

## FINAL REPORT

### 1. Front Page

#### FINAL REPORT

MEasuRing Intangibles To Understand and improve  
innovation Management (MERITUM)

**Project Coordinator:** Prof. Paloma Sánchez IADE/UAM (Spain)

**Scientific Responsible:** Prof. Leandro Cañibano IADE/UAM (Spain)

**Partners:** Dr. Rita Asplund ETLA-SHH (Finland)  
Prof. Hervé Stolowy HEC (France)  
Prof. Hanno Roberts NSM Group (Norway)  
Prof. Ulf Johanson SU (Sweden)  
Prof. Jan Mouritsen CBS (Denmark)

**Reference period:** from 1<sup>st</sup> November 1998 to 30<sup>th</sup> April 2001

**Starting date:** 1<sup>st</sup> November 1998      **Duration:** 30 months

**Date of issue of this report:** 30 April 2001

**Project funded by the European Community under the  
Targeted Socio-Economic Research (TSER)**

## ABSTRACT

The aim of the project was to improve the policy-making capabilities of the European Union in the realm of science and technology policy, and particularly with respect to innovation, by means of providing a consistent basis for the reliable measurements of intangible investments. The specific objectives of the project were the following: a) Produce a classification of intangibles, which is theoretically meaningful and useful for empirical analysis. b) Analyse Management Control systems in order to get to know best practices within European companies in measuring intangible investments, in measuring the outcome from those investments, in using those measures for management decision making and in disclosing them for the use of stakeholders. c) Assess the relevance of intangibles for the purposes of equity valuation in capital markets and d) Produce a set of Guidelines for the Measurement and Disclosure of intangibles which should be useful both for private and public policy decisions. To do so, the project was organised into four activities: a) Classification of intangibles; b) Management Control Study; c) Capital Markets and d) Guidelines. The results obtained in these four activities are summarised next:

- **Classification of intangibles:** Both the definitions of intangibles and classification issues are still very open issues. However from a practical perspective firms seem to group intangibles into Human Capital, Structural Capital and Relational Capital. They also define intangibles in static and dynamic terms, thus distinguishing between intangible resources and intangible activities.
- **Management Control Study:** Several lessons could be drawn from the analysis of both firms with experience managing intangibles and non-experienced firms. Notably for non-experienced firms the external framework conditions and support is extremely important. Sectoral organisations seem to play a major role encouraging the management and disclosure of information on intangibles, especially for SMEs; Education is a crucial element. It is necessary to motivate firms before starting any project; The implementation of a model for the management of intangibles takes place usually in three steps: Identification of critical intangibles, measurement and action; Measurement without action is worse than no measurement at all; Generic metrics do not work for all firms. Specific intangibles require specific indicators; Size is not relevant in the successful implementation of a system for managing and reporting on intangibles.
- **Capital Markets:** The analysis conducted under this activity support the general idea that intangibles are relevant for financial market. Based on econometric analysis, it was found that both R&D and qualitative human resources were related to the value of the companies. Case studies also support this evidence.
- **Guidelines:** The most important outcome of the MERITUM project is the Guidelines for Managing and Reporting on Intangibles (Intellectual Capital Report). They provide the conceptual framework and describe the process to be followed by those firms who want to manage their intangibles and report externally. The Guidelines are the result of all the knowledge generated during the project in the previous activities. The Guidelines were found complete, useful and feasible by a variety of experts: firms, policy-makers, standard setting bodies, accounting and auditing firms, labour organisations, etc. mostly in Europe. MERITUM has become an international reference in the analysis of intangibles. The knowledge generated during the project will be further disseminated and exploited in E\*KNOW-NET, a Thematic Network on Intangibles, financed by the STRATA programme, which will be launched in September 2001. More information about the MERITUM project (partners, downloadable documents, etc) can be found in [www.kunne.no/meritum](http://www.kunne.no/meritum).

### **Executive summary**

The aim of the project was to improve the policy-making capabilities of the European Union in the realm of science and technology policy, and particularly with respect to innovation, by means of providing a consistent basis for the reliable measurements of intangible investments.

The specific objectives of the project were the following:

- a) Produce a classification of intangibles, which is theoretically meaningful and useful for empirical analysis.
- b) Analyse Management Control systems in order to get to know best practices within European companies in measuring intangible investments, in measuring the outcome from those investments, in using those measures for management decision making and in disclosing them for the use of stakeholders.
- c) Assess the relevance of intangibles for the purposes of equity valuation in capital markets and
- d) Produce a set of Guidelines for the Measurement and Disclosure of intangibles which should be useful both for private and public policy decisions.

To do so, the project was organised into four activities: 1) Classification of intangibles; 2) Management Control Study; 3) Capital Markets and 4) Guidelines. Next the main results of these activities are presented and the policy conclusions summarised.

#### **1. Classification of intangibles**

There is not a unique nor unanimous accepted definition and classification of intangibles. The issue is still opened for discussion. However, the review of the literature points out some general features of intangibles (Cañibano, García-Ayuso and Sánchez, 2000a): Intangibles can be considered as sources of probable future economic profits lacking physical substance, which are controlled, or at least influenced, by a firm as a result of previous events and transactions (self-production, purchase or any other type of acquisition) and may or may not be sold separately from other corporate assets. Intangibles might be defined in static and dynamic terms:

**Intangible resources**, following Hall's (1992) proposal, can be considered as "assets" in a broad sense; that is, intellectual property rights, trademarks, certain information technologies such as data bases, networks, and "skills", i.e., capabilities and competencies, such as those in human capital. The intangible resources of a company, a static notion, can be measured at any given moment. These "intangible resources" are likely to increase the future value of the company in general, and its innovation capacity in particular.

**Intangibles activities or investments:** Intangible resources can also be analysed in dynamic terms. Companies are undertaking activities to acquire or internally produce intangible resources, to sustain and improve existing ones, and to measure and monitor them. Although the activities undertaken are assumed to be costly, companies are not always able to measure and keep track of these costs. These dynamic activities thus

imply an allocation and use of resources that are sometimes not expressed in financial terms, i.e., they may or may not appear in the corporate financial reports. Intangible activities may give rise to new intangible resources, or improve the value of existing ones. Intangible activities also include the activities aimed at monitoring and evaluating the results of those connectivity improvements.

Although there is not a unique classification of intangibles, most practitioners distinguish between Human capital, Structural capital and Relational Capital as defined as follows:

**Human capital** is defined as the knowledge that employees take with them when they leave the firm. It includes the knowledge, skills, experiences and abilities of people. Some of this knowledge is unique to the individual, some may be generic.

**Structural capital** is defined as the pool of knowledge that stays with the firm at the end of the working day. It comprises the organisational routines, procedures, systems, cultures, databases, etc. Some of them may be legally protected and become Intellectual Property Rights, legally owned by the firm under separate title.

**Relational capital** is defined as all resources linked to the external relationships of the firm such as customers, suppliers or R&D partners. It comprises that part of Human and Structural Capital dealing with the company's relations with stakeholders (investors, creditors, customers, suppliers, etc.), plus the perceptions that they hold about the company.

It is important to note that Intellectual Capital is more than simply the sum of the human, structural and relational resources of the firm, it is about how to let the knowledge of a firm work for it and have it create value (Roberts, 1999). This can be achieved by creating the right connectivity between those resources through the appropriate intangible activities.

## 2. Management Control Study

The management control study was based on case studies. Both experienced firms in the management of intangibles and non-experienced firms, from a variety of industries and sizes were approached. Interviews as well as analysis of existing documents (publications, internal and external reports, etc) were used. The main conclusions of this activity are summarised next.

Firms seem to follow a common pattern when implementing an intangible management system that consists of three inter-related non-linear steps: Identification of key intangibles, measurement and action.

When measuring and identifying intangibles, firms address many different types of intangibles (e.g., traditional intangible assets as patents, trade marks, etc., and also human resources, knowledge based intangibles and stakeholder relations.) Therefore a wide range of intangibles emerge.

Some of the used measures of intangibles are general, i.e. they can be used among different firms and industries, whereas other measures are firm specific and thus, more difficult to compare. In a great number of cases, those metrics are considered the most relevant ones.

The main objective of the firms is to be able to connect their intangibles with some output measures. For the moment, only a small part of the interviewed firms are capable of developing some output measures that assess the impact of intangibles on financial measures.

Most of the firms use the measures for internal purposes, i.e. for internal decision making. Nevertheless, they do not hesitate to disclose some of the elaborated indicators for the sake of the stakeholders' interests. That is, the main purpose when developing an intangible measurement system is to internally manage those intangibles in order to create value, but firms are also concerned with the external use of that information and thus, do not hesitate to disclose it by different means.

Finding the links to and between different measures of performance is one of the objectives of the research. It seems like companies try to identify, measure and manage primarily those intangibles that they assess as the most important for their long-term value creation. However the cause-effect relation is not easy to establish and to demonstrate. It is the perception of the company, and not a 'proven fact', that moves it in a particular direction. However, some of the Swedish firms perform statistical analysis regarding the relationship between intangible measures and performance, quite successfully. Even if precise relationships between intangible measurements and performance have not yet been established the awareness of the relationship have increased (Denmark, Finland, Sweden and Spain).

Another conclusion is that measurement without further action makes no sense. In other words measurement of intangibles is to be followed by immediate management of intangibles. For example, there is no point in evaluating customer satisfaction if no action is taken afterwards to ameliorate the unsatisfactory aspects.

### **3. Capital Markets**

Three types of analysis were conducted under this activity: Literature Review, Econometric analysis and case studies. The main results of the activity are summarised next.

In the review of the literature, several recent empirical studies suggesting that accounting numbers have a limited ability to explain the differences in stock prices were discussed. However, it was found that most analyses leading to the conclusion that the relevance of accounting information has decreased significantly over the past few decades are based on samples of companies listed in the US capital markets. The analysis of the European firms found no evidence that accounting information has lost relevance over the last decade. This suggests that the accounting estimate of the value of European companies is deviating progressively from investors' estimates. Possible reasons for this could be the use of historical cost valuation as well as the increasing importance of intangibles not reflected in the balance sheet.

The analysis of the book-to-market ratio for a sample of Spanish companies showed significant differences in the median values of the ratio for portfolios formed according to the technological level of the firms. The results lend support to the contention that the financial statements of R&D intensive companies fail to present a true and fair view of the value of their assets.

Another analysis showed that the R&D asset is on average 19% of the firm's total market value, and represents on average 32% of the difference between the market and the reported value of the firm's equity. The ratio of the R&D asset to market value of equity appeared to be negatively associated with size, profitability, and the ratio of market to book value of equity, but positively associated with predicted future earnings, expected future long-term growth rates in earnings, and future returns. This suggests that smaller firms and firms with lower growth potential have a higher ratio of intangible R&D asset to market value than larger firms or firms with high growth potential. The results also imply that analysts incorporate information about past R&D expenditures, and the perceived future benefits of these expenditures into their forecasts of future earnings. Consequently, the evidence indicates that market participants act as if they undo the current accounting practice of expensing R&D expenditures fully and set the market values to reflect the R&D-adjusted earnings and the book value that includes the R&D asset. Based on this evidence, accounting standard setting bodies should allow firms to capitalize their R&D investments and amortize them over an estimated economic life that is likely to differ not only across industries but also between firms..

Additionally, consistent relationship between the quality of human resources and the value of companies was found. It seems that including information on human resources in the annual accounts would increase the usefulness of financial statements for investment and credit decision making.

A related analysis focusing on the relevance that financial analysts attach to intangibles has been completed by Stefan Lee for Finland. A similar study was carried out for Spain by Manuel García-Ayuso and Miguel Duro. The Finnish study, based on interviews with financial analysts, indicates that financial markets do attach value to intangibles. Two follow-up questions were therefore addressed: Which intangibles matter? How much do they matter? The answers to these two questions were found to vary considerably with the industry of the firm; analysts monitoring high-tech industries pay much more attention to intangibles and value creation than do analysts of mature industries. Crucial aspects are the management, customer capital, and brand of the company. Nevertheless, a common feature of all analysts was that accounting information was stated as being their main source of information.

#### **4. Guidelines for Measuring and Disclosing Information on Intangibles (Intellectual Capital Report)**

The knowledge generated during the three previous activities served as an input for the first draft of the Guidelines for Measuring and Disclosing Information on Intangibles. The Guidelines were divided into three sections:

- Conceptual framework
- Management of intangibles

#### - Reporting

The validity of the Guidelines was tested using a Delphi analysis and a survey. The results of both testing processes and their implications for the Guidelines were discussed in a international meeting that took place in Madrid in March 2001. The main content of the Guidelines is summarized next:

- Conceptual framework: draws from the results of Activity 1 of the project (Classification of Intangibles). It develops the concepts of Intangible Assets and Intellectual Capital as well as its classification from a practical perspective into Human Capital, Structural Capital and Relational Capital, which was early described.
- Management of intangibles: The different steps followed by the firms when developing an intangible management system are described and examples are given. This section draws from the results of Activity 2 of the project.
- Intellectual Capital Report: A proposal for the development of Intellectual Capital Report of the firm is included. The different elements that should be included in the IC-report are described (vision of the firm, summary of intangible resources and activities, and a system of indicators). This section also draws from the results of Activity 2 of the project.

### **Conclusions and policy implications**

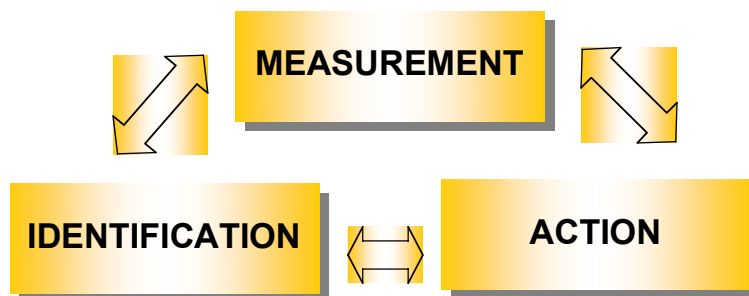
When the project was launched in 1998, there was a clear need for a unique definition and classification on intangibles. The analysis of the existing literature on the field combined with the experience gained from the study of the best practices in the management of intangibles allowed the development of a definition and classification of intangibles which is now being used by a great number of researchers and practitioners. (e.g.; OECD International Symposium: *Measuring and Reporting Intellectual Capital: Experience, Issues and Prospects*. Organised by the OECD, the Ministries of Economic Affairs and of Education and the Nordic Industrial Fund. Amsterdam, The Netherlands, 9-11 June, 1999; "Work Life 2000" in January 2001, Malmö, Sweden. Organised by the European Commission and The Swedish Government; "Entrepreneurship in SME's" in March 2001, Växjö, Sweden. Organised by the European Commission and The Swedish Government. Still, there is a need to deepen the discussion, involving researchers and institutions around the world.

The Activity 2. Management Control Study was based on the belief that there was a necessity to develop a model aspiring to improve the management control of intangibles. Previous models were considered not to be grounded on business reality. The case studies conducted under activity 2 raised important conclusions:

- The activity was intended to focus on best practice firms in the management of intangibles. However, when the study started we found out that there were two different firms and two groups of countries. In some countries like Sweden, Denmark and Finland most firms had some previous experience in the management control of intangibles, while in some others, such as Spain, France and to some

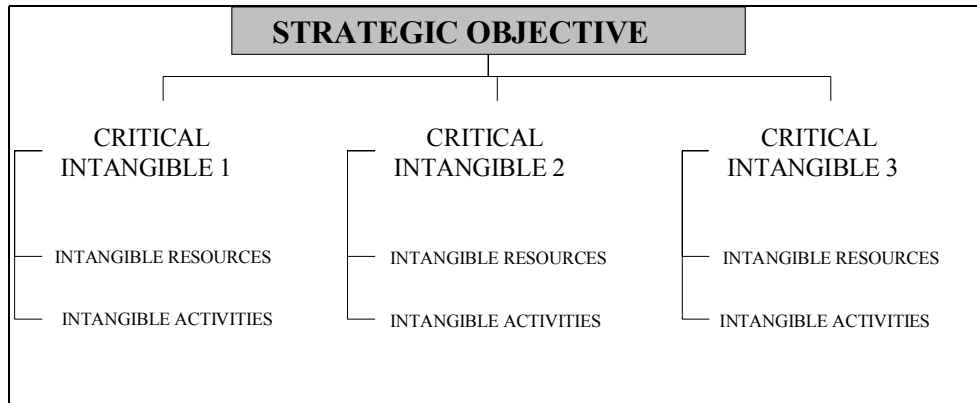
extent Norway, most of the firms had no previous experience in the management of intangibles.

- **Different firms require different approaches.** The problematic of firms which are about to start implementing a system for the management of intangibles is much different from the one faced by those firms with some experience. In the first case, internal but also external framework conditions are important, while on the second case, the focus is much more on internal supporting processes and routines.
- For non-experienced firms the external framework conditions and support are extremely important, and this is especially relevant for SMEs. The support received from governmental bodies as well as sectoral organisations has been a key element for the acceptance, dissemination and initiation of a system for measuring, managing and reporting on IC.
- Education on the relevance of intangibles is also a crucial element for the successful implementation of a system for the management of intangibles in non-experienced firms. It can be said that results have to be envisioned by firms in order to create a system for the management of intangibles. That is, **before implementing a system for the management of intangibles, there is a need for some internal as well as external conditions.** Motivate, anchor and enable firms *before* starting the project. This will demand time and requires continuous missionary effort throughout the entire project. Missionary and motivating efforts are best undertaken by the sector organisations, i.e., the ‘economic mid-field’.
- Firms are best suited to educate other firms. Formal training is less relevant than experience exchange and networking between firm’s participants.
- There is a distinct role for sector organisations in contrast to higher level public institutions, such as Ministeries or national government agencies. Sector organisations, which include branch organisations and employer organisations, are closer to the individual firms (see also 4) than higher level public institutions, and tend to understand the practical needs of their members better. In addition, sector organisations are better positioned to motivate firms, develop relevant educational material, and, equally important, to create the experience-sharing networks between firms.
- Three steps could be distinguished in the implementation of a system for the management of intangibles: Identification, Measurement and Action.





- First the firm identifies what are the critical intangibles needed in order to maintain and enhance its competitive advantage. For non-experienced firms, this phase has become critical as it helps the firm to be aware of what they have and lack in terms tangible and intangible assets needed to be competitive. The result of the identification phase is a network of intangible resources and activities linked to the strategic objectives of the firm.



- Once the firm has identified and measured, some further action is needed: **“Measurement without action is worse than no measurement at all”**. The success of a system for the management of intangibles strongly relies on the use of indicators as a managerial tool. Firms with successful stories on the management of intangibles have been those who have some supporting processes that complement the measurement of intangibles and give feedback to the whole process.
- Measures are being used in different ways. The analysis of experienced firms have shown that the following supporting processes are used by most of the successful firms:
  - (1) *Recognition and measurement processes*
    - human capital surveys
    - customer capital surveys
  - (2) *Reporting processes*
    - continuous internal reports
    - Investor Relations information to analysts
  - (3) *Evaluation processes*
    - evaluation of single indicators by each manager
    - statistical analysis
  - (4) *Attention processes*
    - Meetings
  - (5) *Motivation processes*
    - benchmarking
    - dialogues and work counselling
    - salary bonuses
  - (6) *Commitment processes*
    - ownership contracts
  - (7) *Follow-up processes*
    - statistical analysis

- Measurement and making intangibles tangible is an educational effort, not an implementation effort concerning the roll-out of a novel metric, such as Economic Value-Added (EVA) or the Balanced Scorecard (BSC). Only a diagnostic tool is needed. This in order to have firms prioritise activities and to have them rally around the development process. A second set of educational tools for follow-up is a must.
- Creating a generic and uniform metric does not work. Firms are unique in their intangibles and use that uniqueness to create competitive advantage, also with respect to Intellectual Capital. Creating a uniform and “one size fits all”-metric denies that unique intangible position and, thus, will destroy competitive advantage: However, what can be uniformized is the development process, notably the (stages of the) educational process part of it.
- One of the conclusions of the study is that **not all the firms that manage their intangibles report externally on them**. Most of them use the system only for internal purposes. We assumed at the beginning of the project that the disclosure of information on intangibles is a must if we want to improve the efficiency in the allocation of resources. More research is needed on the required conditions for the disclosure of information.
- Labour mobility restrictions are part of the problem of not being able to develop a firm’s Intellectual Capital. Key element of the development of Intellectual Capital is the continuous and free sharing and transfer of knowledge and experience across organisational functions and specific job positions. Once labour laws, which are commonly supported by trade-unions at local level, prevent job rotation within firms or across sectors, the development of Intellectual Capital is stopped. The answer in practice is one in which these mobility restrictions are effectively ignored by the firms. Hence, various labour laws related to mobility, rotation and strict job classifications are outdated. As a result, the role and involvement of trade unions is important.
- The size of the firms involved in developing their Intellectual Capital is irrelevant. As education and the speed of learning is essential in developing Intellectual Capital, the Norwegian experience is that smaller firms have a relative advantage over larger firms, given the agility their small size provides them. Hence, Intellectual Capital policy initiatives are likely to produce results earlier when directed at Small- and Medium-sized Enterprises (SMEs). These early results are compounded by the greater importance that sector organisations have in the economic life of SMEs than in the economic life of large enterprises;
- The Project concluded with a proposal on how to disclose information on intangibles, that is, how to develop an intellectual capital report. The MERITUM Guidelines for Managing and Reporting on Intangibles were presented and discussed during the MERITUM final meeting. The need for homogeneous Guidelines is absolutely clear and the results of MERITUM are being used internationally.

The involvement of partners coming from different fields of research (management, accounting, economics of innovation), the different research approaches used by each partner, the richness of the results and the good connectivity between the researchers involved in the Meritum have provided a valuable basis for continuing working together. As a consequence, it was decided to create a Thematic Network on Intangibles: E\*Know-net. The proposal was presented to the STRATA Programme, being finally approved in 2001. The expected starting date is September 2001. The main objective of the network is to exploit the knowledge generated throughout the Meritum project, both in terms of contacts and research results.

