distribution
- Average age of employees
- No. of managers
- % of research staff
- No. of full time employees

**Adaptability capacity**
- No. of employees who permanently work abroad
- No. of employees who have participated in international projects during the year

**Staff Turnover**
- Circulation % of personnel
- Beginners
- Resigned
- % of unwanted personnel circulation

**Educational Capital**
- Unskilled personnel
- Skilled personnel
- Length of education
- No. of employees fluent in English language
- Number of awards
- Professional publications per employee
- International experience (traveling activities)

**Educational Renewal**
- Number of competence development plans
- Number of carrier development plans

**Commitment and Motivation**
- Average seniority
- Permanent contracts
- % of individual goal achievement
- % of staff with variable retribution/total staff
- Employees with shares and convertible bonus programs
- No. of award-winning employees
- Suggestions systems (money prizes, point prizes)
- % of promoted staff/total staff
- % of staff feeling explicit recognition
- % of staff feeling their opinion is taken into account

**Knowledge transfer**
- % of applicants who share knowledge for maximum value creation
- % of employees that find their knowledge appreciated and useful on the job
Permanent Training
- % of employees who received training during the year
- Training
  - Training days per employee
  - Average number of training hours per employee/year
  - Ratio training hours/working hours (annual)
  - Training investment (employee/year)
  - Ratio training cost/ wages (annual)
  - Satisfaction index about training
  - Average index of application of the training received in daily tasks
  - Mentoring pairs
- Permanent learning through external agent relations
  - No. of alliances and collaborations with academic institutions and research centers

Human capital Results
- Employee satisfaction index
- Employee satisfaction
- Satisfaction with the opportunity for on-the-job skills development
- Total satisfaction with the opportunity for on-the-job skill development
- Personal injury with loss of working hours
- Costs attributable to external faults
- Absence due to sickness (days/employee)
- Number of dissertations completed in the group
- Number of published papers in referred international journals in the current year
- Value adding per head count

RELATIONAL CAPITAL
The main indicator categories recommended for visualising the value of the relationships the company has with other economic agents (customers, suppliers, stakeholders, partners, etc.) –that is to say its relational capital- are the following:

Client Profile
- No. of private clients
- No. of public clients
- No. of semi-public clients
- No. of clients abroad

Customers’ Portfolio
- Contract portfolio
  - Number of contracts
  - First-time customers
- Points of sale
- New stakeholders
- Brand
  - National/International market share
  - Market share of closet's competitor (both national and international)
  - Clients' impression of the firm
  - Customer loyalty index
  - No of customer suggestions
  - No. of offices with customer satisfaction measuring systems
  - Customer satisfaction index
- Strategic portfolio
  - 5 largest customers during the year
  - Duration of existing customer relationships
  - % of customers who would recommend our firm
  - New strategic customers during the year
  - Investment on relational marketing
- No. of clients from the same business sector
- Contract rookie rate
- Contract turnover

**Client satisfaction**
- Customer perception of service rendered
- Customer satisfaction with flow of information

**Public Image**
- Spontaneous notoriety index
- Exposure to the media
- No. of unsolicited applications

**Connectivity Capital**
- Number of countries in which the firm operates
- Number of alliances with Business Schools
- Number of commercial alliances
- Number of distribution channels
- No. of business conferences attended
- Lectures at scientific conferences
- Sponsorship agreements
- Professional networks
- Employees involved in boards (business, political, scientific)

**Investor Capital**
- No. of favorable recommendations from analysts
- No. of contacts with investors and analysts
- No. of solved consultations from shareholder's information office

**STRUCTURAL CAPITAL**
The main indicator categories recommended for measuring the value of the knowledge embedded in organizational structures, processes, routines and policies are the following:

**Knowledge-Based Infrastructure**
- No. of best practices on the intranet
- No. of employees with intranet access/total staff
- Shared documents on the intranet
- % of updated knowledge documents on the intranet
- No. of databases to which the firm has access
- Database searches
- No. of employees with Internet access/total staff
- No. of shared knowledge databases
- No. of participants in best practices processes
- No. of knowledge management projects

**Innovation Capital**
- Innovation investment
  - No. of shared ideas and experiences
  - Average number of ideas per employee
  - Investment in I+D+I projects
  - Investment in product development
  - Investment in process improvement
  - Centers of Excellence
  - Ongoing projects
- Innovation results
  - No. of products/services
  - No. of new products/services
  - Volume of sells linked to new products/services introduced last year
  - Total innovation
  - % of group turnover
  - Average turnover project