Meritum allowed the creation of an operational and well-functioning contact network that is presently acting as a diffusion node of the most recent findings and leading best practices. E\*Know-net pretends to build-up on this existing network, by approaching other research groups in this field in Europe, and in the rest of the world, in order to put together main Centres of Excellence on intangibles. A virtual network between those centres and all interested bodies will be created in order to have continuous interaction.

The number of researchers and practitioners in this area is still very limited. We need to ensure the qualification requirements of the future, by means of increasing the number of Human Resources specialised in this area, and by promoting their mobility. For example, there are very few teaching opportunities in Europe on accounting for intangibles, managing knowledge as a resource at organisational level, and developing learning and design mechanisms for creating truly knowledge-intensive firms. Only some occasional and random course sessions exist, buried deep into postgraduate programmes scattered across Europe. The possibility of a common European training programme on intangibles needs to be explored by the Network. The opinion of the users in this respect will be essential.

Finally, there is a need to anticipate future issues at stake for Europe in the field of Science and Technology and clearly, a better understanding of knowledge creation, distribution and management processes is a critical issue for future research. We need to explore future research opportunities in this field, in order to contribute to a new research policy agenda, and this can be effectively done through the co-ordination of individual efforts, while allowing for national efforts and the rich variety of approaches within, in order to contribute to a new research agenda. The interaction between research groups and users within the virtual network will provide sound bases to design a meaningful policy agenda.

Both the design of new tools and their massive use are important for policy purposes. Creating a European Research & Communication Arena on intangibles will clearly lead to the European exploitation of previous research efforts at European level in this area made by MERITUM, substantially enhancing the value of individual efforts as well as discussing the implications for Science, Technology and Innovation policy at European level.

**More information about the MERITUM project – contact details of partners, list of papers produced during the project with abstract, downloadable documents, etc.- can be found in: <http://www.kunne.no/meritum>**

## **BACKGROUND AND OBJECTIVES OF THE PROJECT**

The main principles on which the project was based were the following:

- Innovation is nowadays a *sine qua nom* condition for competitiveness and thus for increase of growth and employment.
  
- The economy is now knowledge-based which means that intangibles appear to be more important than tangibles for productivity gains, profitability and wealth creation within companies. The creation of technological capabilities in particular, and the development and implementation of innovation strategies in general, is -no doubt- a fundamental part of that knowledge based economy and, therefore, must be considered as a critical piece of intangible activities.
  
- Competitive advantages of firms are based on their ability to create value; in such a process of value creation intangible investments plays a crucial role.
  
- Intangibles are very badly measured and therefore main decisions (resource allocation, investment, science and technology policy, etc.) are based on uneasy and feeble grounds. One of the major difficulties in measuring intangibles rests in their tacit nature; they are often the result of organisational learning and of a complex process of the knowledge socialisation within the firm.
  
- The managerial resource selection process of intangible resources plays a crucial role in understanding why firms differ, and exhibit differential competitive advantages that are translated in above normal economic returns.

**The main objectives of the project were the following :**

- a) Produce a Classification of intangibles which is theoretically meaningful and useful for empirical analysis. The classification should promote understanding and communication among researchers, management, users of financial information and policy makers.

b) Analyse Management and Control Systems in order to get to know the best practices within European companies in measuring intangible investments, in measuring the outcome from those investments, in using those measurements for management decision making and in disclosing that information for the use of stakeholders.

c) Assess the relevance of intangibles for the purposes of equity valuation in capital markets and the extent to which the decline in the value relevance of earnings documented over the last three decades is a consequence of the lack of ability of accounting numbers to provide reliable information on the ability of the firm to create future wealth in an increasingly technology intensive economy.

d) Produce a set of Guidelines for the Measurement and Disclosure of Intangibles which would be useful both for private and public policy decisions

e) Test the validity of the Guidelines for the companies contacted over the project and a broad range of institutions which are expected to use the information prepared employing those Guidelines. Particular attention will be given to the institutions within the European Union dealing with Scientific and Technological Policy.

**No reorientation of the objectives was needed during the project.** They have been completely accomplished as proposed.

## **SCIENTIFIC DESCRIPTION OF THE PROJECT RESULTS AND METHODOLOGY**

The project was divided into four activities:

- Activity 1: Classification of intangibles
- Activity 2: Management Control Study
- Activity 3: Capital Market Study
- Activity 4: Drafting and testing the Guidelines

Next the objectives, methodology, work carried out during the activity and main findings and outcomes will be described.

### **Activity 1: Classification of Intangibles**

#### **Objective of Activity 1**

Various definitions and classifications of intangibles have been suggested over the last few years. However, none of them had reached wide use or acceptance although the need both from a management and capital market perspective was evident.

In 1992 the OECD (OECD, 1992) offered a negative delimitation of intangible investments; "Intangible investments cover all long-term outlays by firms aimed at increasing future performance other by than the purchase of fixed assets". These intangible and tangible investments were classified into: (1) Physical investment (hardware), software; (2) Intangible investment in technology: R&D, patents and licenses, design and engineering, scan and search; (3) Enabling intangible investment: worker training, information structure, organisational structure; (4) Market: exploration, organisation.

Based on evolutionary theories in economics Hammerer (1996) developed the following classification (see Chart 1) which was later used to illustrate the distribution of intangible and tangible investments over the product life cycle :

**Chart 1**

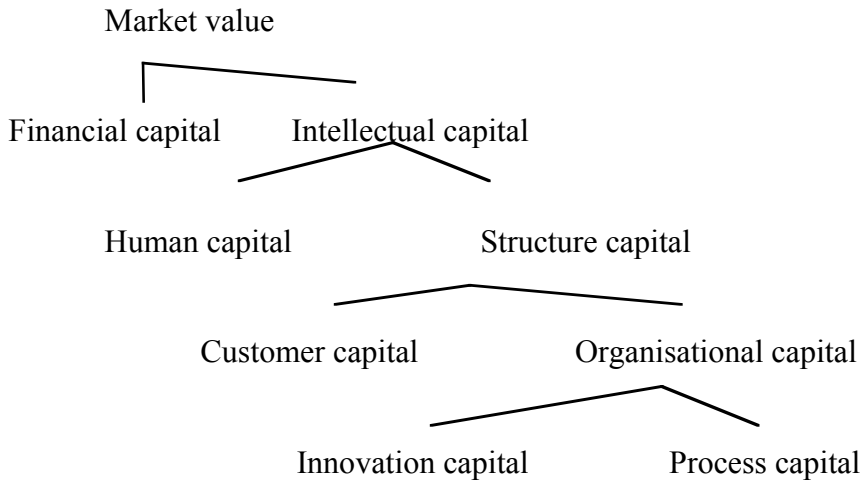
	<b>TECHNOLOGICAL KNOWLEDGE</b>	<b>ECONOMIC COMPETENCE</b>	<b>EXTERNAL</b>
<b>STRATEGIC LEVEL</b>	Research		
	Further education technological	Further education administrative	Public relations
	Patents	Market research	Advertising
<b>OPERATIONAL LEVEL</b>	Licenses	Software	
	Software technology administration		

Van Wieringen (1997) proposed a classification of intangibles based on the balanced score card concept (Kaplan and Norton, 1987) for professional education and EUROSTAT and Statistics Netherlands (1997) performed a study for statistical reasons. They have identified ten categories of intangibles; (1) R&D, (2) acquisition of intellectual property rights (patenting) and licensing, (3) acquisition of industrial property rights, (4) advertising and other marketing, (5) acquisition and processing of information, (6) acquisition of software, (7) reorganisation of management of an enterprise, (8) reorganisation of the accounting system of an enterprise, (9) means devoted to dealing with changes in legal, fiscal, social, and economic government policies, (10) other investments in innovation of products or processes of the enterprise.

A number of classifications had been proposed by private companies and in publications the not-so-academic oriented literature directed towards a more general public (Sveiby, 1996). These were often based on the balanced score card concept. An early example

was the proposal from Skandia, a Swedish insurance company. In a supplement to its annual report (1995) intangibles are classified as follows in Chart 2 :

**Chart 2**



Several additional efforts were made during 1997. For example the Centre for European Policy Studies organised various workshops to discuss intangibles ; some interesting papers were prepared for those workshops (e.g. Mortensen et al. 1997). The Eurostat together with Statistics Netherlands carried a research project which apart from making also a detailed typology of intangibles attempted to make an empirical analysis of some Dutch firms (Cloes and Vosselman, 1997). Some researchers in France (Lhuillery and Mangematin, 1997) made a description of the different intangibles as well pointing out the measurement difficulties most of them present. All these studies showed the need of more empirical research in the field.

Taking into consideration all this background the classification this proposal aimed to develop was above all policy oriented, that is, the classification would be the first step to arrive at measurements which allow better decision making by both managers and stakeholders. Among the latter main important users of this measurement would be Governments.



This activity was intended to analyse the existing classifications of intangibles and to deduct alternative classifications based on the theories of accounting, finance, organisation and innovation.

### **Methodology of Activity 1**

The classification activity is closely related to the other activities in the project. The first step was to develop a set of alternative classification schemata of intangibles through:

- (1) Examining the properties of existing classifications of intangibles.
- (2) Deducting alternative classifications based on accounting, finance, organisation and innovation theory.
- (3) Using classification theory as a technique for developing alternative classifications. This means that the following three classification issues have to be dealt with:
  - The ontology of the classification. There is a need to clarify to what extent the classification creates the reality (construction) or mirrors the reality (representation).
  - Which universe of discourse is affected by the classification, that is, definition of the phenomena to be classified.
  - Different bases of classification, i.e. the properties which discriminate between the different phenomena.

A background theoretical document based on these premises was prepared by the researcher co-ordinator and sent to the responsible persons in the other institutions who provided feedback.

The second step was to test the classification through the other activities of the project, particularly using the companies surveyed during Activity 2. The management control study.

The test followed a multivariable approach, that is different aspects of the classification were tested, such as :

- Degree of simplification and clarity (user perspective)
- Pre-empting, mutual exclusive and no rest classes (logic perspective)
- Usefulness for management decision making (political internal perspective)
- Usefulness for stakeholders decision making (political external perspective)

Based on the findings in these tests, the third step was to change and redefine the classifications.

### **Main outcomes of the Activity 1**

The first 5 months of the project were devoted to the Activity 1. Classification of Intangibles. During that period, nine working papers and a research proposal on the classification of intangibles were developed. All the reports were discussed during the Stockholm Meeting that took place on March 12-13, 1999. The first outcome of this activity has been a set of papers dealing, to a lesser or greater extent with the following topics:

1. How do companies classify intangibles?
2. Understanding accounting classifications
3. Ideas for (re-) classification
4. The notion of intangibles and intellectual capital

Most papers issued under this activity have been finally published in Grojer, J.E and Stolowy, H (1999)<sup>1</sup>.

Next we summarise the main findings regarding the conceptual framework and the classification of intangibles

---

<sup>1</sup> See list of references for a complete reference

a) The conceptual framework

One of the first tasks in the project was to make a literature survey on intangibles. The results of this survey can be found in Cañibano et al (2000a) and Johanson et al (1999). The literature review served as a basis for several discussions maintained by the researchers of the project.

The literature review pointed to the fact that there is no broadly accepted definition of “intangibles”. It is actually an adjective that goes along with different concepts, such as assets, activities, resources, etc. However, the adjective is often used as a noun, and this is good proof of the significant difficulties that exist when trying to determine a correct qualification (Cañibano and Sánchez, 1998).

Nevertheless, the wide variety of definitions of Intangibles that can be found in the literature have some features in common (Cañibano, Garcia-Ayuso and Sanchez, 2000a). They can be considered as sources of probable future economic profits lacking physical substance, which are controlled, or at least influenced, by a firm as a result of previous events and transactions (self-production, purchase or any other type of acquisition) and may or may not be sold separately from other corporate assets.

Intangibles might be defined in static and dynamic terms. Next we summarise the two different concepts developed during the project:

**Intangible resources**, following Hall’s (1992) proposal, can be considered as “assets” in a broad sense; that is, intellectual property rights, trademarks, certain information technologies such as data bases, networks, and “skills”, i.e., capabilities and competencies, such as those in human capital. The intangible resources of a company, a static notion, can be measured at any given moment. Thus, worker competencies (human capital), intellectual property rights (structural capital), customer satisfaction or agreements with suppliers (relational capital) would be considered under this category.

These “intangible resources” are likely to increase the future value of the company in general, and its innovation capacity in particular.

**Intangibles activities or investments:** Intangible resources can also be analysed in dynamic terms. Companies are undertaking activities to acquire or internally produce intangible resources, to sustain and improve existing ones, and to measure and monitor them. Although the activities undertaken are assumed to be costly, companies are not always able to measure and keep track of these costs. These dynamic activities thus imply an allocation and use of resources that are sometimes not expressed in financial terms, i.e., they may or may not appear in the corporate financial reports.

Intangible activities may give rise to new intangible resources, or improve the value of existing ones. For example, by re-qualifying them, or by increasing their ability to cooperate with other resources and, thus, improve their connectivity. Intangible activities also include the activities aimed at monitoring and evaluating the results of those connectivity improvements. Examples are training activities (to improve human capital); R & D (to improve technological capabilities within structural capital); specific marketing activities (to attract loyal customers and improve relational capital); a survey to assess employee or customer satisfaction (to monitor the effectiveness of improvement activities).

#### Intangible Resources and Intangible Activities

*Intangible resource (static notion) is the stock or current value of a given intangible at a certain moment in time. It may or may not be expressed in financial terms.*

*Intangible activities (dynamic notion) are those which imply an allocation of resources aimed at developing internally or acquiring new intangible resources, increasing the value of existing ones, or evaluating and monitoring the results of the former two activities.*

Figure 1. Intangibles static and dynamic vision

<i>Static Notion</i>	Intangible resources		
	Assets	skills	
<i>Dynamic notion</i>	Intangible activities		
	<b>To develop or acquire new intangible resources</b>	<b>To increase the value of the existing intangible resources</b>	<b>To evaluate and monitor intangible activities</b>

The utility of the distinction between intangible resources and activities was tested during the project, mainly during activity 2 and 4. Most experts consider the definition clear and useful, although sometimes it is difficult to put it into practice.

#### b) The classification of intangibles

The main finding of this activity is that there is not a unique classification of intangibles. Almost every author classifies intangibles in a different way. However, from a practical perspective, most practitioners distinguish between Human Capital, Structural Capital and Relational Capital.

**Human capital** is defined as the knowledge that employees take with them when they leave the firm. It includes the knowledge, skills, experiences and abilities of people. Some of this knowledge is unique to the individual, some may be generic. Examples are innovation capacity, creativity, know-how and previous experience, teamwork capacity, employee flexibility, tolerance for ambiguity, motivation, satisfaction, learning capacity, loyalty, formal training and education.

**Structural capital** is defined as the pool of knowledge that stays with the firm at the end of the working day. It comprises the organisational routines, procedures, systems, cultures, databases, etc. Some of them may be legally protected and

become Intellectual Property Rights, legally owned by the firm under separate title. Examples are organisational flexibility, a documentation service, the existence of a knowledge centre, the general use of Information Technologies, organisational learning capacity, etc.

**Relational capital** is defined as all resources linked to the external relationships of the firm such as customers, suppliers or R&D partners. It comprises that part of Human and Structural Capital dealing with the company's relations with stakeholders (investors, creditors, customers, suppliers, etc.), plus the perceptions that they hold about the company. Examples of this category are image, customers loyalty, customer satisfaction, links with suppliers, commercial power, negotiating capacity with financial entities, environmental activities, etc.

As a result, the concept of "intellectual capital" and intangibles are embracing all forms intangibles, either formally owned or used, or informally deployed and mobilized. Intellectual Capital is more than simply the sum of the human, structural and relational resources of the firm, it is about how to let the knowledge of a firm work for it and have it create value (Roberts, 1999). This can be achieved by creating the right connectivity between those resources through the appropriate intangible activities.

The distinction between human, structural and relational capital has been also tested during the project. It was found clear, useful and feasible by the experts. It has been used by a number of firms for the identification and measurement of the intangibles of the company. It seems to be the classification that is being now most frequently used by practitioners.

## **Activity 2: Management Control study**

### **Objective of the Activity 2**

**The main objective of this activity was to elucidate which are the "best practices" in the measurement and disclosure of intangibles within European companies. The general research aim was to investigate *how* the management control is carried**

**out, *why* and *when* organisation members do what they do, and *how* component parts (people, organisational units, etc.) interact.**

At the beginning of the project, it seemed clear that there were various models aspiring to improve the management control of intangibles. However none of them seemed to be successful. Why? Constructed as normative models not grounded on business realities could be a main reason.

The hypothesis underlying this study is that good practice enterprises differ from other enterprises concerning the management control of intangibles. Intangibles are normally neither reported externally nor integrated in internal management accounting. Nevertheless they are in some way handled in the management control process, normally in an informal way. Good practice enterprises are expected to be different from others in all these respects. Thus good practice enterprises are expected to be well aware of the importance of intangibles critical for the success of the firm. These firms are also expected to measure, report, communicate and evaluate important intangibles in the management control process. Finally, if it is anticipated to be beneficial, they are expected to report on intangibles even externally.

A number of questions could be raised. How are important intangible phenomena identified and defined? In what way is it possible to measure, account and control these phenomena? In what way do intangibles create added value to the firm? How does visualisation through measuring and accounting affect organisational efficiency and social order?

Discovering the management control of intangibles is a complex matter because of a range of problems regarding the concept of intangibles as well as the management control process. The management control process is also a phenomenon that could be interpreted and described in various ways. Each of Morgans' (1986) images of the organisation provide an opportunity to interpret even the management control process.

Management control has been defined in many ways. In the present study a definition provided by Flamholtz (1996) was taken as a point of departure. He defines

management control as measures to (1) motivate people to take actions consistent with organisational objectives, (2) co-ordinate efforts of different parts of an organisation, and (3) provide information about the results of performance and operations.

The management control process might be formal as well as informal. Despite this duality intangibles have to be (1) recognised, (2) measured, (3) evaluated and (4) reported in some way.

The overall research question was the following: How do company boards in good practice enterprises perceive the formal as well as the informal, but conscious, management control process of intangibles? What is the role of accounting in this process? From the general research question, and taking Flamholtz definition into account, a number of sub-questions could be deducted, e.g.;

- (1) How, why and when are intangibles important for fulfilling the company mission?
- (2) How, why and when are intangibles recognised?
- (3) How, why and when are intangibles measured?
- (4) How, why and when are intangibles reported?
- (5) How, why and when are intangibles evaluated?
- (6) How, why and when are people motivated to take action concerning intangibles?
- (7) How, why and when are different parts of the organisation co-ordinated?

## **Methodology of Activity 2**

The study was planned to be carried out in different steps;

1. Pilot case studies aimed at calibrating method in the main study.
2. Generation of local theory from a number of cases based on a grounded theory approach. Data could be interpreted in the light of whatever theory each researcher/country might believe being of value.
3. The five or six different local theories will be compared. A general theory will emerge. The OECD proposal on draft guidelines will be used as input among others.
4. The general theory will be tested in each country.



5. The result will be a refined general theory.

The selection of the companies to be surveyed was made according to the following principles :

The idea with the present study was to select companies that seemed to recognise intangibles as a significant resource for company success. How could these enterprises be identified? Taking external reporting as a starting-point enterprises could be selected among those who are known for innovative external reporting. The rationale behind is that companies managing intangibles in an efficient way might be interested in informing about this in order to facilitate access to capital.

It was expected to select around 60 companies (10 by country as an average). Preferably the selected firms should represent different categories of a preliminary classification of the intangibles. Special attention should be paid to small enterprises in the way that it should be assured that they will be included in the sample.

There existed a large variety of criteria to select the firms in the different countries as none of the firms in the sample were selected randomly. Sweden and Denmark focused on firms with experience in the measurement, management and disclosure of information on intangibles. In Sweden the firms had an almost 10 year period of experience. Notably, in Denmark, the selected firms were actively selected on their ongoing work in developing and disclosing intellectual capital accounts, on a similar footing as the regular disclosure of their financial accounts. France and Finland focused on firms listed respectively on the Paris and Helsinki Stock Exchanges. In the case of France, firms were selected according to their relatively high level of intangible assets on their balance sheet. In Finland, the key selection criteria was a high market-to-book value in combination with a broad industry coverage of the selected firms. In contrast, very few Danish firms (3 out of 19) are quoted on the Copenhagen Stock exchange. In Norway, the firms were selected on the basis of their membership of the sector organizations of the graphical industry, the daily newspapers, and the weekly magazines and periodicals, respectively. None of these firms are quoted, and all can be classified as Small and Medium-sized Enterprises (SMEs), i.e., between 10-300 employees. In

addition, six out of the twenty-one firms in the Norwegian sample are family-owned. Finally, in Spain, the research focused on firms, which had shown interest in the topic through their membership of an Intellectual Capital association called ‘Club Intellect’.

Information has been mainly obtained through semi-structured interviews and meetings with representatives at different company level (i.e., top and middle management, and functional experts such as accountants, HRM and operating managers etc.). Data was triangulated with information gathered from internal documents and publications. Interviews were conducted in all the participant countries. A questionnaire was used in Denmark, Spain and France..

### **Main outcomes of the Activity 2 (Extracted from the Final Report of the Activity 2)**

In conducting the research all six participating countries have practiced an inductive approach in the analysis of the selected cases. Primary research questions as well as number of selected cases is shown in the following table.

	<b>Number of selected cases</b>	<b>Primary research questions</b>
Denmark	18	How does intellectual capital enter organizational processes of decision making, and how is this reflected in the work with intellectual capital statements?
Finland	9	Which intangibles attribute most strongly to the financial performance of the company? What indicators does the company use to measure these intangibles? How does the company develop these intangibles? How does the company control the development of these intangibles? How does the company measure the effectiveness of intangible resources development?
France	7	To understand how intangibles are defined and classified; to determine whether formalized systems (i.e. a set of indicators) had been set up to monitor them, and what the purpose and origins of such systems are.

Norway	21	How does knowledge work organizations generate intellectual capital?
Spain	10	What are the main objectives and driving forces shaping the decision to start measuring and managing intangibles? Are the proposed intangibles meaningful? Is their definition clear? Are the proposed indicators clear, meaningful and feasible? If not, could an alternative indicator be provided? Would it be possible to disclose them? What is the process followed when developing an intangible measurement and management system?
Sweden	11	How are intangibles recognized, measured, reported and evaluated? How is organizational change mobilized?

In all of the six participating countries the methodology used to gather data has been interviews with representatives on different levels in the companies. Additional data has been gathered by e.g., collecting documents, sending out questionnaires, and also participation.

**Two different approaches to the analysis can be distinguished.** For those countries, with a fairly long tradition in the management of intangibles, the research groups have been focusing on what the companies are doing and have done in the past. For other countries the approach has been more oriented towards what firms think they should do. The differences, between on the one hand Denmark, Sweden, and Finland and on the other hand Spain, France and to some extent Norway have consequences regarding their approaches to “best-practice” companies. The latter group of countries have had difficulties in finding best-practice cases as the experiences in the measurement and management of intangibles are more limited in those countries compared to Denmark, Sweden and Finland, where the experiences are more extensive. The French research team started by finding out whether intangibles were taken into account at all in the companies. In Spain, the research team, approached the investigated companies by developing a list of intangibles and indicators and tested whether those specific intangibles were meaningful to them or not. Although most of the case firms are knowledge intensive companies that are supposed to be active in the management of

intangibles, the approach chosen differs as *the state of the art* and business culture in each country are rather different. The chosen approach has obviously much to do with the degree of consciousness of the company in relation to intangibles and its history with respect to those measurements. Thus the first approach (focusing on firm experience) can be followed when the company is already measuring its intangible activities and using them for management purposes. The second approach (focusing on what firms think they should do) may also be used for this first group but it is the only possible approach for companies that still do not measure their intangibles or have only just started to do so.

As can be seen from this brief comparison the different countries have approached the task differently. Research questions, theoretical perspectives and design differ but a common feature is that all contractors are addressing the four objectives referred to above. The variety of approaches provides a great opportunity for a rich understanding of the management control of intangibles.

## **Conclusions**

### *Measuring intangible investments and measuring the outcome from those investments .*

When measuring intangibles, firms address many different types of intangibles (e.g., traditional intangible assets as patents, trade marks, etc., and also human resources, knowledge based intangibles and stakeholder relations.) Therefore a wide range of intangibles emerge.

The case firms from the different participating countries do not frequently use either the concept “intangibles” or “intellectual capital”. Rather they most often prefer to use human and market (or customer) capital. Sometimes they also practice the concept “structure capital”. Some of the used measures of intangibles are general, i.e. they can be used among different firms and industries, whereas other measures are firm specific. In Spain it seems that most of the firms are concentrating their measuring efforts in the Human Capital category.

The main objective of the firms is to be able to connect their intangibles with some output measures. For the moment, only a small part of the interviewed firms are capable of developing some output measures that assess the impact of intangibles on financial measures.

*Using those measurements for management decision-making and disclosing them .*

Most of the firms use the measures for internal purposes, i.e. for internal decision making. Nevertheless, they do not hesitate to disclose most of the elaborated indicators for the sake of the stakeholders' interests. That is, the main purpose when developing an intangible measurement system is to internally manage those intangibles in order to create value, but firms are also concerned with the external use of that information and thus, do not hesitate to disclose it by different means.

Finding the links to and between different measures of performance is one of the objectives of the research. It seems like companies try to identify, measure and manage primarily those intangibles that they assess as the most important for their long-term value creation. However the cause-effect relation is not easy to establish and to demonstrate. It is the perception of the company, and not a 'proven fact', that moves it in a particular direction. However, some of the Swedish firms perform statistical analysis regarding the relationship between intangible measures and performance, quite successfully. Even if precise relationships between intangible measurements and performance have not yet been established the awareness of the relationship have increased (Denmark, Finland, Sweden and Spain).

Another conclusion is that measurement without further action makes no sense. In other words measurement of intangibles is to be followed by immediate management of intangibles. For example, there is no point in evaluating customer satisfaction if no action is taken afterwards to ameliorate the unsatisfactory aspects.

Most of the findings of this activity were included in the Guidelines for Managing and Reporting on Intangibles, which will be described next when focusing on the Activity 4.

The research teams in each country has written a number of articles related to activity 2. The most of these articles have been presented at conferences and will be published in international journals e.g., in Accounting, Auditing & Accountability Journal; Accounting, Organisation and Society; European Accounting Review; Knowledge Management Journal and Journal of Intellectual capital.

### **Activity 3: Capital Market Study**

#### **Objectives of the Activity 3**

The overall objective of this activity was to assess the relevance of intangibles for investment analysis, but we have extended the investigation to credit decision making. The underlying hypothesis is that corporate financial reports do not accurately reflect a number of intangibles that are among the fundamental determinants of the firm's value. The specific objectives to be achieved under this activity were:

- To assess the extent to which intangibles can explain the difference between book and market value of equity.
- To determine if the value relevance of fundamental accounting information depend on the existence of intangibles.
- To analyse whether intangibles can explain the differences in price-to-earnings ratios across industries and firms.
- To investigate if risk returns of fast-changing, knowledge-based, intangible companies show a significantly different behaviour from those of other companies.
- To study if investors perceive intangible investments as a signal for future corporate success. To implement a pilot case study to investigate the investment and risk analysts' perceptions on the importance of intangibles as determinants of the firm potential for future wealth creation.
- To draw conclusions from the cross-country comparison of the results.

For that purpose, several empirical analyses based on specific samples of companies from each of the countries involved in the MERITUM project as well as from other EU member countries, have been conducted.

When the project started, a growing importance was being placed on the analysis of the functioning of capital markets and the ways in which their efficiency may be improved. An example of the interest in this issue was a report titled *Making markets work: Support services for equity markets for emerging growth companies in Europe*, funded by the European Commission, which was mainly intended to analyse how the professional skills required for the operation of highly liquid pan-European capital markets for innovative companies are organised and supplied and how they should be developed in the future. Among its recommendations, the authors suggested *the Commission should encourage (...) the activities of pan-European associations in raising standards for the issues covered in this report*. One of those issues was the provision of relevant information on emerging growing European companies to investors. Activity 3, the capital market study, attempted to contribute to the literature published in this respect, by focusing on the issue of the relevance of intangibles for equity valuation in stock markets.

### **Methodology of the Activity 3**

Three different studies were carried out within the framework of the activity 3:

- Review of the literature related with the relevance of intangibles for decision making
- Econometric analysis on the relationship between different intangibles and the market to book ratio.
- Case studies on the relevance of intangibles for credit decision-making

The main results of the analysis are presented next.

### **Main outcomes of the Activity 3**

#### **1. Literature review**

The first step taken in Activity 3 was an extensive review of the literature related with the relevance of intangibles for decision making. The result of that thorough survey of empirical research was a paper whose authors are Leandro Cañibano, Manuel García-

Ayuso and Paloma Sánchez and was titled *Accounting for intangibles: A literature review*. This paper was published in the *Journal of Accounting Literature*, vol 19, 2000.

In the review of the literature, several recent empirical studies suggesting that accounting numbers have a limited ability to explain the differences in stock prices were discussed. However, it was found that most analyses leading to the conclusion that the relevance of accounting information has decreased significantly over the past few decades are based on samples of companies listed in the US capital markets. For that reason, it was decided to analyze the explanatory power of earnings and book values for stock prices in the capital markets of the European Union (Cañibano, García-Ayuso and Rueda, 2000), finding no evidence that accounting information has lost relevance over the last decade. Contrary to the results of previous studies, they found no significant increase in the value relevance of earnings and a significant decrease in the explanatory power of book values in most countries. This suggests that the accounting estimate of the value of European companies is deviating progressively from investors' estimates. Among the possible reasons for this decreasing pattern they mention the use of historical cost valuation as well as the increasing importance of intangibles not reflected in the balance sheet. Further tests based on a sub-sample of countries whose accounting models are considered as *conservative* suggest that, in fact, intangibles appear to be relevant for equity valuation, particularly in the most recent years of the period considered in the study.

## 2. Econometric analysis

Those claiming that intangibles are fundamental determinants of the value of companies but are not reflected by financial statements prepared according to current GAAP usually rely on the existence of a significant gap between the market value of companies and their book value of equity. In order to assess to what extent that claim is founded, Cañibano, García-Ayuso and Sánchez (2000b) calculated the book-to-market ratio for a sample of Spanish companies finding significant differences in the median values of the ratio for portfolios formed according to the technological level of the firms. We also build a sample of pharmaceutical companies listed in capital markets across the world and found that their book-to-market ratio was significantly lower than that of the rest of



the companies considered in the study. Thus, the results lend support to the contention that the financial statements of R&D intensive companies fail to present a true and fair view of the value of their assets. This paper was published in *Análisis Financiero* the journal of the Spanish Institute of Financial Analysts.

R&D investments are probably the most commonly used indicator for innovation activities and are considered as a good proxy for the value of intangibles in business companies. Based on a sample of US companies, Ballester, García-Ayuso and Livnat (2000) use firm-specific time-series data to estimate the Research and Development (R&D) expenditures that represent an asset to the firm. The study uses a modification of the Ohlson (1995) model to estimate the persistence of abnormal earnings, the proportion of current R&D expenditures that represent an asset with future benefits to the firm, and the constant amortization rate of this asset. The results indicate that the R&D asset is on average 19% of the firm's total market value, and represents on average 32% of the difference between the market and the reported value of the firm's equity. The ratio of the R&D asset to market value of equity appeared to be negatively associated with size, profitability, and the ratio of market to book value of equity, but positively associated with predicted future earnings, expected future long-term growth rates in earnings, and future returns. This suggests that smaller firms and firms with lower growth potential have a higher ratio of intangible R&D asset to market value than larger firms or firms with high growth potential. The results also imply that analysts incorporate information about past R&D expenditures, and the perceived future benefits of these expenditures into their forecasts of future earnings. Consequently, the evidence presented in the paper indicates that market participants act as if they undo the current accounting practice of expensing R&D expenditures fully and set the market values to reflect the R&D-adjusted earnings and the book value that includes the R&D asset. Based on this evidence, accounting standard setting bodies should allow firms to capitalize their R&D investments and amortize them over an estimated economic life that is likely to differ not only across industries but also between firms..

A large body of literature has explored the relevance of intangibles for equity valuation. However, there appears to be a significant bias towards intangibles such as R&D and advertising for which there is information available in the financial statements of US

firms. Since salaries are included as an expense in the income statement of Spanish companies, García-Ayuso, Moreno and Sierra (2000) focused on the Madrid stock exchange in order to analyze the relevance of human resources for financial analysis. Consistent relationship between the quality of human resources and the value of companies was found. The negative correlations reported between the labor cost per employee and both, the earnings-price and the book-to-market ratios suggest that this indicator of the quality of human resources is consistently related to investors' expectations on the future earnings and growth of the firm. Thus, it seems that including information on human resources in the annual accounts would increase the usefulness of financial statements for investment and credit decision making. This paper was submitted to the *Journal of Human Resources Costing and Accounting* and was published in the Spring 2000 issue (n. 1, Vol. 5, pp. 45-57).

Increasing the extent and the quality of the information on intangibles in the financial statements of business companies may not only lead to a more efficient allocation of resources but also help improve our understanding of the innovative activities carried out in our economies. Cañibano, García-Ayuso and Sánchez (2000b) analyse the conceptual and methodological problems underlying the measurement of business innovation by means of surveys and discuss the lack of ability of accounting standards to accurately reflect innovative activities in the financial statements of business firms. The results suggest that both, micro- and macroeconomic approaches towards the measurement of innovation have significant shortcomings. Despite their limitations, surveys provide a sound basis for the identification of trends, key factors and explanatory variables. On the other hand, financial statements could provide a sound basis for the measurement of innovation if they included more relevant information on the intangible determinants of the value of companies. Thus, the conclusion is that a joint effort is needed in order to overcome the methodological limitations affecting innovation studies based on surveys and those relying on financial accounting information.

The International Accounting Standard Committee is currently involved in the development of an accounting standard for extractive industries. In an attempt to contribute to the preparation of the Exposure Draft that will eventually result in a new

International Accounting Standard, Escobar, Garcia-Ayuso and Pérez (2000) present an analysis of the accounting practices adopted by Spanish oil companies. The study was motivated by the relevance that the oil industry has within the context of extractive industries in developed economies. The paper was titled *Financial accounting and reporting in extractive industries: Evidence from Spanish oil companies* and provides a view of the limitations that oil companies find in the ability of the current Spanish accounting model to provide a true and fair view of their financial position. The study revealed that oil companies find accounting standards do not allow them to provide relevant information on their intangibles and, therefore, they disclose voluntary information to allow investors arrive at efficient estimates of the firms' value. This paper was submitted to the *Petroleum Accounting and Financial Management Journal*, and it was published in the Summer 2000 issue (pp. 1-11).

### **3. Cases studies. Relevance of intangibles for credit decision making**

An investigation into the relevance of intangibles for credit decision making has been carried out by Bino Catusus and Jan-Erik Gröjer in Sweden. The Swedish study has already been completed

A related analysis focusing on the relevance that financial analysts attach to intangibles has been completed by Stefan Lee for Finland. A similar study was carried out for Spain by Manuel García-Ayuso and Miguel Duro. The Finnish study, based on interviews with financial analysts, indicates that financial markets do attach value to intangibles. Two follow-up questions were therefore addressed: Which intangibles matter? How much do they matter? The answers to these two questions were found to vary considerably with the industry of the firm; analysts monitoring high-tech industries pay much more attention to intangibles and value creation than do analysts of mature industries. Crucial aspects are the management, customer capital, and brand of the company. Nevertheless, a common feature of all analysts was that accounting information was stated as being their main source of information.

These studies of the relevance of intangibles for investment and credit decision making will be published by the Research Institute of the Finnish Economy in a book that is

edited by Manuel García-Ayuso (coordinator of Activity 3) and Rita Asplund. This book will also contain studies of intangibles as determinants of the difference between the market and book value of equity. One of these contributions concerns Finland and is carried out by Rita Asplund and Anne Eronen. The study focuses on comparing the explanatory power of information on intangibles published in company annual reports with that of information on intangible resources and activities available from other sources.

#### **Activity 4**

The overall objective of this activity was to Produce a set of Guidelines for Managing and Reporting on Intangibles, that is theoretically meaningful and empirically useful. This general objective, had the following specific objectives to be attained during the period:

- To develop the theoretical framework for the Delphi analysis
- To elaborate a first draft of the Guidelines
- To design the Delphi process
- To build the questionnaire
- To select the experts that will take part of the Delphi
- To conduct the Delphi in several rounds
- To organise a workshop
- To write the final Guidelines

#### **Methodology of the activity 4**

##### **The Delphi analysis**

The Guidelines were validated by a panel of experts. The objective was to check if the information contained in the Guidelines was complete, useful, feasible and clear.

a) Selection of experts

Experts from the six participant countries and representing a variety of institutions were involved in the Delphi. The categories of experts considered were: business firms, accounting standard-setting bodies, entrepreneur association, policy-makers, financial analysts, trade unions, and professional accounting and auditing companies.

b) Questionnaires

The Delphi analysis took place in three rounds, each of them based on a different questionnaire.

The Round 1 questionnaire was divided into 5 different sections. The first three sections were focused on specific issues related to the Conceptual framework, the Management of Intangibles, and the IC-Report. A general evaluation of the Guidelines was the topic of the fourth section of the questionnaire. In a fifth and final section, experts were asked to give their open-ended opinion on future scenarios related to the management and disclosure of intangibles. Both open, semi-open and closed questions were used, this latter type being the most frequent as it fits better with the nature of a Delphi analysis.

Round 2 focused only on the closed questions included in Round 1, providing the experts with the average scores and the dispersion of answers for each question. Experts were then asked to reconsider their initial answers in the light of the average score. Both Round 2 and Round 3 questionnaires included only closed questions.

Finally, Round 3 focused on the open questions included in Round 1 as well as comments received during Round 1 and Round 2<sup>2</sup>. The objective of this Round 3 was twofold: on the one hand to systematise the answers to the open questions of Round 1 as well as comments received during Round 2 and, on the other hand, to deepen the analysis on those issues that were not clear in previous rounds or had low score and/or

---

<sup>2</sup> Although Round 2 contained only closed questions, some experts included comments.

large dispersion<sup>3</sup>. Main issues contained in this last Round 3 questionnaire were: the main conceptual framework, the notion of relational capital, the properties of indicators, the need of a set of guidelines for managing and reporting on intangibles, the proposed changes of the document in the light of the received comments, and the type of firms that should be addressed in the future to test the statistical and analytical validity of the Guidelines.

c) Response rate and participating experts

During Round 1, 47 valid questionnaires were received. During Round 2, the response rate was 85% (that is, 40 questionnaires). Finally, Round 3 received 35 questionnaires.

The final list of experts is included in the Annex to this final report

d) Statistical analysis

Two different statistical measures were used to approach the degree of consensus: the average response and the dispersion.

The average response was calculated using the median<sup>4</sup> for the whole group of experts but also by country and main category of experts. The dispersion was calculated using the interquartile range<sup>5</sup>. Finally, the reliability of the answers was tested by considering the response rate for each question.

---

<sup>3</sup> For example, this was the case of the definition of relational capital. Most experts did not agree with the definition of relational capital provided in Round 1. For this reason, alternative definitions were included during Round 3. Another example: Round 1 included an open question on the need for a Guidelines for the Management and Disclosure of Information on Intangibles. The answers were really diverse as some experts answered on the need to measure intangibles and others on the need for the Guidelines. So Round 3, made a difference between these two items, to clarify the response.

<sup>4</sup> **Median:** Value of the midpoint variable when the data are arranged in ascending or descending order. To illustrate, suppose the answers are 3, 1, 5, 5, 2. The median would be 3 (arranged in ascending order 1, 2, 3, 5, 5).

<sup>5</sup> **Interquartile range:** Indicates how narrow or wide the numbers are distributed around the mean value. It is the difference between the third quartile ( $Q_3$ ) and the first quartile ( $Q_1$ ).  $IR = Q_3 - Q_1$ . In the previous example,  $Q_1$  would be 1,5 and  $Q_3$  will be 5. In this case the interquartile range will be between 2 and 5.

## **Main outcomes of the Activity**

### *The use of the Delphi method as a validation tool*

One of the first tasks to be conducted under this activity was to develop the conceptual framework for the Delphi analysis. A literature review was conducted, and the results published in Sánchez, Chaminade and Escobar (1999). Next we summarise the main findings:

The Delphi method is a qualitative research tool used to obtain a consensus opinion from an expert panel in several rounds, without requiring face-to-face encounters. Information is obtained by means of a questionnaire that is sent out to the experts in consecutive phases (called Rounds) for the purpose of reaching consensus between the experts.

The main advantages of the Delphi method are twofold. First, it takes into account the opinion of a group of experts on a specific subject, trying to obtain a consensus. This allows richer argumentation and better validation of arguments. Second, it has the advantages of research techniques based on group interaction but ensuring that all answers are anonymous and, therefore, feedback is unbiased as to the source of the original opinion.

Qualitative research methods, such as the Delphi are especially useful for the analysis of a novel subject where the main source of information is the experts opinions and experience, as it is the case with most intangibles.

Additionally, the Delphi method is recommended in case the knowledge on the subject is still unstructured, and one needs to fall back on the know-how and expertise of a number of individuals. This is particularly correct for this field of study, i.e., experienced firms and individuals have tacitly accumulated knowledge and an understanding on how to approach the analysis of intangibles.

*The Guidelines for Managing and Reporting on Intangibles (Intellectual Capital Report)*

The experiences gained from Activity 2 of the project were used to draft the Guidelines for Managing and Reporting on Intangibles, i.e., Activity 4. Information gathered in the six participant countries was used to develop the three sections of the document: Conceptual framework, Management of Intangibles, and Disclosure of Information on Intangibles.

- Conceptual framework: draws from the results of Activity 1 of the project (Classification of Intangibles). It develops the concepts of Intangible Assets and Intellectual Capital as well as its classification from a practical perspective into Human Capital, Structural Capital and Relational Capital, which was early described.
- Management of intangibles: The different steps followed by the firms when developing an intangible management system are described and examples are given. This section draws from the results of Activity 2 of the project.
- Intellectual Capital Report: A proposal for the development of Intellectual Capital Report of the firm is included. The different elements that should be included in the IC-report are described (vision of the firm, summary of intangible resources and activities, and a system of indicators). This section also draws from the results of Activity 2 of the project.

The complete document is included in the Annex to this Scientific Report.



## CONCLUSIONS AND POLICY IMPLICATIONS

The Meritum project has become an international reference point in the research on intangibles, both from a theoretical and practical perspective.