**Intangible Assets**
- No. of new patents in the year
- Investment in intellectual property protection
- No. of patents and its life length of partner portfolio
- No. of other intellectual property rights

**Infrastructure**
- No. of employees connected via email
- Reliability of hardware and software
- Employees with the option of teleworking
- Employees with corporate mobile phone
- Employees with corporate laptop
- Investment
- Investment in premises and office equipment
- Investment in computer equipment
- IT expenses per employee

- Servers
  - No. of servers per worker
  - No. of hits on web-site per day
  - Average number of homepage hits per month

- Office
  - PCs per office

Customer Support
- No. of national offices
- No. of offices abroad

Administrative Processes
- Average response time for calls to switchboards
- % of inquiries handled within the same day

Quality
- Employee participation in internal improvement and technological innovation projects
- Accreditations and certifications
- Number of ISO-9000 certifications
- Number of quality committees
- Number of employees with formation on total quality

Organizational Management Model
- Maximizing benefits of leadership and cohesion
  - Average experience of executive team
- Shared organizational values
  - Shared organizational values
- Business and advanced management models
  - Investment in management models
  - Number of own business models
- Shared strategic management
  - No. of users of strategic planning system
  - No. of employees who participated in the building of the organizational strategic plans
- How often are strategy and goals reviewed?
- Customer relation management

Social and Environmental Commitment
- Investment in cultural support and solidarity projects
- Environmental investment in the business
- No. of labor audits to installations of the firm

Mid-term and longitude results
- Number of patents approved during this year
- Number of spin-off companies created
- Long term impact on key stakeholders
- Other sustainability proxies

The intellectual capital report shall have to complement and explain the information contained in the intellectual capital flows reports and intellectual capital memo.

**Figure 2.** Intellectual capital statements

The intellectual capital flows account will reflect both the increases and the reductions of intellectual capital that occurred during the financial year, with the difference between these being the result. This information will be compiled for each indicator, indicator category and intellectual capital component as well as at an aggregated level (intellectual capital). Likewise, the objectives for each on the indicators, indicator categories and intellectual capital components will be specified (Ordóñez de Pablos, 2004b).

**Table 3.** Intellectual capital flow report

<table>
<thead>
<tr>
<th>INTELLECTUAL CAPITAL FLOW REPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
In line with traditional accounting plans, the report will include information regarding the company’s activity or activities, the standards used to evaluate intellectual capital, as well as events occurring after the closure of the accounts that do not affect these, but knowledge of which will be useful to the users of the Intellectual Capital Accounts.

**MAJOR STEPS TO GET STARTED**

Firstly, the companies should define a holistic model that shows the input-output relationships and that enables the status of the company’s knowledge stocks, and flow and how these contribute towards its competitive positioning to be explained.

The company must clearly define what it understands by intellectual capital and what the major components of its intellectual capital actually are. In the literature on intellectual capital a number of different types have been developed, but the most commonly accepted proposals for taxonomy consider that intellectual capital consists of human capital, relational capital and structural capital.

The indicators will be presented in tables, which will include information about the value of the indicator with respect to the current financial year, the
previous financial year as well as the short-, medium- and long-term objectives for a structured intelligence as a supplement to the traditional financial reporting.

The indicators shall have to present certain properties, thereby making them:

1. Reliable: in other words objective and verifiable.
2. Objective: the value of the indicator should not include biases derived from the interests of the parties involved in the quantification thereof.
3. Verifiable: it should be possible to evaluate the reliability of the information provided.
4. Comparable: the indicators should be quantified and presented in line with recommended standards and criteria in such a way that users can make comparisons both in time and between companies.
5. Truthful: the information they show shall reflect the real situation of the company with respect to the question it is dealing with.

Following the recommendations of the directives regarding the preparation of intellectual capital statements, the indicators can be divided up into three types:

1. General: those that can be used comparatively across companies and industries.
2. Specific to a certain industry: in these cases, comparison will only be viable within a single industry.
3. Specific to a particular company: in this case comparisons are extremely difficult to make and can even be considered as useless as the definition of the indicator varies from company to company.

The indicators of each intellectual capital component will be accompanied by an explanation of the most relevant aspects related there to and of the activities
and projects linked with each category of the intellectual capital in order to achieve the desired objectives.