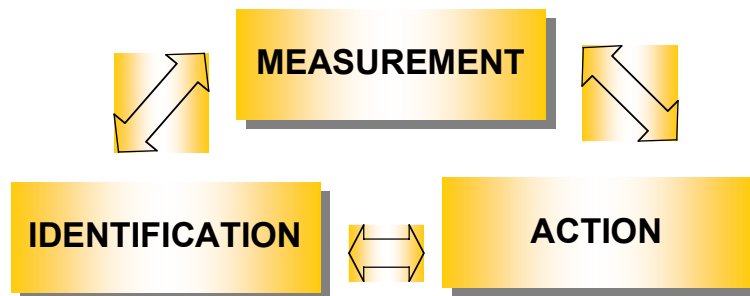
When the project was launched in 1998, there was a clear need for a unique definition and classification on intangibles. The analysis of the existing literature on the field combined with the experience gained from the study of the best practices in the management of intangibles allowed the development of a definition and classification of intangibles which is now being used by a great number of researchers and practitioners. (e.g.; OECD International Symposium: *Measuring and Reporting Intellectual Capital: Experience, Issues and Prospects*. Organised by the OECD, the Ministries of Economic Affairs and of Education and the Nordic Industrial Fund. Amsterdam, The Netherlands, 9-11 June, 1999; "Work Life 2000" in January 2001, Malmö, Sweden. Organised by the European Commission and The Swedish Government; "Entrepreneurship in SME's" in March 2001, Växjö, Sweden. Organised by the European Commission and The Swedish Government. Still, there is a need to deepen the discussion, involving researchers and institutions around the world.

The Activity 2. Management Control Study was based on the belief that there was a necessity to develop a model aspiring to improve the management control of intangibles. Previous models were considered not to be grounded on business reality. The case studies conducted under activity 2 raised important conclusions:

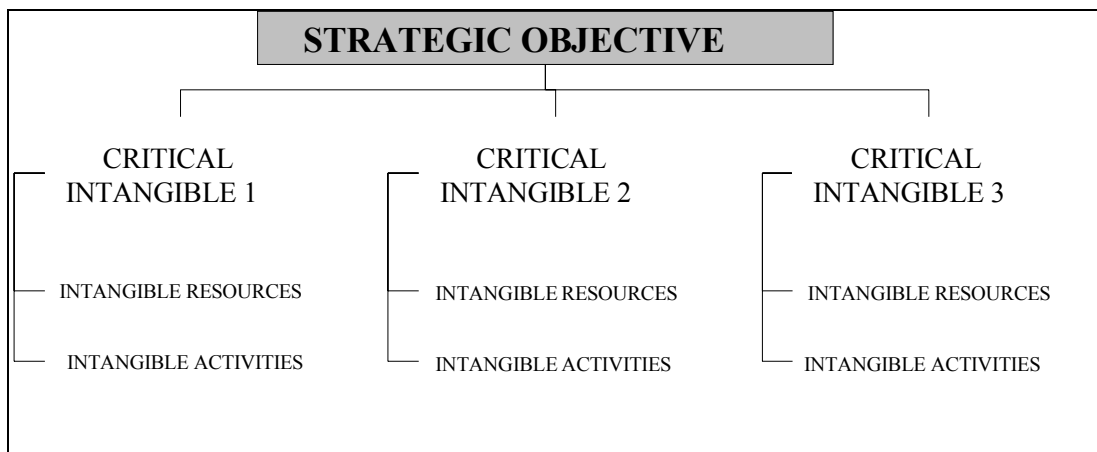
- The activity was intended to focus on best practice firms in the management of intangibles. However, when the study started we found out that there were two different firms and two groups of countries. In some countries like Sweden, Denmark and Finland most firms had some previous experience in the management control of intangibles, while in some others, such as Spain, France and to some extent Norway, most of the firms had no previous experience in the management of intangibles.

- **Different firms require different approaches.** The problematic of firms which are about to start implementing a system for the management of intangibles is much different from the one faced by those firms with some experience. In the first case, internal but also external framework conditions are important, while on the second case, the focus is much more on internal supporting processes and routines.
- For non-experienced firms the external framework conditions and support are extremely important, and this is especially relevant for SMEs. The support received from governmental bodies as well as sectoral organisations has been a key element for the acceptance, dissemination and initiation of a system for measuring, managing and reporting on IC.
- Education on the relevance of intangibles is also a crucial element for the successful implementation of a system for the management of intangibles in non-experienced firms. It can be said that results have to be envisioned by firms in order to create a system for the management of intangibles. That is, **before implementing a system for the management of intangibles, there is a need for some internal as well as external conditions.** Motivate, anchor and enable firms *before* starting the project. This will demand time and requires continuous missionary effort throughout the entire project. Missionary and motivating efforts are best undertaken by the sector organisations, i.e., the ‘economic mid-field’.
- Firms are best suited to educate other firms. Formal training is less relevant than experience exchange and networking between firm’s participants.
- There is a distinct role for sector organisations in contrast to higher level public institutions, such as Ministries or national government agencies. Sector organisations, which include branch organisations and employer organisations, are closer to the individual firms (see also 4) than higher level public institutions, and tend to understand the practical needs of their members better. In addition, sector organisations are better positioned to motivate firms, develop relevant educational material, and, equally important, to create the experience-sharing networks between firms.

- Three steps could be distinguished in the implementation of a system for the management of intangibles: Identification, Measurement and Action.



- First the firm identifies what are the critical intangibles needed in order to maintain and enhance its competitive advantage. For non-experienced firms, this phase has become critical as it helps the firm to be aware of what they have and lack in terms tangible and intangible assets needed to be competitive. The result of the identification phase is a network of intangible resources and activities linked to the strategic objectives of the firm.



- Once the firm has identified and measured, some further action is needed: **“Measurement without action is worse than no measurement at all”**. The success of a system for the management of intangibles strongly relies on the use of indicators as a managerial tool. Firms with successful stories on the management of

intangibles have been those who have some supporting processes that complement the measurement of intangibles and give feedback to the whole process.

- Measures are being used in different ways. The analysis of experienced firms have shown that the following supporting processes are used by most of the successful firms:

*(1) Recognition and measurement processes*

- human capital surveys
- customer capital surveys

*(2) Reporting processes*

- continuous internal reports
- Investor Relations information to analysts

*(3) Evaluation processes*

- evaluation of single indicators by each manager
- statistical analysis

*(4) Attention processes*

- Meetings

*(5) Motivation processes*

- benchmarking
- dialogues and work counselling
- salary bonuses

*(6) Commitment processes*

- ownership contracts

*(7) Follow-up processes*

- statistical analysis

- Measurement and making intangibles tangible is an educational effort, not an implementation effort concerning the roll-out of a novel metric, such as Economic Value-Added (EVA) or the Balanced Scorecard (BSC). Only a diagnostic tool is needed. This in order to have firms prioritise activities and to have them rally around the development process. A second set of educational tools for follow-up is a must.

- Creating a generic and uniform metric does not work. Firms are unique in their intangibles and use that uniqueness to create competitive advantage, also with respect to Intellectual Capital. Creating a uniform and “one size fits all”-metric denies that unique intangible position and, thus, will destroy competitive advantage: However, what can be uniformized is the development process, notably the (stages of the) educational process part of it.
- One of the conclusions of the study is that **not all the firms that manage their intangibles report externally on them**. Most of them use the system only for internal purposes. We assumed at the beginning of the project that the disclosure of information on intangibles is a must if we want to improve the efficiency in the allocation of resources. More research is needed on the required conditions for the disclosure of information.
- Labour mobility restrictions are part of the problem of not being able to develop a firm’s Intellectual Capital. Key element of the development of Intellectual Capital is the continuous and free sharing and transfer of knowledge and experience across organisational functions and specific job positions. Once labour laws, which are commonly supported by trade-unions at local level, prevent job rotation within firms or across sectors, the development of Intellectual Capital is stopped. The answer in practice is one in which these mobility restrictions are effectively ignored by the firms. Hence, various labour laws related to mobility, rotation and strict job classifications are outdated. As a result, the role and involvement of trade unions is important.
- The size of the firms involved in developing their Intellectual Capital is irrelevant. As education and the speed of learning is essential in developing Intellectual Capital, the Norwegian experience is that smaller firms have a relative advantage over larger firms, given the agility their small size provides them. Hence, Intellectual Capital policy initiatives are likely to produce results earlier when directed at Small- and Medium-sized Enterprises (SMEs). These early results are compounded by the greater importance that sector organisations have in the economic life of SMEs than in the economic life of large enterprises;

- The Project concluded with a proposal on how to disclose information on intangibles, that is, how to develop an intellectual capital report. The MERITUM Guidelines for Managing and Reporting on Intangibles were presented and discussed during the MERITUM final meeting. The need for homogeneous Guidelines is absolutely clear and the results of MERITUM are being used internationally.

The involvement of partners coming from different fields of research (management, accounting, economics of innovation), the different research approaches used by each partner, the richness of the results and the good connectivity between the researchers involved in the Meritum have provided a valuable basis for continuing working together. As a consequence, it was decided to create a Thematic Network on Intangibles: E\*Know-net. The proposal was presented to the STRATA Programme, being finally approved in 2001. The expected starting date is September 2001. The main objective of the network is to exploit the knowledge generated throughout the Meritum project, both in terms of contacts and research results.

Meritum allowed the creation of an operational and well-functioning contact network that is presently acting as a diffusion node of the most recent findings and leading best practices. E\*Know-net pretends to build-up on this existing network, by approaching other research groups in this field in Europe, and in the rest of the world, in order to put together main Centres of Excellence on intangibles. A virtual network between those centres and all interested bodies will be created in order to have continuous interaction.

The number of researchers and practitioners in this area is still very limited. We need to ensure the qualification requirements of the future, by means of increasing the number of Human Resources specialised in this area, and by promoting their mobility. For example, there are very few teaching opportunities in Europe on accounting for intangibles, managing knowledge as a resource at organisational level, and developing learning and design mechanisms for creating truly knowledge-intensive firms. Only some occasional and random course sessions exist, buried deep into postgraduate programmes scattered across Europe. The possibility of a common European training

programme on intangibles needs to be explored by the Network. The opinion of the users in this respect will be essential.

Finally, there is a need to anticipate future issues at stake for Europe in the field of Science and Technology and clearly, a better understanding of knowledge creation, distribution and management processes is a critical issue for future research. We need to explore future research opportunities in this field, in order to contribute to a new research policy agenda, and this can be effectively done through the co-ordination of individual efforts, while allowing for national efforts and the rich variety of approaches within, in order to contribute to a new research agenda. The interaction between research groups and users within the virtual network will provide sound bases to design a meaningful policy agenda.

Both the design of new tools and their massive use are important for policy purposes. Creating a European Research & Communication Arena on intangibles will clearly lead to the European exploitation of previous research efforts at European level in this area made by MERITUM, substantially enhancing the value of individual efforts as well as discussing the implications for Science, Technology and Innovation policy at European level.

## **DISSEMINATION AND EXPLOITATION OF RESULTS**

The partners of the project have been very active disseminating the results throughout the period through papers, publications in international journals, seminars and congresses, a Meritum international workshop as well as active participation in national networks.

### **Publications**

More than a hundred publications have been issued during the project. A complete list of publications is included in the Annex.

### **Conferences**

The following conferences were attended

- Knowledge Management: "Learning-by-comparing" Experiences from Private form and public organisations, OECD High Level Forum, the Danish University of Education, Copenhagen, 8-9 February.
- KNUS, Nyskaping, Kunnskaping og Verdiskaping (Innovation, knowledge development and creation of value) SINTEF, Trondheim 6-7 September (presentation).
- Workshop and Round table discussion on Human Resource Costing and Accounting, 14-16 September Brussels (presentation).
- University of New South Wales, Bi-annual Conference on Control, 1998.
- EIASM (European Institute of Adanced Studies in Management) Workshop on Accounting for Intangibles and the Virtual Organization. Brussels. 12-13 February 1999.
- Swedish Workshop included in the Work Life 2000 series of workshops in preparation for the European Conference in January 2001. To Manage and Account for Intangibles. Brussels. 15-16 February 1999.
- Brookings Institution's Project on "Understanding Intangible Sources of Value". Meeting with the Human Capital subgroup. Washington, March 24<sup>th</sup>, 1999.
- 22<sup>nd</sup> Annual Congress of the European Accounting Association (EAA). Bordeaux, France. 4-6 May, 1999.



- The 2<sup>nd</sup> Intangibles Conference: *Intangibles, Management, Measurement and Organisation*. The Vincent C. Ross Institute of Accounting Research and the Intangibles Research Project at Stern School of Business, New York University, USA. 27-28 May, 1999.
- OECD International Symposium: *Measuring and Reporting Intellectual Capital: Experience, Issues and Prospects*. Organised by the OECD, the Ministries of Economic Affairs and of Education and the Nordic Industrial Fund. Amsterdam, The Netherlands, 9-11 June, 1999.
- Intellectual Capital Workshop, Holmen Fjord, Oslo, 18-20 June 1999
- European Centre for the Development of Vocational Training: *Reporting on Human Capital*. Thessaloniki, Greece. 24-25 June, 1999.
- Summer Course of the Complutense University of Madrid. *Intellectual Capital and Knowledge Management*, El Escorial, Madrid, Spain. 26-28 July, 1999.
- The 15<sup>th</sup> Nordic Conference on Business Studies in Helsinki, Finland. 19-21 August, 1999.
- ANZAM Conference on New Economy, Sidney, 1999.
- AECA (Spanish Association of Accounting and Business Administration) Annual Congress in Zaragoza, Spain. 23 - 25 September, 1999.
- III International Symposium on Management for the New Millenium: Knowledge Societies. Cluster del Conocimiento (Knowledge Cluster). Bilbao, Spain. 30 September – 1 October, 1999.
- Meeting of the Intellect Club, Madrid, Spain. 7 October, 1999.
- Ernst & Young Conference on Intangibles. Boston, USA. 27 – 29 October, 1999.
- Spanish Meeting on Accounting and Financial Economy. Madrid, Spain, 28-30 October, 1999.
- Copenhagen School of Business. Cistema. Mobilising knowledge in technology management. Copenhagen. Octobre 1999.
- V Annual Congress if the Spanish Science, Technology, Economy and Society Research Network. Santiago de Compostela, Spain, 4-6 November, 1999.
- Sevilla MERITUM Meeting, Sevilla, Spain, 27-29 January 2000.
- Technical conference on intellectual capital reporting, the Agency for Development of Trade and Industry, Copenhagen, 23 February 2000.

- IX Jornades de Comptabilitat: Noves Tècniques de valoració i gestió de l'empresa Universitat Rovira e Virgili, Reus, Spain, 23-24 March 2000.
- European Accounting Association 23rd annual congress, Munich, March 29-31 2000.
- IX Meeting of the Spanish Accounting Academic Association, Las Palmas de Gran Canaria, Spain, 24-26 May 2000.
- 2<sup>nd</sup> International POSTI Meeting on *Policies for Sustainable Technological Innovation in the XXIst Century*, Strasbourg, France, 27-28 May, 2000.
- 1<sup>st</sup> International Conference of Knowledge Management and Intellectual Capital. Madrid. 22-24 May 2000.
- Conference on intellectual capital. The Finnish Ministry of Trade and Industry. 12 May, 2000.
- Human resource management – an important factor for European integration. Varna, Bulgaria. 17-19 May, 2000
- NY Stern School of Business Annual Conference on Intangibles, 2000.
- 4<sup>th</sup> International Conference on *Technology Policy and Innovation*, Curitiba, Brazil, 28-30<sup>th</sup> August, 2000
- Summer Course of the Complutense University of Madrid. *Firm Valuation and the Measurement of Intangibles*, El Escorial, Madrid, Spain. September 2000.
- The yearly held Cranet-conference. Uppsala, Sweden. 28-29 September, 2000.
- SINTEF Research Forum. Oslo, Norway, 27-28 September 2000.
- IX AECA encounter on *Information Management and Globalisation in the Knowledge Society*, Ibiza, Spain, 12-15 October, 2000.
- VI Workshop on Financial Analysis of the Spanish Accounting Academic Association, Almería, Spain.
- Creation of Intellectual Capital in the Knowledge-based Economy [*Creación de Capital Intelectual para la economía basada en el conocimiento*], Summer course in Business Valuation and Measurement of Intangibles [*Valoración de Empresas y Medición de Intangibles*], Spanish Association of Accounting and Business Administration (AECA) and Fundación General de la Universidad de Complutense, Euroforum Escorial, San Lorenzo de El Escorial, Spain, September 2000.

- Intellectual Capital, Competence Forum – Norwegian School of Management, Oslo, September 2000.
- Konferens om videnregnskaber (Conference on Intellectual Capital Statements), the Agency for Development of Trade and Industry, Copenhagen, 23 November 2000.
- Annual Congress of Auditing and Financing (Auditoría y Economía Financiera), Madrid, Spain, 28-30 November 2000.
- Intellectual Capital, North-Norwegian Quality Days 2000, Norwegian Association of Quality and Leadership, Hurtigruta, November 2000.
- Work Life 2000 in January 2001, Malmö, Sweden. Organised by the European Commission and The Swedish Government
- Semana Interdepartamental de Contabilidad, Sierra Nevada, Almeria and Granada Univ, February 2001.
- SME Forum on Entrepreneurship for the Future, Växjö, 19-20. March 2001. Organised by the European Commission and The Swedish Government.
- Reunión de la Asociación “Grupo de Opinión Salvador de Madariaga”, Euroforum Escorial, March 2001.
- IV Foro de Empresarios y Estudiantes, Univ. Navarra, Navarra, March 2001.
- Jornadas de Política de I+D+I en Canarias, Dirección General de Universidades e Investigación, Canarias (Spain), March 2001.
- International Seminar on Managing and Reporting on Intangibles. Final MERITUM Meeting, Madrid, March 2001 (see next section for more details).
- Symposium: Management Accounting and Control in Knowledge - Driven Firms (MERITUM Project: University researchers and Company practitioners)). European Accounting Association Annual Conference, Athens, April 2001
- X Jornadas de Contabilidad Financiera, Univ. Rovira i Virgili, Reus (Tarragona), April, 2001.
- Ciclo de Conferencias de la Facultad de Económicas, Univ. Vigo, April 2001.

### **Final conference of the Meritum project**

As it was scheduled, a final Meritum Meeting was organised at the end of the project (Madrid, march 2001). The main objective of the seminar was to discuss and

disseminate the results obtained in the different activities of the project. A variety of users were invited to participate: policy-makers, firms, financial analysts, accounting standard setting bodies, accounting and auditing firms, researchers, etc.

For doing so, the co-ordinators of each activity presented the main outcomes, opening the floor for discussion. A number of practitioners were also invited to share their experience such as José Luis Ripoll, General Director of Airtel Foundation (a Spanish mobile telephone company), Jesús Banegas, President, Information Technology Foundation, Pedro Rivero, Vice-President and General Director of UNESA (Spanish Electrical Utilities entrepreneur association), Francisco Marín, President of Eliop (Spain), Stafann Ivarson, Vice-President Human Resources, Swedbank (Sweden). International experts such as Stephano Zambon (High Expert Group on Intangibles, EU), Baruch Lev (University of New York) and Graham Vickery (OECD) were also invited to comment on the Guidelines for Managing and Reporting on Intangibles.

The main messages from the speakers over the two days that the meeting lasted were basically three:

1. First, the issue of classification and categorisation continues to be highly relevant and, at the same time, should remain an open issue as much as possible. The latter to allow the incorporation of continuous new insights on the issue of intellectual capital and how it plays out in firms.
2. Second, intellectual Capital or intangible assets are relevant in terms of their relationship to value and value creation. We should not overly reduce the issue to one of accounting disclosure, reporting and intellectual capital statement. What is key is to show how intangible assets produce value in the firm and for the firm. This implies a focus on the dynamic aspects of intellectual capital and on the causal relationships it maintains (or creates) with other assets of the firm, i.e., what drives value, how and when?. Similarly, it implies that the unit of analysis is not the accounting item or category but, instead, the processes of value creation. In terms of definitions and classifications, value and value creation provide the denominator for establishing a working language and further terminology around the subject. The focus on value

creation and the ability of firms to create value is of strong interest to the financial and investment community and will, through that link, trigger a subsequent demand for alternative and more adequate forms of information provision.

3. Third, the way forward is a networked way. The business case examples provided in the meeting provide first evidence of how to integrate value-based business models with information provision. These examples need to be extended in their application range and their analytical quality. This can be best accomplished by further deepening and broadening the existing collaboration with firms and other institutions, consisting of both experienced and beginning participants.

#### **Other aspects of dissemination results - Contacts with potential users**

- Supporters: All of them have been informed of the project's development and we keep the commitment to send them our results:
  - OECD
  - AECA, Accounting and Business Administration Spanish Association (Spain)
  - ANIEL, Spanish National Association of Electronic & Telecommunication (Spain)
  - ICAC, Accounting and Auditing Institute (Spain)
  - Financial Analyst Spanish Institute (Spain)
  - Securities and Exchange National Commission (Spain)
  - Technological Innovation COTEC Foundation (Spain)
  - Electrical Utilities Unit (Spain)
  - CEOE, National Confederation of Employers (Spain)
  - COB, Securities and Exchange Commission (France)
  - Accounting National Board (France)
  - The Swedish Ministry of Trade, Industry and Labour. (Sweden)
  - The Swedish Public Relations Association (Sweden)
  - The Swedish Coalition of Service Industries (Sweden)
  - The Swedish Work Life Institute (Sweden)
  - The National Board of Technological Research (Sweden)

- The Swedish Council for Work Life Research (Sweden)
  - The Federation of Swedish Industries (Sweden)
  - The Swedish Central Organization of Salaried Employees (Sweden)
  - NHO, Confederation of Norwegian Business and Industry (Norway)
  - The Research Council of Norway (Norway)
  - The Finnish Work Environmental Fund (Finland)
  - The Federation of The Finnish Enterprises (Finland)
  - The Confederation of Finnish Industry and Employers (Finland)
  - Ministry of Trade and Industry (Finland)
  - Ministry of Labour (Finland)
- Spanish team: A meeting with all the Spanish supporters was organised on the 17<sup>th</sup> of November, 1999. The preliminary results of the different ongoing activities of the project, with special reference to those undertaken in Spain will be presented and discuss among all participants. They were also invited to participate in the final Meeting of the Meritum Project, which took place in Madrid in March 2001. The Spanish team has also disseminated the results of the MERITUM project in post graduated as well as graduated courses in a great number of Spanish universities.
- The Swedish Research Team has maintained continuous contacts with The Swedish Ministry of Trade and Industry; The Swedish Public Relations Association; The Swedish Coalition of Service Industries; The Swedish Work Life Institute; The National Board of Technological Research and The Swedish Council for Work Life Research.
- The Norwegian Research Team has maintained continuous contacts with sector organisations (and their members) of the Graphical Industry, the Newspaper industry and the Weekly Magazine industry, the Norwegian Confederation of Business and Industry and the Norwegian organisations of Engineering industries and of Process and Chemical industries.
- The Finnish Research Team has been regularly in contact with several potential users during the whole project period, most frequently with the Ministry of Trade and Industry, the Confederation of the Finnish Industry and Employers, the Ministry of

Labour and the Finnish Working Environment Fund. They have also been occasionally contacted by the experts that were involved in the Guidelines process. The Finnish research team has also been involved in the so-called NORDIKA project.

- In Denmark, owing to the Meritum project, it has been able to make a follow-up involving approx. 100 companies from seven business sectors.. In addition to the above listed conferences, Per Nikolaj Bukh and Jan Mouritsen have made 'scores of' presentations on executive seminars, MBA courses, etc. From 1998-2000, they made approx. 60 speeches on intellectual capital statements in companies, exchange-of-experience groups, etc. During the period, the project has received press coverage corresponding to 'more than 20 pages in major Danish newspapers'. A conference with 600 participants has been held. 130 enterprises have decided to participate in the project that is going to test and develop guidelines in the year to come. Accountants have made a discussion paper on how to audit an intellectual capital statement. Based on our material, the public sector has also developed a model for intellectual capital statements in local communities and state institutions.

- Knowledge Cluster: The Spanish team has been in contact with an association of companies called Knowledge Cluster placed in the Basque Country. The Knowledge Cluster is an organisation promoted by enterprises which helps the firms to develop their knowledge management. They organise courses, seminars, working sessions with international as well as national experts while providing specific consulting services to the firms.

The Knowledge Cluster is thus, an initiative of the Basque Government together with Basque firms interested in knowledge management. In this sense, they are also very interested in the results obtained by research projects as Meritum. The Meritum research team was part of a working session that took place in Bilbao on the 4<sup>th</sup> of March, together with the JAIST (Japan Advanced Institute of Science and Technology).

During the International Symposium on the Knowledge-base Society that was organised by the Cluster on September 30<sup>th</sup>-October 1<sup>st</sup>, we were invited to make a presentation of our project

▪ Intellect Club: Since 1998 several activities regarding the Intellectual Capital Management emerged in Spain. One of the most outstanding initiatives was the “**Intellect Club**” promoted by a training and research Institute from the Complutense University of Madrid, named Euroforum. They have organised several meetings with firms that have, as a common feature, a strong interest in the measurement and management of their Intellectual Capital. Due to the strong relation between this club’s objectives and those of the Meritum Project, the Spanish team has participated on all the meetings that have taken place. The first meeting took place in May 1998, and the second one in September 1998. They agreed to develop research studies on Intellectual Capital management and valuation in collaboration with the university. In January 1999 the third meeting took place, in which Prof. Amin Rajan - a well recognised expert on this topic - gave a seminar on knowledge creation and exchange. Prof. Rajan is the Chief Executive of the Centre for Research and Employment And Technology in Europe (CREATE). During the meeting which was held in March 1999, a formal presentation of the Meritum Project took place. Most of the firms stressed their interest in collaborating with the project. At the same time, Prof. Debra Amidon, made a presentation on Knowledge Management and Innovation analysis. During the V meeting, in May 1999, Prof. Jagdish Parikh, General Manager of the Lemuir Group in India and President of the Indo European Business Development Centre, discussed the role of Human Resources in Knowledge Management. During the same month an extraordinary meeting was organised in order to present the Society for Organisational Learning (SOL) by Mr. Goran Carsted, General Manager of SOL International. SOL was built under the auspicious of the Masachussets Institute of Technology (MIT) with the main objective of enhancing knowledge and learning in the organisations. Members of the intellect club were invited to join SOL International. Finally, as a result of a join effort between the Intellect Club and the Complutense University of Madrid, a Summer Course on Intellectual Capital and Knowledge Management was organised. Several members of the Meritum Project were invited to present their research results. At present, more than fifty firms are part of this Club. Most of them have started to measure their Intellectual Capital and are willing to discuss their experience with other firms as well as to try to develop new indicators.



**Follow-up of results and future activities**

The main outcome of the Meritum project has been the Guidelines for Managing and Reporting on Intangibles (Intellectual Capital Report). The Guidelines will be published by the Airtel Foundation during this year. Additionally, they will be presented in several meetings such as the 16<sup>th</sup> Nordic Conference on Business Studies. August, 2001 in Uppsala, Sweden, the XI Congress of the Spanish Accounting and Business Administration Association which will take place in September 2001.

During the final meeting of the project, it was decided to launch a book with the main results of the project. The co-ordinators of the project will be in charge of the elaboration of a draft of the content as well as contacts with possible editors.

A web page has been constructed (<http://www.kunne.no/meritum>) containing the description of the project, a list of the partners with contact details as well as a complete list of papers with downloadable abstracts.

As it was mentioned in Section 3, the project allow the detection of some topics that deserve further attention. For this reason, a thematic network on intangibles E\*KNOW\_NET will be created with the funding of the EU under the STRATA programme. The objectives of the network are three-fold: create a network of main research institutes and users on intangibles, exploit the results generated under the MERITUM project, making the model described in the Guidelines available to a greater number of users and discuss future research agenda and training needs.

## **ACKNOWLEDGEMENTS**

It would be impossible to list all institutions and persons that made the MERITUM project as successful as it has been. We would like to thank the time and effort devoted by all the supporters of the project: firms, accounting Standard Setting Bodies, Financial Analysts, Employers Associations and Trade Unions, Policy-makers. Their knowledge and expertise in the management and disclosure of intangibles have been an extremely valuable input for the project.

We are very grateful to Ms. Virginia Vitorino, our Commission Officer, for all the support received during the project.

Finally, we would also like to thank the national funding bodies that gave additional financial support to the project in some of the participant countries.

## **ANNEXES**

### **List of annexes:**

A1. List of papers and documents produced throughout the MERITUM project

A2. List of Conference presentations

A3. List of researchers involved in the project

A4. Guidelines for Measuring and Reporting on Intangibles

## ANNEX 1

**PAPERS AND DOCUMENTS PRODUCED BY THE MERITUM PARTNERS THROUGHOUT THE PROJECT (main ones in bold letters). All finished.**

AHONEN, G. (2000): Generative and Commercially Exploitable Assets. In: J.E. Gröjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, pp. 206-213.

ALMQVIST, R. AND SKOOG, M. (1999) Management Control Transformation – a conceptual approach. School of Business, Stockholm University.

ALMQVIST, R. AND SKOOG, M. (1999) Management Control Transformations – Effects on management control systems and their consequences for organizational structures. School of Business, Stockholm University.

BUKH, P. N. & MOURITSEN, J. (1999) Videnregnskaber. Chapter 7.5 in *Virksomhedens Personalehåndbog*, Karen Baggesen (ed.), Copenhagen: Börsens Förlag.

BUKH, P.N., JOHANSEN, M. R., LARSEN, H. T. AND MOURITSEN, J. (1999) Beskrivelse af Virksomheders videnregnskab. Notat, Afdeling for Virksomhedsledelse, Aarhus Universitet.

BUCK, P. N; LARSEN, H.; MOURITSEN, J. (1999) Developing intellectual capital statements: Lessons from 23 Danish firms. Paper presented at the OECD International Symposium on Measuring and reporting intellectual capital: Experience Issues and Prospects. June 1999.

BUKH, PER NIKOLAJ; PETER GORMSEN,, JAN THORSGAARD OG JAN MOURITSEN. (2000). Videnregnskabet på vej til Børsen. Forthcoming in *Ledelse & Erhvervsøkonomi*.

BUKH, PER NIKOLAJ; PETER GORMSEN, OG JAN MOURITSEN. (2000). Børsprospekters indhold af information om viden. Arbejdsrapport, Department of Management, University of Aarhus. Forthcoming in *Revision & Regnskabsvæsen*.

BUKH, PER NIKOLAJ; PETER GORMSEN OG JAN MOURITSEN. (2000). Investor relations: Økonomistyringens nye arbejdsfelt. *Økonomistyring & Informatik* 16(1):75-79.

BUKH, PER NIKOLAJ; PETER GORMSEN, OG JAN MOURITSEN. (2000). Når viden introduceres på Børsen: Om relevansen af et videnregnskab. Arbejdsrapport, Department of Management, University of Aarhus. *Samfundsøkonomen* 6/2000:27-35

BUKH, PER NIKOLAJ; PETER GORMSEN, OG JAN MOURITSEN. (2000). Investor relations: fra årsregnskab til strategisk kommunikation. Forthcoming in *Virksomhedens Økonomistyring*, Steen Hildebrandt (ed.). København: Börsens Forlag.

BUKH, PER NIKOLAJ; PETER GORMSEN, OG JAN MOURITSEN. (2000). Investor relations: På vej mod en offensiv informationsstrategi. *Finans/Invest.* Vol 6, september, side 4-9.

**BUKH, PER NIKOLAJ ; HEINE T. LARSEN AND JAN MOURITSEN (2000). Constructing intellectual capital statements. Forthcoming in the Special issue of *Scandinavian Journal of Management* dedicated to 15<sup>th</sup> Nordic Conference on Business Studies, Helsinki.**

BUKH, PER NIKOLAJ, JAN MOURITSEN AND HEINE T. LARSEN (2000). Towards a framework for intellectual capital statements. Contribution to the MERITUM report from activity 1 In: J.E. Grøjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, 263-278.

BUKH, PER NIKOLAJ; PETER GORMSEN AND JAN MOURITSEN. (2001). Intellectual capital reports on their way to the stock exchange? Working paper, Department of Accounting, Aarhus School of Business.

BUKH, PER NIKOLAJ OG JAN MOURITSEN. (2001) Preface in *Vækstregnskab – et redskab til vækstledelse*. Herning: BDO ScanRevision.

BUKH, PER NIKOLAJ; PETER GORMSEN, OG JAN MOURITSEN. (2001). Investor relations: fra årsregnskab til strategisk kommunikation. In *Virksomhedens Økonomistyring*, Steen Hildebrandt (ed.). København: Børsens Forlag.

BALLESTER, M., M. GARCÍA-AYUSO AND J. LIVNAT (2000) Estimating the R&D Intangibles. Paper presented at the Meritum Paris meeting, November 9-10.

**CAÑIBANO, L., SÁNCHEZ, P. (1998) Measuring Intangibles to Understand and improve innovation management. A Research Proposal to the TSER Programme. Autonomous University of Madrid.**

CAÑIBANO, L. (1999) La medición de los intangibles: nuevo desafío para la contabilidad en el siglo XXI. *Especial Congreso AECA 1999*, pp. 24-27.

CAÑIBANO, L.; GARCÍA-AYUSO, M. AND SÁNCHEZ, P. (1999) La relevancia de los intangibles para la valoración y gestión de empresas: revisión de la literatura en *Revista Española de Financiación y Contabilidad*, nº 100 extraordinario, pp. 17-88.

CAÑIBANO, L.; GARCÍA-AYUSO, M. AND SÁNCHEZ, P. (1999) La valoración de los intangibles: estudios de innovación versus información contable-financiera in *Análisis Financiero*, nº 80, pp. 6-21.. Reproducido en E. Bueno (Ed.) (2000) *Gestión del Conocimiento y Capital Intelectual: Experiencias en España*. Euroforum Escorial, Madrid, pp.69-81.

CAÑIBANO, L., GARCÍA AYUSO, M., SÁNCHEZ, P., CHAMINADE, C., OLEA, M. AND ESCOBAR, C.G. (1999) Measuring Intangibles. Discussion of Selected

Indicators. A Spanish Case Study. Autonomous University of Madrid, IADE and University of Seville.

**CAÑIBANO, L., M. GARCIA-AYUSO and M.P. SANCHEZ (1999) The Value Relevance and Managerial Implications of Intangibles: A Literature Review. OECD web page: <http://www.oecd.org/dsti/sti/industry/indcomp/act/ams-conf/symposium.htm>. In: J.E. Gröjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, pp. 78-126.**

CAÑIBANO, L., M. GARCIA-AYUSO, M.P. SANCHEZ and M. OLEA(1999) Measuring Intangibles to Understand and Improve Innovation Management. Preliminary results. Paper presented at the OECD International Symposium: Measuring and Reporting Intellectual Capital: Experience, Issues and Prospects. Amsterdam 9-11 June. OECD web page: <http://www.oecd.org/dsti/sti/industry/indcomp/act/ams-conf/symposium.htm>

CAÑIBANO, L., M. GARCIA-AYUSO, M.P. SANCHEZ, C. CHAMINADE, M. OLEA and C.G., ESCOBAR (1999) Measuring Intangibles. Discussion of Selected Indicators. Spanish Case Study. Paper presented at the OECD International Symposium: Measuring and Reporting Intellectual Capital: Experience, Issues and Prospects. Amsterdam 9-11 June. OECD web page: <http://www.oecd.org/dsti/sti/industry/indcomp/act/ams-conf/symposium.htm>

CAÑIBANO, L., M. GARCIA-AYUSO, M.P. SANCHEZ, C. CHAMINADE, M. OLEA y C.G. ESCOBAR (1999) Medición de intangibles. Discusión de los indicadores seleccionados. Estudio de un caso español. Comunicación presentada al X Congreso de la Asociación Española de Contabilidad y Administración de Empresas, Zaragoza 23-25 de septiembre.

CAÑIBANO, L., M. GARCÍA-AYUSO and J. A. RUEDA (2000) Is Accounting Information Loosing Relevance? Some answers from Spain. Paper presented at the 23<sup>rd</sup> Annual Congress of the EAA, Munich, March 29-31.

CAÑIBANO, L., M. P. SÁNCHEZ, M. GARCÍA-AYUSO, C. CHAMINADE, M. OLEA, C. G. ESCOBAR (2000) Medición de los intangibles para comprender y mejorar la gestión de la innovación. Estudios de casos españoles. Comunicación presentada al IX Encuentro de ASEPUC, Las Palmas de Gran Canaria, 24-26 de mayo.

CAÑIBANO, L. (2000) Medición de activos intangibles en la empresa. *Especial Encuentro AECA 2000*, pp.11-13.

CAÑIBANO, L., y M. GARCÍA-AYUSO (2000) El papel de los intangibles en la situación financiera de la empresa. VI Jornada sobre Análisis Contable, ASEPUC. Almería, 6 de octubre.

**CAÑIBANO, L., M. GARCIA-AYUSO and M.P. SANCHEZ (2000) Shortcomings in the measurement of Innovation: Implications for Accounting standard setting. *Journal of Management and Governance*, vol. 4, nº 4, pp 319-342.**

**CAÑIBANO, L., M. GARCÍA-AYUSO and M. P. SÁNCHEZ (2000) Accounting for Intangibles: A Literature Review. *Journal of Accounting Literature*, vol. 19, 2000, pp. 102-130.**

CAÑIBANO, L., M.GARCÍA-AYUSO and J. A. RUEDA (2001) Is Accounting Information Loosing Relevance? Some answers from European Countries. *The European Accounting Review (Forthcoming)*.

CANIBANO, L. (2001) El IASC abre una puerta al reconocimiento de los Intangibles. *Revista AECA*, nº 54, enero-abril, pp.18-20.

CANIBANO, L. and M.P. Sanchez (2001) Gestión e Información sobre Intangibles: Directrices. Paper presented at the XI AECA Congress, Madrid 26-28 September.

CATASUS, BINO (2000) The labor of division – classifications in the making. In: J.E. Gröjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, pp. 174-196

CATASÚS, B. AND GRÖJER, J-E. (2001) Intangibles and Credit Decisions - results from a field experiment, School of Business, Stockholm University (working paper)

CHAMINADE, C. (1999) Measuring Intangibles. A second exploratory case study. Autonomous University of Madrid.

EKLÖV, G. (2000) Intangible assets – the auditability viewpoint. In: J.E. Gröjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, pp. 214-262

**ERONEN, ANNE (1999) *Henkilöstöinformaatio ja yrityksen arvo (Human Resource Information and the Value of the Firm)*. The Research Institute of the Finnish Economy ETLA, Series B 149, Helsinki. (in Finnish with English summary)**

ERONEN, ANNE (1999) *Classification of Intangibles – Some Comments*. The Research Institute of the Finnish Economy ETLA, Discussion papers Nro 687, Helsinki.

ESCOBAR, C.G. (1999) The Delphi Method: an instrument of validation of the guidelines for measuring and diffusion of intangibles in Europe. Paper presented at the Meritum meeting. HEC, Paris 27-28 September.

ESCOBAR, C.G. (2001) Validación de las Directrices para la gestión e información sobre Intangibles a través del método Delphi. Paper presented at the XI AECA Congress, Madrid 26-28 September.

ESCOBAR, B., M. GARCÍA-AYUSO AND J.A. PÉREZ (2000) Financial Accounting and Reporting in Extractive Industries: Evidence from Spanish oil Companies. *Petroleum Accounting and Financial Management Journal*, Vol. 19, n. 2, pp. 1-11.

GARCIA-AYUSO, M. (1999) La relevancia de los intangibles para la valoración de la empresa. Comunicación presentada al Congreso Nacional de Auditoría y Economía Financiera. Madrid 28-30 de noviembre

GARCIA-AYUSO M. (1999) The decreasing value relevance of Accounting Information. Paper presented at the MERITUM meeting. HEC, Paris 27-28 September

**GARCÍA-AYUSO, M., I. MORENO AND G.J. SIERRA MOLINA (2000), Fundamental Analysis and Human Capital: Empirical Evidence on the Relationship between the Quality of Human Resources and Fundamental Accounting Variables. *Journal of Human Resources, Costing and Accounting*, Vol. 5, n.1, pp. 45-57.**

GARCÍA-AYUSO, M., M.BALLESTER and J. LIVNAT (2000) Another look at the relevance of R& D for firm valuation. Paper presented at the Meritum Sevilla meeting, January 27-29.

GARCÍA-AYUSO, M., M.P. SANCHEZ (2001) On the Need to Measure Intangibles to Improve the Efficiency and Effectiveness of Benchmarking-Based Policy Making. Paper to be presented at the meeting “The contribution of European socio-economic research to the benchmarking of RTD policies in Europe”. Brussels, March 15-16, 2001

GORMSEN, PETER; PER NIKOLAJ BUKH, JAN MOURITSEN. (2000). Når viden introduceres på børsen, side 17-18 i *Videnregnskaber: på vej mod en guideline*, København: Erhvervsfremme Styrelsen.

GRÖJER, J.E. AND JOHANSON, U. (1999) Voluntary guidelines on the disclosure of intangibles: A bridge over troubled water? The Swedish Work Life Institute.

GRÖJER, J.E. & JOHANSON, U. (1999) Human Resource Costing and accounting – Time for reporting regulation. School of Business, Stockholm University.

GRÖJER, J.E. & JOHANSON, U. (2000) (Forthcoming) Accounting for intangibles at the accounting court. School of Business, Stockholm University.

**GRÖJER, J.E. AND H. STOLOWY (Eds) (2000) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France.**

GRÖJER, J.E. (2000) Intangibles and accounting classifications: in search of a classification strategy. In: J.E. Gröjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, 150-174

**HUSSI, TOMI (2001), *Aineettoman varallisuuden johtaminen (Managing Intangible Assets)*. The Research Institute of the Finnish Economy ETLA, Helsinki. Manuscript.**

JENY A. AND LÖNING H. (2000) How companies manage and measure intangibles - A survey of French practices. Paper presented to the 23rd Annual Congress of the European Accounting Association, March 2000, Munich, Germany.



**JOHANSON, U. (2000) Human Resource Accounting. Putting a Price on Human Assets. Chapter 8 in Brewster, C and Holt Larsen, H. (Editors) *Human Resource Management in Northern Europe*. Blackwell. Pages170-195**

JOHANSON, U. (2000) The establishment of routines for measuring and reporting human resources. Work in progress.

JOHANSON, U. (2000) Characteristics of Intangibles – proposals generated from literature and experienced Swedish firms. In: J.E. Gröjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, pp 56-77

JOHANSON, U., MÅRTENSSON, M. AND SKOOG, M. (2000) Mobilizing change through the management control of intangibles. School of Business, Stockholm University.

JOHANSON, U., MÅRTENSSON, M. AND SKOOG, M.(2001) (Forthcoming) Measuring to understand intangible performance drivers. .

**JOHANSON, U., MÅRTENSSON, M. AND SKOOG, M.(2001) Mobilising change through the management control of intangibles. *Accounting, Organization and Society*. (Forthcoming)**

JOHANSON, U. AND SKOOG, M (2001) *Att mäta och styra verksamheten - modeller med fokus på icke-materiella resurser. (Management control focusing intangibles)*. Uppsala Publishing House.

LARSEN, HEINE T.; JAN MOURITSEN AND PER NIKOLAJ BUKH. (1999). Intellectual capital statements and knowledge management: Measuring, reporting and acting. *Australian Accounting Review* 9(3):15-26.

LARSEN, HEINE T.; PER NIKOLAJ BUKH AND JAN MOURITSEN. (2000). Towards a guideline for intellectual capital statements, Danish Agency for Trade and Industry, February 2000.

LARSEN, HEINE T.; PER NIKOLAJ BUKH AND JAN MOURITSEN. (2000) The logic of intellectual capital statements, Danish Agency for Trade and Industry, February 2000.