The intellectual capital statement should be accompanied by the flows report and the intellectual capital report in line with the ideas proposed by the 3R Model. The intellectual capital flows report should include an analysis into the interdependencies that exist between the intellectual capital indicators.

Figure 3. Intellectual capital flows
It is also important to identify the strongest relationships between the intellectual capital indicators, both positive and negative, in order to subsequently take decisions regarding organisational policies and projects. In the German approach there is also a distinction on how strong influence management might have on the key components as well as the manageability. This is resulting in a decision template for further IA investments.

On the other hand, the importance of transparency in the presentation of these reports must be highlighted. It is essential to show information regarding the processes and procedures implemented and the suppositions made when preparing the report if, that is, the aim is to produce a credible report.
It is important that the publication of this statement coincides with that of the other corporate reports in order to thereby strengthen the links between the company’s financial results and its knowledge-based resources.

Intellectual capital statements have a dual utility. From an internal point of view, they act as a support mechanism for the taking of management decisions as well as serving to communicate knowledge management objectives to employees. From an external viewpoint, these reports keep the stakeholders informed and constitute a useful marketing tool. For example, Novo Nordisk – A Danish firm that manufactures and markets pharmaceutical products and services -has been awarded for their outstanding work on stakeholder reporting. As a medical company, they have not put the product in the center but the patient, and then built a network perspective on which they report. The report is also done in the Danish context, which was the first country to start prototyping based on the learnings from Skandia in Sweden, as well as the first country to pass a law on the IC Reporting.

WHY SHOULD FIRMS AND ORGANIZATIONS MEASURE AND REPORT THEIR INTELLECTUAL CAPITAL?
Why should companies quantify and report their intellectual capital? Our experience with those companies who pioneered the quantification of intellectual capital shows that the main benefits that companies can gain if they measure this intangible resource are: 1) attaining a competitive advantage; 2) developing new products/services, 3) identifying new markets, 4) increasing revenue, 5) improving market share, 6) reusing their knowledge base, 7) less redundancies, 8) reducing mistakes and increasing productivity, 9) raising the
quality of their products/services and 10) expanding what they know about their customers.

Alternatively;

- To increase understanding of the holistic dynamics
- to increase the intelligence and transparency of hidden value
- to increase the process efficiency
- to increase the renewal and innovation
- to increase the security or n other words to address the risk of IA and IC

CONCLUSIONS

The wave of intellectual capital is increasing. It is evolving within universities, accounting standards groups, political and business communities. The message is that we need to deeper understand and follow the wave of intangibles and knowledge economics. The alternative is perishing by riding the life cycle curve of industrial economics down. It is a leadership liability not to address the potential or intellectual capital in waiting.

The corporate longitude is focusing on the lateral dimensions, as well as time to the future. This calls for another type of leadership role than traditional management. In the book Corporate Longitude describes Leif Edvinsson’s approach to the corporate challenges and 3 dimensional issues also called the longitude problem. It links the value of human and intellectual capital into measurement, cultivation and valuation of organizational performance. It suggests that current valuation models are flawed and present only a small part of the reality. As a result, accountants and analysts alike are sailing the seas
with latitude data (financial data) but no longitude data. Much more refined process and flow approaches for management and measuring are now in growing practice in Europe as well as Japan, as well as more refined measuring approaches as described by Roos et al. (2005). A firm’s intellectual capital is in waiting for generating new value. This is calling for a new regime based on more intelligence and cultivation of the intangibles.

BIBLIOGRAPHY


Bueno, E.- CIC (2003), Modelo Intellectus: Medición y gestión del capital intelectual, (In Spanish), “Intelectus Model: Model for the measurement and management of intellectual capital), Documento Intellectus, nº 5, CIC-IADE (UAM), Madrid


BMWA- Bundes Ministerium fur Wirtschaft unt Arbeit, Guidelines for Wissesnkapital, www.akwissenskapital.info


http://videnskabsministeriet.dk/site/forside/publikationer/2003/intellectual-capital-statements---the-new-guideline


PRISM (2003), www.euintagibles.net


Society for Knowledge Economics (2005), Australian guiding principles on extended performance management; A guide to better managing, measuring and reporting knowledge intensive organisational resources.


Wissenskapital (2003), *Future culture and earnings capabilities of Celle Technology Center*, Wissenskapital Edvinsson & Kivikas Entwicklungsunternehmen, Oberreichenbach.