LARSEN, HEINE T.; PER NIKOLAJ BUKH AND JAN MOURITSEN. (2000). Om at sætte strategi i tal: Balanceret rapportering vs. videnregnskab. *Økonomistyring & Informatik*. 16(1):15-45.

MÅRTENSSON, M. (1999) *Knowledge Management kunskapsarkivering eller kunskapsaktivering?* Sveriges Tekniska Attachéers Yearbook. Ed. Nilsson, L-L. Nordisk Bokindustri AB, Stockholm.

**MÅRTENSSON, M. (2000) A Critical Review of Knowledge Management as a Management Tool. Accepted for publication in *Journal of Intellectual Capital*.**

MARTENSSON, M. (2000) Reflections upon a literature review on knowledge management. In: J.E. Gröjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, pp. 127- 147

MÅRTENSSON, M. & HOLMGREN, M. (2000) Equal och Knowledge Management. Kan Knowledge Management bidra till ökad mångfald i samhället? A report for the national labour market board in Sweden.

MÅRTENSSON, M. (2000) Att beskriva 1990-talets forskning om lärande och kompetens - en utmaning. A report for the Swedish council for work life research.

MOURITSEN, J., LARSEN, H. T. AND BUKH, P.N. (1999) Intellectual Capital in the making: Narrating, visualizing and digitizing the 'capable firm'. Paper presented at the EIASM Workshop on Intellectual Capital, Brussels, 12-13 February 1999, and at the OECD Symposium Measuring and Reporting Intellectual Capital, 9-11 June 1999.

MOURITSEN, J., LARSEN, H. T. AND BUKH, P.N. (1999) Working Intellectual Capital Classifications: the digit and the model. MERITUM working paper, 27-28 September 1999.

MOURITSEN, J., LARSEN, H.T. AND BUKH, P.N. (1999) Developing Intellectual Capital Statements: Lessons from 23 Danish Firms. Copenhagen Business School

MOURITSEN, JAN; HEINE T. LARSEN PER NIKOLAJ BUKH AND METTE ROSENKRANDS JOHANSEN. (2000). Reading an Intellectual Capital Statement: The case of Systematic Software Engineering. Working paper, Department of Operations Management, Copenhagen Business School. Submitted for publication.

MOURITSEN, J. ET AL. (2000) Development of Guidelines for Intellectual Capital Statements. London Meritum meeting. May

MOURITSEN, JAN, HEINE T. LARSEN AND PER NIKOLAJ BUKH.(2001). Valuing Intellectual Capital the Future: Intellectual Capital Supplements at Skandia. Working paper, Copenhagen Business School.

**MOURITSEN, JAN, HEINE T. LARSEN AND PER NIKOLAJ BUKH. (2001). Intellectual Capital and the 'Capable Firm': Narrating, Visualising and Numbering for Managing Knowledge. Forthcoming in *Accounting, Organisations and Society***

**MOURITSEN, JAN; PER NIKOLAJ BUKH AND HEINE T. LARSEN. (2000). Guideline for videnregnskaber – en nøgle til videnledelse. (In Danish: Guideline for Intellectual Capital Reporting) København: Agency for Trade and Development.**

MOURITSEN, JAN; PER NIKOLAJ BUKH AND HEINE T. LARSEN. (2000). Videnregnskabet elementer: På vej mod en guideline. In *Teori & Praksis*:

*Skandinaviske perspektiver på ledelse og økonomistyring*, Steen Jönsson og Bøje Larsen (eds.). København: Jurist- og Økonomforbundets Forlag.

ROBERTS, H., (1998) Management Accounting and Control Systems in the Knowledge-intensive Firm. Paper presented to the 21st Annual Congress of the European Accounting Association, April 1998, Antwerp, Belgium.

**ROBERTS, H. & LOVDAL, H. (1999) Norway: Competence capital. Paper presented at the OECD Symposium Measuring and Reporting Intellectual Capital, 9-11 June, Amsterdam, Holland.**

ROBERTS, H. (1999) The Control of Intangibles in the Knowledge-intensive Firm. Paper presented to the 22<sup>nd</sup> Annual Congress of the European Accounting Association, Bordeaux, 1999.

ROBERTS, H. (2000) Classification of intellectual capital. In: J.E. Grøjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, pp. 197-205

ROBERTS, H. and P. BERTHLING-HANSEN (2000) Ready for Intellectual Capital? A multiple case study of 25 firms in the Norwegian graphical, newspaper and magazine industries. Paper presented to the 23d Annual Congress of the European Accounting Association, March 2000, Munchen, Germany.-

ROBERTS, H., (2001) Intellektuell Kapital: bedriftens usynlige verdier [Intellectual Capital: the firm's invisible values], brochure published by the Norwegian Confederation of Trade and Service Industry (HSH)/ the Confederation of Norwegian Business and Industry (NHO)/ the Norwegian Research Council (NFR)/Norwegian Industrial and Development Fund (SND)/ The Confederation of Finnish Industry and Employers (TT)/ The Danish Agency for Trade and Industry (EFS), January 2001.

ROBERTS, H. (2001) Intellectual capital at the *Den norske Bank* group, In: T.C.M.L. Groot and K. Lukka (Eds.), *Cases in Management Accounting: Current practices in European companies*, Pearson, pp. 352-367.

SALMENPERÄ,M., AHONEN,G., ENGESTRÖM, Y., HAUKIRAUMA,H., JUUTI,P., KEVÄTSALO,K., KOHTANEN,J., PELTOLA,P., TERVAHARTIALA,T., TIAINEN,P.AND PEKKOLA,J. (2000): From Information Society to Knowledge-Based Society Employment by Innovation. Final Report of the Knowledge Society Team. Ministry of Labour, Helsinki. ISBN 951-735-524-6

SÁNCHEZ, M. P., AND CHAMINADE, C. (1999). Case study research. Application to the analysis of intangibles. Paper presented at the V RICTES Congress. Santiago de Compostella. November 4-6.

SANCHEZ, M. P. (2000) The design of a European Innovation Policy: Issues and problems. Paper prepared for the project "Innovation policy in a knowledge-based economy" published by the European Commission, EUR 17023, June 2000. [www.cordis.lu/innovation-smes/src/studies.htm](http://www.cordis.lu/innovation-smes/src/studies.htm).

SANCHEZ, M.P., ESCOBAR, C.G. (2000) The Delphi method as a validation tool for the Guidelines for the measurement and management of intangibles. Paper presented at the Meritum Sevilla Meeting. January 27-29, 2000.

SANCHEZ, M.P. and C. CHAMINADE (1999) Case study Research. Application to the Analysis of Intangibles. Paper presented at the V RICTES Congress. Santiago de Compostela. November 4-6

SÁNCHEZ, M. P., L. CAÑIBANO, M. GARCÍA-AYUSO, C.CHAMINADE, C.G. ESCOBAR, R. PACHECO (2000) Guidelines for the measurement and disclosure of intangibles. Paper presented at the Meritum Sevilla meeting, January 27-29.

**SÁNCHEZ, M. P., C.CHAMINADE and M.OLEA (2000) Management of Intangibles: an attempt to build a theory. *Journal of Intellectual Capital* ,vol. 1, n° 4, pp.312-328.**

SÁNCHEZ, M. P., C. CHAMINADE and C. G. ESCOBAR (2000) En busca de una teoría sobre la medición y gestión de los intangibles en la empresa: una aproximación metodológica. *Ekonomiaz, Revista Vasca de Economía*, n° 45, pp.148- 213.

**SÁNCHEZ, M.P. et al. (2001) Guidelines for Managing and Reporting on Intangibles (Intellectual Capital Report). IADE, Autonomous University of Madrid.**

STOLOWY H. AND JENY A. (1999) How accounting standards approach and classify intangibles - An international survey. Paper presented to the 22nd Annual Congress of the European Accounting Association, May, Bordeaux, France.

STOLOWY, H. AND JENY, A. (2000) Enhancing Knowledge of accounting standards on intangibles – A useful step to improve innovation measurement and reporting. In: J.E. Gröjer and H Stolowy (Eds) *Classification of Intangibles*. Groupe HEC, Jouy-en Josas, France, pp. 4-42

STOLOWY, H.; A. HALLER AND V. KLOCKHAUS (2001) La comptabilisation des marques en France, en Allemagne et selon les règles de l'IASC. *Comptabilité - Contrôle - Audit*, tome 7, volume 1, mars, pp. 41-60.

STOLOWY, H.; A. HALLER AND V. KLOCKHAUS (2001) Accounting for Brands in France and Germany compared with IAS 38 (Intangible Assets) – An Illustration of the Difficulty of International Harmonization. *The International Journal of Accounting*, forthcoming, vol. 36, n° 2, june.

## ANNEX 2

### LIST OF CONFERENCE PRESENTATIONS (Only main ones listed)

- Cañibano, L. (1999) *La medición de los intangibles: nuevo desafío para la contabilidad del siglo XXI*. Autonomous University of Madrid, IADE
- Cañibano, L.; García-Ayuso (2000) *The Role of Intangibles in the Analysis of the Financial Position of the Firm*.
- Cañibano, L, Sánchez, P., García Ayuso, M, Olea, M, (1999) *Measuring Intangibles to Understand and Improve Innovation Management: preliminary results*. IADE, Universidad Autónoma de Madrid-Univ. de Sevilla.
- Cañibano, L.; García-Ayuso, M.; Rueda, A. (2000) *Is accounting information losing relevance? Some answers from Spain*.
- Cañibano, L.; García-Ayuso, M. and Sánchez, P. (1999) *The valuation of Intangibles: Innovation studies vs Financial Accounting Information*.
- Cañibano, L; Sánchez, P.; García-Ayuso, M. (\*) (1999) *The value relevance and managerial implications of intangibles: a literature review*. Autonomous University of Madrid, IADE and (\*) University of Seville.
- Cañibano, L., García-Ayuso, M. (\*), Sánchez, P., Chaminade, C., Olea, M., and Escobar, C.G. (1999): *Measuring Intangibles. Discussion of Selected Indicators. A Spanish Case Study*. Autonomous University of Madrid, IADE and (\*) University of Seville.
- Cañibano, L., Sánchez, M.P, García-Ayuso, M., Chaminade, C. Olea, M., Escobar, C.G. (1999) *Measuring Intangibles to Understand and Improve Innovation Management. Results of Three Spanish Exploratory Case Studies*.
- Cañibano, L., Sánchez, M.P, García-Ayuso, M., Chaminade, C. Olea, M., Escobar, C.G. (2000) *Medición de los intangibles para comprender y mejorar la gestión de la innovación. Estudios de casos españoles*
- Chaminade, C (2000) *La sociedad del conocimiento y su impacto en la empresa: la medición y gestión de los intangibles*.
- Eklöv Gunilla (2000); *Intangible assets - the auditability viewpoint*.
- García-Ayuso, M. (1999) *La relevancia de los intangibles para la valoración de la empresa*. University of Seville.

- García-Ayuso, M. (1999) *La relevancia de los intangibles para la valoración de la empresa.*
- García Ayuso, M; Ballester, M; LIVNAT, J (2000) *Another look at the relevance of R&D for firm valuation.*
- Gröjer, Jan-Erik.(1999) A Classification Perspective: How can intangibles be classified to promote understanding and control for both internal and external purposes?
- Gröjer, J.E. and Johanson, U. (2001) Human Resource Costing and Accounting – Time for reporting regulation? *Arbetslivsinstitutet: Work Life 2000. Scientific reports from the workshops. A European Presidency Conference January 2001.* Pp 117-126.
- Gröjer, J.E. and Johanson, U. (2001) Voluntary guidelines on the disclosure of intangibles: A bridge over troubled water? *Arbetslivsinstitutet: Work Life 2000. Scientific reports from the workshops. A European Presidency Conference January 2001.* Pp 127-137.
- Gröjer, J.E. and Johanson, U. (2001) Accounting for intangibles at the accounting court. Work in progress. Stockholm University.
- Johanson, U, (2000) Characteristics of intangibles - proposals generated from literature and experienced Swedish firms. In *Classification of intangibles.* Eds Jan-Erik Gröjer och Hervé Stolowy. HEC School of Management, Paris, pp 56-77
- Johanson, U. (1999) Human Capital Reporting: Experiences and proposals to be discussed at the “Agora”. *Cedefop, Thessaloniki.*
- Johanson, U. (2000) The establishment of routines for measuring and reporting human resources. Work in progress. Stockholm University.
- Johanson, U. och Skoog, M. (2001) The relevance of measuring and reporting intangibles in small and medium sized enterprises. Paper presenterad at the EU-conferens in Växjö, March 2001 "Entrepreneurship in SME's" and at the Human Resources Global management Conference in Barcelona in June, 2001.
- Johanson, U.; Mårtensson, M. och Skoog, M. (2001) Mobilising change by means of the management control of intangibles. Forthcomming in *Accounting, Organisation and Society.*
- Johanson, U.; Mårtensson, M. och Skoog, M. (2001) Measuring to understand intangible performance drivers. Forthcomming in *European Accounting Review*

- Johanson, U.; Eklöv, G.; Holmgren, M. och Mårtensson, M. (1999) Human Resource Costing and Accounting versus the Balanced Scorecard. A literature survey of experience with the concepts. A report to the OECD. <http://www.oecd.org/dsti/sti/industry/indcomp/act/ams-conf/symposium.htm>.
- Karjalainen, Kristiina (2000): In Search of the Driving-Value of Intangibles for the Company's Financial Performance.
- Mouritsen, J. Larsen, H., Buck, P. (1999) *Developing Intellectual Capital Statements: Lessons from 23 Danish Firms*. Copenhagen Business School.
- Roberts, H. (1999) *Intellectual Capital: Organising and Measuring*. Norwegian School of Business.
- Roberts, H. (1999) *The control of intangibles in the knowledge-intensive firm*. Norwegian School of Business.
- Roberts, H., Lovdal, H. (1999) *Norway: Competence capital*, Norwegian School of Management.
- Sánchez, M.P, Chaminade, C. (1999) *Case Study Research: Application to the Analysis of Intangibles*.
- Sánchez, M.P.; Cañibano, L.; García-Ayuso, M.; Chaminade, C.; Olea, M.; Escobar, C.G.; Pacheco, R. (2000) *Guidelines for the measurement and disclosure of intangibles*.
- Sánchez, M.P.; Escobar, C.G. (2000) *The Delphi Method as a validation tool of the intangible measurement and disclosure guidelines*.
- Stolowy, H. ; Jeny, A. (1999) *How accounting standards approach and classify intangibles. An international survey*.

### ANNEX 3

#### LIST OF RESEARCHERS INVOLVED IN THE PROJECT

##### **1. France:**

Researchers: Hervé Stolowy and H  l  ne L  ning

Assistant Researcher: Anne Jeny-Cazaban

##### **2. Denmark:**

Researchers: Jan Mouritsen and Per Nikolaj D. Bukh;

Assistant Researcher: Heine Thorsgaard Larsen.

##### **3. Finland:**

Researchers: Guy Ahonen; Rita Asplund;

Assistant Researchers: Tomi Hussi, Anne Eronen; Kristiina Karjalainen; Stefan Lee; Anton Lounasheimo

##### **4. Norway:**

Researcher: Hanno Roberts

##### **5. Sweden:**

Researchers: Ulf Johanson (Co-ordinator Activity 2: Management Control Study) and Jan-Erik Gr  jer (Co-ordinator Activity 1: Classification of Intangibles)

Assistant Researchers: Matti Skoog, Maria M  rtensson, Bo Hansson, Bino Catusus, Sofia Hagberg, Gunilla Ekl  v

##### **6. Spain:**

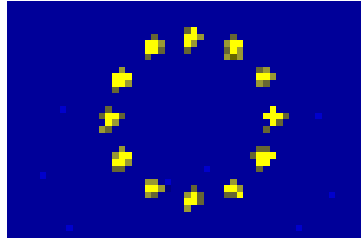
Researchers: Leandro Ca  nibano (Director), M. Paloma S  nchez (Co-ordinator Activity 4: Guidelines), Manuel Garc  a-Ayuso (Co-ordinator Activity 3: Capital Market Study), Cristina Chaminade

Assistant Researchers: Carmen G. Escobar, Marta Olea, Rosario Pacheco, Susana Elena, Elvira Guerra



ANNEX 4

M  
E  
R  
I  
T  
U  
M



“GUIDELINES FOR MANAGING AND  
REPORTING ON INTANGIBLES  
(INTELLECTUAL CAPITAL REPORT)”

P  
R  
O  
J  
E  
C  
T

June 2001

## **GUIDELINES FOR MANAGING AND REPORTING ON INTANGIBLES (INTELLECTUAL CAPITAL REPORT)<sup>6</sup>**

### **Abstract**

Two main arguments justify the development of a set of Guidelines for the management and disclosure of information on intangibles.

First, there is presently no common international framework for the identification and measurement of intangibles. At best, scattered efforts around the world exist. The absence of such an integrated and common framework affects the comparability of the disclosed information and, as a result, hampers the efficient allocation of resources.

Second, financial statements are not capturing the full value of the firm as this value stretches beyond the mere financial resource and includes, among other things, the knowledge resource and the human resource. Thus, new reporting formats are required to disclose information on the intellectual capital of the firm.

These Guidelines attempt to provide a common framework for the measurement and management of intangibles as well as to suggest criteria for the disclosure of information on the intangible determinants of the value of the firm.

This document is addressed both to firms in the initial stages of the design and implementation of an Intellectual Capital Management System (ICMS) and to firms with some previous experience, who are concerned about the external disclosure of the information on intellectual capital they already use for internal purposes.

The document attempts to guide initiating firms in the process of developing their ability to identify, manage and value their intangible assets. To start with, a set of definitions on intangible resources and intangible activities is provided; it is integrated with a classification used for the proposed intangible management system (human capital, structural capital and relational capital). Based on the experience of best practices firms, a model for the measurement and management of intangibles is suggested, which covers three different phases: identification, measurement and monitoring of intangibles.

**For experienced firms with an existing ICMS that are interested in the disclosure of information on intangibles, the Guidelines contain information on the structure and contents of Intellectual (Intangible) Capital Statements (ICS). Three different parts are considered to be included in that document: A) Vision of the firm, B) a Summary of Intangible Resources and Activities and C) a System of Indicators.**

---

<sup>6</sup> These Guidelines are an outcome of the Meritum Project funded by the European Union within the framework of the TSER Programme, in which researchers from the following institutions have been involved: Copenhagen Business School (Denmark), the Research Institute of the Finnish Economy and the Swedish School of Economics and Business Administration (Finland), Groupe HEC (France), Norwegian School of Management (Norway), IADE-Autonomous University of Madrid and the University of Seville (Spain - Coordinator), and Stockholm University (Sweden).

**CONTENTS**

	<b>Page</b>
<b>Outline of the document</b>	<b>3</b>
<b>1. Introduction</b>	<b>4</b>
<b>2. The need for Guidelines</b>	<b>5</b>
<b>3. Conceptual Framework</b>	<b>6</b>
<b>3.0. Intangibles</b>	<b>6</b>
<b>3.0. Intellectual Capital</b>	<b>7</b>
<b>3.0. Intangible Resources and Intangible Activities</b>	<b>8</b>
<b>3.0. Management of Intellectual Capital and Intellectual Capital Statements</b>	<b>10</b>
<b>4. Management of Intellectual Capital</b>	<b>11</b>
<b>4.1. Phase 1. Identification of intangibles</b>	<b>11</b>
<b>4.2. Phase 2. Measurement</b>	<b>14</b>
<b>4.3. Phase 3. Monitoring</b>	<b>17</b>
<b>5. The Intellectual Capital Statements</b>	<b>19</b>
<b>5.1. Vision of the firm</b>	<b>21</b>
<b>5.2. The summary of intangible resources and activities</b>	<b>22</b>
<b>5.3. The system of indicators</b>	<b>23</b>
<b>6. Some practical issues related to the preparation of Intellectual Capital Statements</b>	<b>24</b>
<b>6.1. How to collect the information</b>	<b>24</b>
<b>6.2. Who should prepare the information inside the company</b>	<b>24</b>
<b>6.3. Frequency of reporting</b>	<b>25</b>
<b>7. References</b>	<b>26</b>

## 1. Introduction

1. There is no doubt that the world is rapidly moving towards a knowledge-based economy in which traditional accounting measures are losing relevance. The common denominator of the changes registered in the last decades is a shift from an economy primarily driven by the management of tangible resources (equipment, machinery, buildings, ...) to an economy in which transformations and growth are determined by intangible resources and activities (knowledge, technology, competencies, abilities to innovate....).
2. Although there is no clear and unique definition of the so-called knowledge-based or knowledge-driven economy, it can be understood as the outcome of a set of structural changes: first, knowledge is increasingly considered as a commodity and, as such, is subject to economic transactions; second, the degree of connectivity among knowledge agents has increased dramatically; third, Information and Communication Technologies (ICT) are considered as the main vehicle for knowledge diffusion, facilitating the emergence and development of new and intensive global networks of knowledge agents (Cowan & Van de Paal, 2000).
3. Knowledge is a resource that not only provides competitive advantage, but also needs to be visualised, measured and managed, through intellectual capital accounts and IC-indicators while addressing the appropriate locations and methods for visualisation. There is a need to value knowledge stocks and flows; both at national and at firm level. The adequate measurement of the acquisition, production, and use of knowledge is essential. In the words of Anne Carter (1996), when measuring knowledge "we are not even wrong". Although some attempts have been made so far, there is still a long way to go.
4. **The transition towards a knowledge-based economy is changing the business model (Goldfinger, 1997). A closer examination of the multiple sources of knowledge creation has revealed that the knowledge base on which innovating firms found their activities has become broader and more complex. Notably, their knowledge base now includes intangible assets that were previously not recognised as competitive resources. These intangible assets refer to the skills of an organisation's human capital and the information needed to make those skills function. The latter implies that organisations operating in a knowledge society are requiring strong relations with their environment in order to acquire and share essential knowledge.**
5. The mismeasurement of knowledge, based on a rapidly outdated industrial model of resource definitions, may lead to an inefficient allocation of financial and human resources. As it was stated by the European Commission in the report *Towards a European Research Area*, "the European financial market has not yet sufficiently discovered the economic value of investment in knowledge" (European Commission, 2000, p. 7). This is partly due to the fact that the information provided by the companies to the financial markets is primarily based on traditional tangible

investments in fixed assets, whereas value is more and more relying on investments in intangible assets.

6. Efforts are needed both to provide information on how knowledge is produced and accumulated, and on how knowledge can be transformed into profits. To this extent, the generalisation of good practices in the management of intangibles needs to be encouraged. New common procedures, documents, routines, etc. should be provided in order to improve the informative capacity of the firm's financial statements. This is the main purpose of these Guidelines for Managing and Reporting on Intangibles (hereafter, Guidelines).
7. The Guidelines presented in this document are the result of a long process, which started with a reflection on the economic nature of intangibles and a discussion of their definition and classification, then continued with the analysis of the current measurement, management and disclosure practices, and concluded with a test of the validity of the Guidelines by means of a Delphi analysis<sup>7</sup>.
8. Finally, it is important to stress that these Guidelines attempt to provide a broad framework for the management and disclosure of information on intangibles. Further work is needed in order to translate these Guidelines into a more detailed and specific Guide such as a checklist or a general sample of a firm going through the entire process, from visualization till monitoring<sup>8</sup>.

## 2. The need for Guidelines

9. As stated above, the production, diffusion and use of technology and information are key to economic activity and sustainable growth. This is, of course, not new, but the role of the knowledge resource as compared to the role of the classic natural resources, physical capital and low-skilled labour, has taken on greater importance.
10. As a result, the drivers of value creation have changed. Most of them are intangible in their nature and their identification and measurement is as crucial as they are difficult to observe. These intangible value drivers are fundamental determinants of productivity gains, profitability, and, in sum, companies' growth.
11. Despite the growing importance of intangibles as a source of sustainable competitive advantage, information on intangibles is scarce, both on national statistical level and on corporate financial reporting level. The latter is particularly worrying since users of financial statements will have great difficulty in assessing and evaluating the intangibles that are behind the competitive position of the company and are actually its main source of value creation. Financial statements are becoming less explanatory because the criteria used for the measurement and

---

<sup>7</sup> We gratefully acknowledge the experts who have been engaged in the Delphi, and generously gave their time to provide comments and suggestions that have been a significant added value to the whole process.

<sup>8</sup> This will be the focus of the E\*KNOW-NET Project, a thematic network on intangibles, funded by the European Commission under the STRATA programme, that will start in May 2001

valuation of intangibles are based on premises that are no longer consistent with the current characteristics of the knowledge economy described earlier.

12. Over the last few years, different companies have made substantial progress in identifying and measuring their intangibles as well as in disclosing them in their financial reports and other publications. However, that process has been heterogeneous and the results of those measurements are neither comparable nor verifiable.
13. Therefore, a common international framework for measuring and reporting information on today's key value drivers is needed. One solution to generate this common international effort is to formulate and agree upon a set of guidelines. These guidelines are as yet not meant to change accounting standards. As is broadly accepted (OECD, 1999), changes in those standards may be needed in the future but, for the moment, the measuring and reporting effort should be a trial process adhered to on a voluntary basis.
14. The main objective of the Guidelines is to describe the process for the identification of intangibles within the company. This presupposes the existence of a common conceptual framework, the description of the process of identification of critical intangibles as well as the main properties of the indicators to be used, and, as such, are included as subjacent objectives of the Guidelines. Similarly, the Guidelines are to provide practical guidance on how to prepare homogeneous Intellectual Capital Reports.
15. The supporting arguments for a set of Guidelines on the measurement and disclosure of information on intangibles span a wide scale. First, the use of a set of Guidelines facilitates the comparability of the information on intangibles, throughout time and across companies. Second, the Guidelines help firms to develop their system for the measurement and management of intangibles in a more systematic and structured way. Finally, the use of a set of Guidelines increases the social awareness of this type of tools, thus increasing a general acceptance of Intellectual Capital management<sup>9</sup>

### 3. Conceptual Framework

16. **Formulating a set of guidelines requires a framework that allows understanding and classifying intangibles. We are now witnessing an unprecedented increase in the use of the terms *intangibles, intellectual capital or knowledge* with a variety of applications. For this reason it is essential to agree on common definitions.**
17. Both terms, Intangibles and Intellectual Capital, are equally used to refer to the same set of concepts. Both are applied to non-physical sources of future economic benefits that may or may not appear in corporate financial reports. However, both

---

<sup>9</sup> We assume the terms 'intangible assets' and 'intellectual capital' (IC) to be similar concepts and use, therefore, the terms interchangeably throughout this document. More on the movement why we do this can be found in paragraphs 17 through 27

concepts tend to be used differently: “Intangibles” is an accounting term, whereas the term “intellectual capital” was coined in the human resources literature (Vickery, 1999)

### 3.1. Intangibles

18. There is no broadly accepted definition of “intangibles”. It is actually an adjective that goes along with different concepts, such as assets, activities, resources, etc. However, the adjective is often used as a noun, and this is good proof of the significant difficulties that exist when trying to determine a correct qualification (Cañibano and Sánchez, 1998).
19. **Nevertheless, the wide variety of definitions of Intangibles that can be found in the literature have some features in common (Cañibano, Garcia-Ayuso and Sanchez, 2000a). They are generally defined as non-monetary sources of probable future economic profits, lacking physical substance, controlled, or at least influenced, by a firm as a result of previous events and transactions (self-production, purchase or any other type of acquisition) and may or may not be sold separately from other corporate assets.**
20. Essentially, the economic notion of intangibles does not differ significantly from the accounting definition presented above. However, from the perspective of Financial Accounting, the crucial aspect of intangible assets is to elucidate whether the corresponding acquisition or production costs can be recognised as an asset in the balance sheet or, alternatively, must be charged as an expense in the profit-and-loss account. To be recognised as an asset, an item must fulfil several restrictive requirements; notably, it must have a reliably measurable relevant attribute and be *separable*. As a consequence, there is a great variety of intangible investments that may be considered as assets according from an economic point of view, but may not be recognised as such in the balance sheet in view of current financial accounting standards in most countries.
21. Items recognised as Intangible Assets are presented in the balance sheet with further information disclosed in the financial statement’s footnotes. However, there are no complementary explanations provided on intangible expenses directly charged to the profit-and-loss account. Financial Reporting users, thus, have an incomplete picture of the amount of intangibles owned or controlled by the corresponding company. They only observe the intangible assets that fulfil the accounting criteria for asset recognition. Moreover, there may be intangible liabilities that are not reflected in the annual accounts either by means of allowances or in the notes to the financial statements (Caddy, 2000, and Harvey and Lusch, 1999).
22. Some examples of intangible assets can be found on the company balance sheet: copy rights, franchises, patents, trademarks, brand names, etc. In contrast, advertising and promotion expenses, marketing research expenses, organisation costs, training costs, company culture, customer loyalty, employee satisfaction, etc., are not normally included in the balance sheet.

### 3.2. Intellectual Capital

23. **Intellectual capital is the combination of the human, organisational and relational resources of an organisation. The definition of these three categories is detailed in Box 1.**

**Box 1. Classification of Intellectual capital**

24. **Human capital** is defined as the knowledge that employees take with them when they leave the firm. It includes the knowledge, skills, experiences and abilities of people. Some of this knowledge is unique to the individual, some may be generic. Examples are innovation capacity, creativity, know-how and previous experience, teamwork capacity, employee flexibility, tolerance for ambiguity, motivation, satisfaction, learning capacity, loyalty, formal training and education.

25. **Structural capital** is defined as the pool of knowledge that stays with the firm at the end of the working day. It comprises the organisational routines, procedures, systems, cultures, databases, etc. Some of them may be legally protected and become Intellectual Property Rights, legally owned by the firm under separate title. Examples are organisational flexibility, a documentation service, the existence of a knowledge centre, the general use of Information Technologies, organisational learning capacity, etc.

26. **Relational capital** is defined as all resources linked to the external relationships of the firm such as customers, suppliers or R&D partners. It comprises that part of Human and Structural Capital dealing with the company's relations with stakeholders (investors, creditors, customers, suppliers, etc.), plus the perceptions that they hold about the company. Examples of this category are image, customers loyalty, customer satisfaction, links with suppliers, commercial power, negotiating capacity with financial entities, environmental activities, etc.

27. **As a result, the concept of “intellectual capital” is embracing all forms intangibles, either formally owned or used, or informally deployed and mobilized. Intellectual Capital is more than simply the sum of the human, structural and relational resources of the firm, it is about how to let the knowledge of a firm work for it and have it create value (Roberts, 1999). This can be achieved by creating the right connectivity between those resources through the appropriate intangible activities.**

3.3. Intangible resources and Intangible activities

28. **The different intangibles considered in the three categories of intellectual capital defined in Box 1, can also be classified into Intangible Resources and Intangible Activities, according to their static or dynamic character.**
29. Intangible resources, following Hall's (1992) proposal, can be considered as “assets” in a broad sense; that is, intellectual property rights, trademarks, certain information technologies such as data bases, networks, and “skills”, i.e., capabilities and competencies, such as those in human capital. The intangible resources of a company, a static notion, can be measured at any given moment. Thus, worker



competencies (human capital), intellectual property rights (structural capital), customer satisfaction or agreements with suppliers (relational capital) would be considered under this category. These “intangible resources” are likely to increase the future value of the company in general, and its innovation capacity in particular.

- 30. Intangible resources can also be analysed in dynamic terms. Companies are undertaking activities to acquire or internally produce intangible resources, to sustain and improve existing ones, and to measure and monitor them. Although the activities undertaken are assumed to be costly, companies are not always able to measure and keep track of these costs. These dynamic activities thus imply an allocation and use of resources that are sometimes not expressed in financial terms, i.e., they may or may not appear in the corporate financial reports.
- 31. Intangible activities may give rise to new intangible resources, or improve the value of existing ones. For example, by re-qualifying them, or by increasing their ability to co-operate with other resources and, thus, improve their connectivity. Intangible activities also include the activities aimed at monitoring and evaluating the results of those connectivity improvements. Examples are training activities (to improve human capital); R & D (to improve technological capabilities within structural capital); specific marketing activities (to attract loyal customers and improve relational capital); a survey to assess employee or customer satisfaction (to monitor the effectiveness of improvement activities).

Box 2. Intangible Resources and Intangible Activities

32. *Intangible resource (static notion) is the stock or current value of a given intangible at a certain moment in time. It may or may not be expressed in financial terms.*

33. *Intangible activities (dynamic notion) are those which imply an allocation of resources aimed at*

- a) *developing internally or acquiring new intangible resources,*
- b) *increasing the value of existing ones, or*
- c) *evaluating and monitoring the results of the former two activities.*

Figure 1. Intangibles static and dynamic vision

<i>Static Notion</i>	<b>Intangible resources</b>		
	Assets	skills	
<i>Dynamic notion</i>	<b>Intangible activities</b>		
	<b>To develop or acquire new intangible resources</b>	<b>To increase the value of the existing intangible resources</b>	<b>To evaluate and monitor intangible activities</b>

### *3.4. Management of Intellectual Capital and Intellectual Capital Reports*

34. There are considerable European differences in relation to a firm's measurement and disclosure of intangibles. While some firms, particularly in Northern Europe, have made considerable progress over the past decade to produce information and report on their intellectual capital, many other firms are about to enter the awareness stage on this need.
35. The former, more progressive firms have developed their own methods to measure and monitor their intangibles for management purposes, and to disclose what they consider adequate stakeholder information. These companies do not need much in the sense of guidelines on how to implement a management system for their intellectual capital.
36. In contrast, the less progressive firms are becoming increasingly aware of the importance of intangibles, and realise that their disclosure might considerably affect their market performance. However, they do not know how to effectuate the management of intangibles. Section 4 of this document, which is the description of the Management of Intellectual Capital process, is specifically intended for these companies. It is the result of an analysis of the process followed by experienced firms. Their "best practices" have been compiled and analytically organized to produce a model that can be applied by the newcomers.
37. Section 5 deals with the presentation of the Intellectual Capital Reports. It is the result of the analytical process described in Section 4 and indicates the main elements a report on Intellectual Capital should contain. It reflects both what companies actually disclose about what they do and what markets and stakeholders may want to know.
38. Therefore, companies that have developed their own management process can disregard Section 4 and go directly to Section 5.
39. However, it must be kept in mind that the process of managing and reporting about its Intellectual Capital is highly idiosyncratic and unique to each and every firm. There is no over all recipe; each company should develop its own process. At the same time, the purpose of having Guidelines is to allow the results of such processes to be compared with other companies, as is presently the case with financial statements. This is a difficult trade-off to attain and very likely to suffer from teething troubles in these first attempts. We want to move from a current situation where information on intangibles is scarce and based upon incomplete and heterogeneous conceptualisations, to a future situation that ideally can count on homogeneous, reliable, verifiable and comparable information.
40. The process is certainly going to take time thus making these Guidelines instrumental by i) encouraging companies to produce information on their intellectual capital, ii) providing a common conceptual framework, and iii) showing best practices in managing intangibles by European companies, and iv) suggesting a common procedure to report on those intangibles.

#### 4. Management of Intellectual Capital

41. This Section describes the usual steps taken by a firm who is well aware of the importance of its intangibles for the company's success and, therefore, integrates the management of its intangibles throughout its management control process. The following statements are based on the analysis of firms that consider the management of intangibles to be a strategic issue related to their ability to create value. Intellectual capital is considered to be a key part of their business process.
42. The identification of intangibles singles out and leverages certain key assets that otherwise would have been overlooked and enhances the firm's awareness about the relevance of these assets in the value creation process. The effective management of intangibles might increase the firm's commitment with its intellectual capital of the firm.
43. There has been a debate over the last years about the purposes firms have for measuring their intangibles. Some are management purposes, some are external purposes, i.e., to provide useful third-party information on the real value of the firm. However, this difference between internal and external use of the Intellectual Capital Reports tends to blur. Outsiders' perceptions of how value is created by the firm, increasingly takes account of internal management systems (Vickery, 2000). As a result of these merging purposes, we assume that firms are having both internal and external uses in mind when designing their Intellectual Capital Management system. Needless to say they will decide *a fortiori* which part of the system will be disclosed.
44. The pattern followed by companies when developing their intangible management system can be split into three non-linear and related phases:
1. Identification of intangibles
  2. Measurement
  3. Monitoring

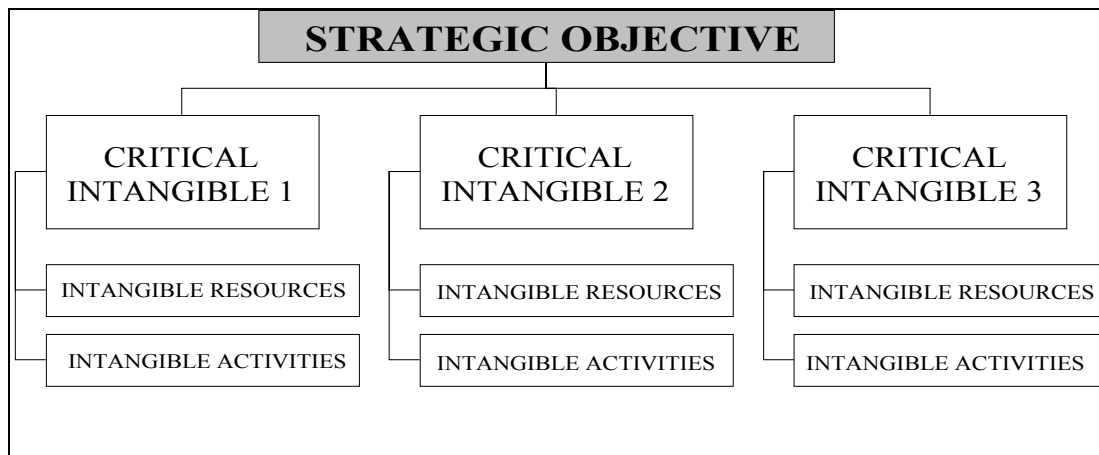
##### 4.1. Phase 1. Identification of intangibles

45. In the first place, firms try to identify those intangibles that are critical to their strategic objectives and their value creation process. Those critical intangibles are the main factors, the key drivers, which contribute most to the value creation process in the firm. They embrace the core competence of the company as well as the present abilities that the company possesses, or has to leverage, to attain those objectives.
46. First, the firm needs to determine what its strategic objectives are, and what intangibles are most strongly related to them. To obtain that information, the firm has to answer questions such as: *where are we?, where do we want to go?, what are our challenges? and what do we have and what do we need in terms of intangibles?*

Usually, the answers to these questions emerge as a result of internal discussions or brainstorming sessions.

- 47. Companies are concerned both about their intangible resources status and about what actions to undertake in order to maintain and improve those resources. On one hand, it is important not to focus only on those activities that might increase the level of critical intangibles, but also to consider those that might impede or even decrease their intangible resource level. On the other hand, companies will also consider their future strategic objectives. They need to link current intangible activities with their long-term strategy, which might contain certain objectives that are presently not considered.
- 48. In sum, the first step is the identification of the strategic objectives of the firm. Then, it is followed by the identification of related intangible resources and the definition of the activities that affect those resources. Finally, the firm defines the support activities that allow an adequate monitoring and follow-up of all the intangible activities and their impact on crucial intangibles resources.
- 49. As a result, a network of intangibles emerges, providing the firm with an accurate picture of critical intangible resources and activities related to its strategic objectives, as depicted in Figure 2.

**Figure 2. Network of intangibles**



50. At the top of the breakdown, we find a set of critical intangibles that might help maintain or enhance a firm’s competitive advantage or attain its strategic objectives. These critical intangibles are "abilities" that the firm has or needs to develop. Examples of critical intangibles are: Adaptiveness to market changes, Human Resource commitment, Innovative capacity, and Customer approach.

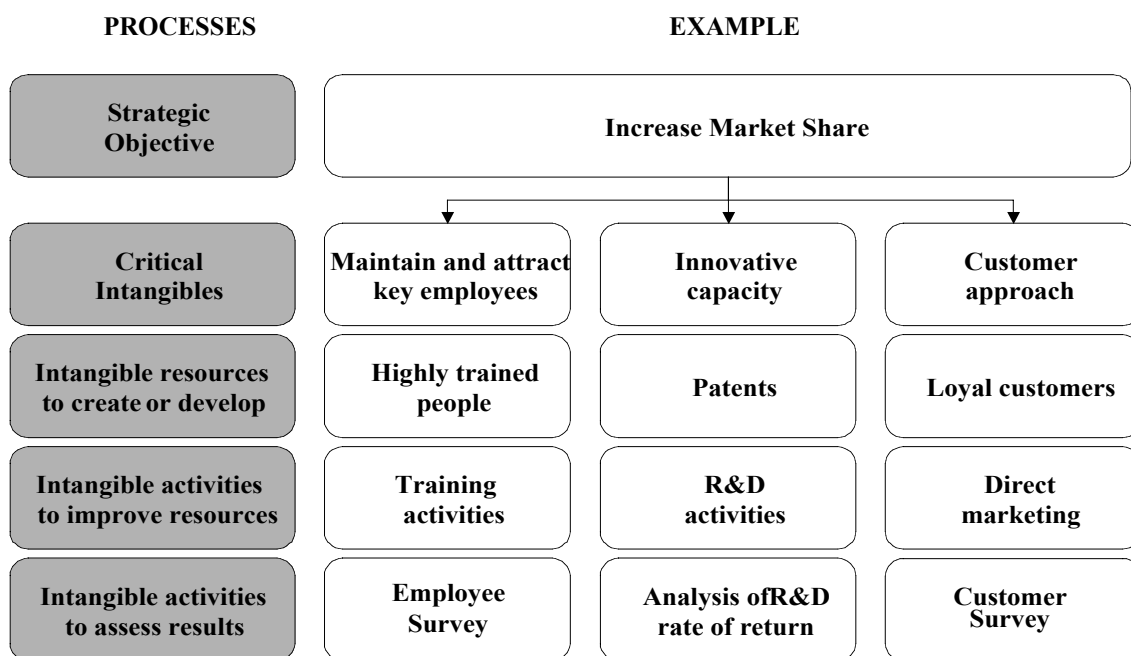
51. A concrete example of that breakdown using the concepts defined in paragraph 50, can be found in Figure 3. The example is a very simple one, where the three columns of resources and activities refer to one of the established categories of

intellectual capital. For example, highly educated people and training activities are related to human capital, patents and R&D expenditures are linked to structural capital, and loyal customers and an increase in direct marketing are tied to relational capital.

It is important to note that the breakdown may change over time, as the company may identify different intangible resources and activities to manage at different moments in time.

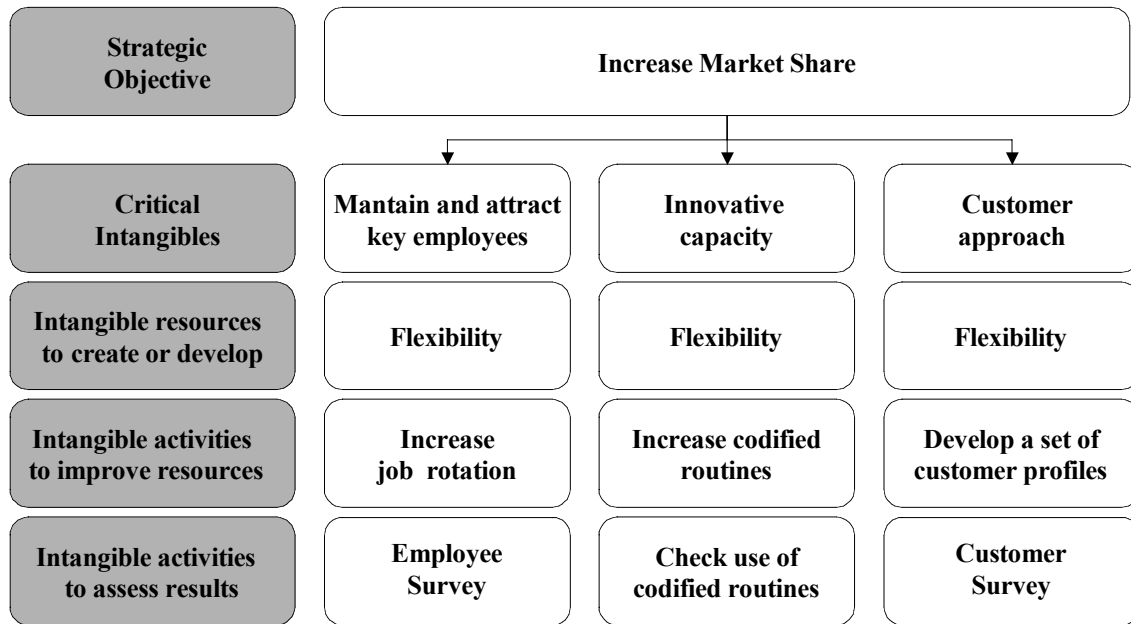
Similarly, not all the intangible resources have to be assigned the same relative importance in terms of management and monitoring. Some can be considered as crucial and the company would make a significant effort for it. Other intangible resources would be deemed less important, but would still need to be managed and accounted for.

**Figure 3. A breakdown of intangibles – a first example.**



52. However, practical reality may be more complex, and a range of activities and resources might affect each critical intangible. For example, as shown in Figure 4, an important intangible resource that may affect the three critical intangibles is flexibility. In order to increase this resource, the company can either increase job rotation (acting thus on its human capital), or better codify the routines that allow fast socialization of new employees (acting on structural capital), or develop a set of customer profiles each of which tied to a specific set of actions (acting on relational capital). At the same time, an increase in job rotation may increase the need for codification routines thus creating a closer relationship between human and structural capital, but may negatively affect employee satisfaction and, consequently, decrease an individual’s interest in learning and further development.

**Figure 4. A breakdown of intangibles – a second example.**



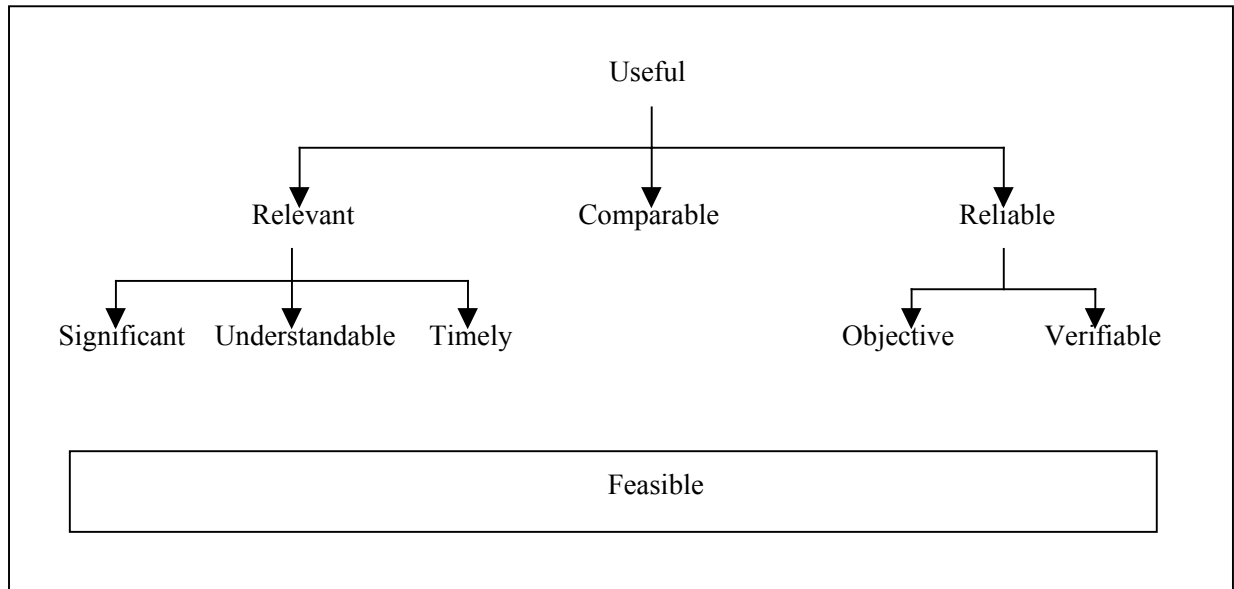
53. In many cases, the firm does not know exactly what the precise impact of each activity on the resource will be, but has a fairly good estimated guess, based on previous experience, it will affect the critical intangible resource.

In order to better assess causality between actions and results, a final set of activities needs to be developed. Assessment of results is crucial as it defines the organisation’s ability to learn from its actions and to improve continuously on them. Its result is the creation of routines that increase intellectual capital permanently. We will come back to these latter types of activities when analysing the 3<sup>rd</sup> phase.

**4.2. Phase 2. Measurement**

54. Once the critical intangibles have been identified and the causal network of relations has been established, the firm needs to define specific indicators that serve as a proxy measure for each intangible. Thus, a set of indicators is defined and developed for each intangible.

55. Companies may wish to check whether or not the indicators fulfil the characteristics summarised in the below Figure 5:

**Figure 5. Characteristics of indicators**

56. Useful: The indicator may serve as an input in the decision-making process of either (or both) internal management for managerial and control purposes or external parties (if disclosed) for capital investment and credit purposes.
57. Relevant: The indicator must convey information that is able to modify or confirm the expectations of decision makers.
58. Significant: The information provided by the indicator must be related to a critical intangible of the company, i.e., it is linked to a characteristic of the company that helps understand its value-creation process.
59. Understandable: Indicators must be clearly presented and calculated, using a rational procedure that may be understood by its potential users.
60. Reliable: The information provided by the indicator must be trustworthy: It must be objective and verifiable.
61. Objective: The value of the indicator must not be affected by any bias arising from the interests of the parties involved in the preparation or use of the information disclosed by the firm.
62. Verifiable: It should be possible to assess the truthfulness of the information provided by the indicator.
63. Feasible: It is possible to compute the cost of the indicators, while its total calculatory costs are lower than the benefits arising from the use of the indicators, i.e., the indicator set withstands the cost-benefit test.

64. Comparable: Indicators must be computed and presented following generally accepted criteria, so that users may make comparisons over time and across companies.
65. Timely: For management purposes, indicators must be made available to managers as frequently as they require. The information on intangibles that the firm decides to provide its stakeholders must be made available with the same frequency with which financial reports are prepared.
66. The indicators can be general (and, therefore, comparable across firms and industries, e.g. the ratio of R&D expenditures to turnover), industry specific (the comparison makes sense only within the same industry, e.g. the % of back-office personnel in banking), or firm specific (the definition differs from company to company and comparisons are hard to make, e.g. % of “high potential” employees)
67. Indicators might be either financial or non-financial, with this criterion applying both to intangible resources and intangible activities.
68. The set of indicators used by the firm is a dynamic set. If they are to be useful for management purposes, they should reflect changes and the learning effects accomplished by the organisation. As a result, defining new indicators may be frequently needed.  
Simultaneously, if the company and its stakeholders have to visualise the dynamics of a situation, it will require comparing one period with another. Consequently, a core and stable set of indicators should be kept over a relatively long period of time. Examples of possible indicators for all the intangibles mentioned in Figures 3 and 4 are indicated below:

INTANGIBLE	INDICATOR	Type*
<b>Highly trained people</b>	% of employees with higher education, intermediate, grammar school	NFI
<b>Training Activities</b>	a) Total number of training hours received by managers relative to total training hours b) Total training cost per key employee c) Average satisfaction of the employees with competence development	NFI FI NFI
<b>Employee Survey</b>	a) Average satisfaction of the employees with training activities b) Cost of the survey c) Average satisfaction with leadership	NFI FI NFI
<b>Patents</b>	Number of patents registered over the last year	NFI
<b>R&amp;D activities</b>	R&D expenditures	FI
<b>Analysis of R&amp;D rate of return</b>	R&D as a percentage of turnover	FI



INTANGIBLE (Cont)	INDICATOR	Type*
<b>Flexibility-Structural Capital</b>	a) % of projects that are based on interdepartmental co-operation	NFI
	b) Average employee satisfaction with the work organisation	NFI
<b>Increase codified routines</b>	% of critical processes that have a Procedure Manual	NFI
<b>Use of codified routines</b>	% of critical processes that follow the Manual	NFI
<b>Flexibility-Relational Capital</b>	Average order response time, from customer order until final delivery	NFI
<b>Select and act on key customers</b>	a) % of sampled customers in the customer satisfaction survey	NFI
	b) Average satisfaction among key customers	NFI
<b>Loyal customers</b>	a) % of long-term customers (5 years or more) to total number of customers	NFI
	b) % of turnover related to long-term customers	FI
<b>Direct marketing</b>	Direct marketing expenses as a percentage of total costs	FI
<b>Customer survey</b>	a) Average satisfaction of the customers with the firm's products and services	NFI
	b) Cost of the survey	FI
	c) Average satisfaction with meeting firm representatives	
<b>Flexibility-Human Capital</b>	a) % of workforce with above-average working hours	NFI
	b) Cost of telework as a percentage of total labour costs	FI
<b>Job Rotation</b>	% of workforce with yearly job rotation	NFI

\*NFI: Non-Financial Indicator; FI: Financial Indicator

69. Measuring accurately the cost of an intangible activity, and to assess its impact on the firm's performance indicators, appears to be a daunting task. First, because it is not always possible to associate a cost with each and every intangible activity. Secondly, because the impact of a particular intangible activity on future performance may only be reliably measured in very specific cases and is, therefore, more the exception than the rule (for example, the effect of R&D expenditures on patent registrations, these two indicators are in fact directly related).

70. Despite these difficulties, most of the companies that disclose Intellectual Capital Reports show these two sets of indicators - the indicators on intangibles, and those performance indicators that are most likely to be affected by intangibles. This is an example of good practice with respect to the categories of indicators to disclose.

### 4.3. Phase 3. Monitoring

71. The monitoring phase comprises the evaluation of the effects of earlier investments in intangibles on the intangible resource position of the company. As a result of monitoring, new intangible activities may eventually be developed and implemented. In the monitoring phase, the firm should evaluate the effects on both the internal and the external users.

72. *From a conceptual point of view, it is possible and useful to distinguish between activities that:*

- *develop intangible resources internally or acquire them externally. For instance, develop activities to attract new employees with a specific knowledge, or the*

*acquisition of a new information technology in order to create new internal communication routines.*

- *increase the value of existing intangible resources. For instance, training activities may increase the value of Human Capital while advertising may increase customer loyalty.*
- *assess the effects of the previous activities. For instance, surveys of employee satisfaction and customer satisfaction are activities that provide the firm with information on the return of their investments in both types of satisfaction. Simultaneously, and as a result of the so-called 'Hawthorne-effect', the survey activities themselves could increase satisfaction levels as employees and customers are being made aware of the firm's commitment to the satisfaction issue.*

73. *However, in practice, the distinction into development/acquisition, value increase, and assessment activities is problematic. For example, a 360-degree evaluation carried out by some companies as part of their human resource management activities may increase the value of certain intangibles (e.g. employees' satisfaction, who are motivated by seeing they have a say in their relation to their bosses) but may also serve to verify, for example, the perceived effectiveness of training activities on performance.*

*A 360-degree evaluation consists of having all managers of the company evaluated by employees who work at the same, upper and lower hierarchical levels.*

**74. In sum, the monitoring of intangibles is part of a highly dynamic process, where the evaluation of results and eventual design of new activities might occasionally overlap with (parts of) the identification and the measurement phases.**

75. *The frequency and characteristics of the monitoring exercise will vary for the different intangibles at stake and will be highly specific to the firm and the industry. This because it will depend on the nature of the intangible and on its criticality for that particular firm.*

**For example, banks usually perform a customer satisfaction survey on a monthly basis. The same frequency would also be adequate to check the use of the company Intranet, but would be less appropriate to evaluate employees' identification with the firm's strategic objectives.**

76. *The monitoring phase can be conceived as the recognition of a learning process that runs parallel with all operations. The learning process affects both intangible resources and intangible activities. Activities undertaken during the monitoring process are supporting processes that allow transforming measurements into actions, and improve existing routines and interpretations.*

77. *The following routines are examples of such activities undertaken during the monitoring process:*

*(1) Recognition and measurement routines*

- human capital surveys
- customer capital surveys

*(2) Reporting routines*

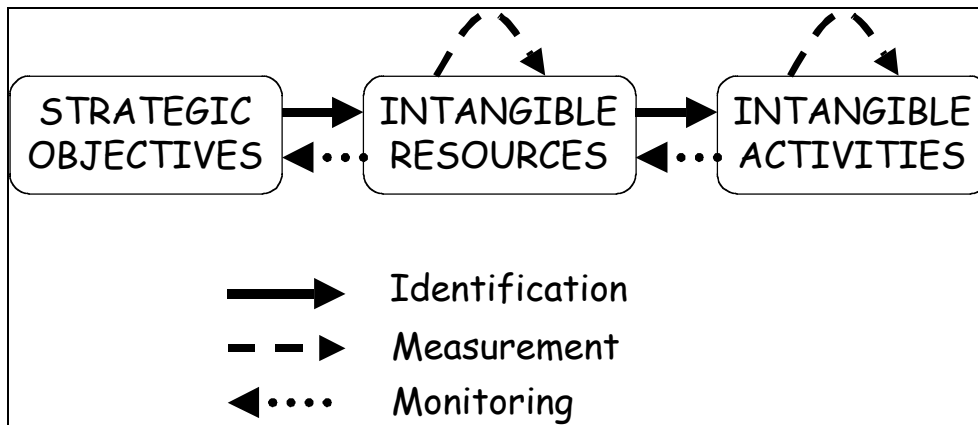
- continuous internal reports

- Investor Relations information to analysts
- (3) *Evaluation routines*
- evaluation of single indicators by each manager
- statistical analysis
- (4) *Attention routines*
- Meetings
- (5) *Motivation routines*
- benchmarking
- dialogues and work counselling
- salary bonuses
- (6) *Follow-up routines*
- statistical analysis

78. The examples of routines listed above, or of any other of a similar type, are part of the monitoring exercise. Some of them can be prioritised, such as the recognition and measurement routines, reporting routines (especially the continuous internal reports), benchmarking exercises and follow-up routines. For example, meetings and dialogues focus managers’ and employees’ *attention* on the results from the measurements. The most important routines are those which are truly process oriented and try to codify organisational capabilities around lessons learned and insights gained. The results, in combination with statistical analysis, affect *knowledge* and, thus, encourage intangible activities.

79. *The three phases of Intellectual Capital Management can be summarised in the following Figure 6.*

**Figure 6. A comprehensive model for the management of Intellectual Capital**



80. The model should be understood in a dynamic sense. In theory, the firm identifies and measures its intangible resources at a given time (t). Then it develops different activities that might affect them and it measures its intangible resources again in period t+1. As a result, the firm monitors the different changes in its intangible resource levels as a consequence of its management actions. In practice, the different stages of identification, measurement and monitoring tend to overlap each other.

81. **The Intellectual Capital Report is the report the company discloses on its Intellectual Capital. It is the logical conclusion of the full Intellectual Capital Management process: to communicate to stakeholders the firm's abilities, resources and commitments in relation to what is, at present, considered the main element of the firm's value base.**
82. An intellectual capital report contains information on the work carried out by the firm in order to sustain, develop and manage its intangible resources and intangible activities. As indicated earlier, the three elements of Intellectual Capital are 'human capital', 'structural capital' and 'relational capital'. It is the connectivity among these three elements, what – if organised properly – produces value. An intellectual capital report reflects the efforts made to develop this connectivity, and it has three elements:
- a) *A vision of the firm* (strategic objectives, core competencies and key intangible resources) which presents the firm's main objectives and strategy and the key drivers (or critical intangibles) to reach those objectives.
  - b) *A summary of intangible resources and activities* which describes the intangible resources the company can mobilize and the different activities undertaken to improve the value of those resources.
  - c) *A system of indicators* for the intangible resources and activities. Its intention is to allow external parties to monitor how successful the company is in fulfilling the stated objectives. In that sense, it is useful to both external parties and to management alike to disclose not only the indicator but also the expected trend of each of them (the trend may be disclosed as specific data or as an interval).

### 5.1. Importance of disclosure

83. For intellectual capital reports to be relevant there has to be a relationship between disclosure and management activities. Therefore, two requirements have to be in place:
- First, based on a well-defined strategy, the firm has to have a stated commitment to sustain and develop its competencies, capabilities and knowledge-relations.
  - Second, in order to communicate internally and externally about its strategy, the firm must have a specific interest in disclosing parts of its sustainment and development work efforts.
84. The first condition puts the Vision of the Firm, that is, its strategic objectives into context; i.e., to put the management of intellectual capital on the firm's agenda.
85. The second condition is that there is value to be derived from intellectual capital disclosure. Disclosure has to help improve – and not merely 'describe' – relationships with customers, employees, partners, and, in general, the increased emphasis on knowledge-sharing activities across stakeholders and organisational boundaries. The disclosure of information on intangibles has an impact on the firm's image, including on its factor markets, notably its ability to attract human resources.

## 5.2. Elements of the Intellectual Capital Report

86. The Intellectual Capital Report has three different parts which will be described next:

- The vision of the firm
- The summary of intangible resources and activities
- The system of indicators

### 5.2.1. Vision of the firm

87. The Vision of the firm identifies:

- The strategic objectives of the company and how the firm is adding value for its customers and other stakeholders by accomplishing those objectives.
- The firm's critical intangibles that enable the transformation of the strategic objectives into knowledge production processes that are in actual use.

88. The Vision of the firm describes in a narrative form how the different stakeholders benefit from the firm's knowledge production activities. For example, it describes how users and customers can benefit from buying the firm's products or services, or how its suppliers have access to a larger market. Similarly, it describes to investors how interesting it is to invest in the firm, or how interesting it is to have a job in the firm. In other words, the Vision of the firm describes how the firm differs from its competitors and how it brings up organisational boundaries in an alternative boundary-less organisation, functioning in a networked organisational landscape.

89. In addition, the Vision of the firm indicates the key ingredients for making the vision possible. Here, it identifies the key drivers or critical intangibles that allow the firm to continue in the market place, both at present and in the future. These critical intangibles are directly related to the core competencies of the firm and immediately affect the value-creation process of the company.

90. The Vision of the firm draws upon the efforts made in the Identification Phase of the above-described Intellectual Capital Management. It is different from, yet related to, the firm's strategy documents. Typically, the strategy documents are unsuited for public disclosure due to their sensitive nature, for example, regarding the details of the firm's competitive position and its future avenues for action.

91. The Vision of the firm is a different kind of strategy statement. It is less of a technical report than a description of the benefits of the knowledge output of the firm. Specifically, the Vision of the firm communicates broadly and in a simple, yet more colourful language how users and other stakeholders will benefit from its knowledge outputs.

92. In sum, a Vision of the firm has the following properties:

- It describes and illustrates the critical intangibles that enable the firm to attain its strategic objectives.
- It allows a reader to understand the functioning of the firm with respect to its value creation process.

### *5.2.2. The summary of intangible resources and activities*

93. The summary has three main ingredients:

- It identifies the Intangible resources that the company possesses, or has to obtain, in order to reach its objectives
- It identifies the Intangible activities to undertake in order to attain its strategic objectives.
- It addresses the different processes that are executed to transform the measurement of intangibles into managerial action

94. The presentation of both Intangible resources and Intangible activities are to refer to the three categories of Intellectual Capital defined above; that is, human, structural and relational capital, being their connectivity the key element that creates value.

95. The presentation of both Intangible resources and Intangible activities indicates, in a transparent and straightforward manner, the firm's portfolio of intangible resources and the Intangible activities. Whenever possible, the Intangible activities are to be subdivided into improvement activities and into monitoring activities, following the classification presented in section 31 on the dynamic notion of Intangible activities.

96. The relationship between the improvement and monitoring activities, and the Vision has to be transparent. In other words, the company has to show that it requires a unique combination of actions to be performed to accomplish the strategic objectives, and that the company is actually carrying out these actions.

97. The summary of intangible resources and activities draws upon both the Identification and the Monitoring phases of the above-described Intellectual Capital Management. It is up to the discretion of the company whether to disclose all the information produced and gathered in the Identification and Monitoring phases. There may be sensitive elements that are best kept undisclosed. A periodic disclosure of its activities would be expected, similar to the periodic accounting disclosures and quarterly statements, while the Report should show a logical internal coherence that is maintained over time.

### *5.2.3. The system of indicators*

98. The third part of the Intellectual Capital Report is the system of indicators.

99. The indicators are the visualisations of what the company is doing with its intangibles, and are to allow the readers of the Intellectual Capital Report to assess how well the company is fulfilling its objectives.

100. There is presently no fixed and predetermined set of indicators required for an Intellectual Capital Report. As mentioned in the previous section, the indicators reflect what the company itself is considering important to manage and monitor.

101. The set of indicators are to refer to the three categories of Intellectual capital (human, structural and relational capital), and, whenever possible, distinguish between resources and activities, i.e., possessions and actions. The indicators can be financial or non-financial but, whenever possible, the use of financial indicators is strongly suggested, particularly because it will be easier to relate financial indicators of Intellectual Capital to other financial indicators of performance.

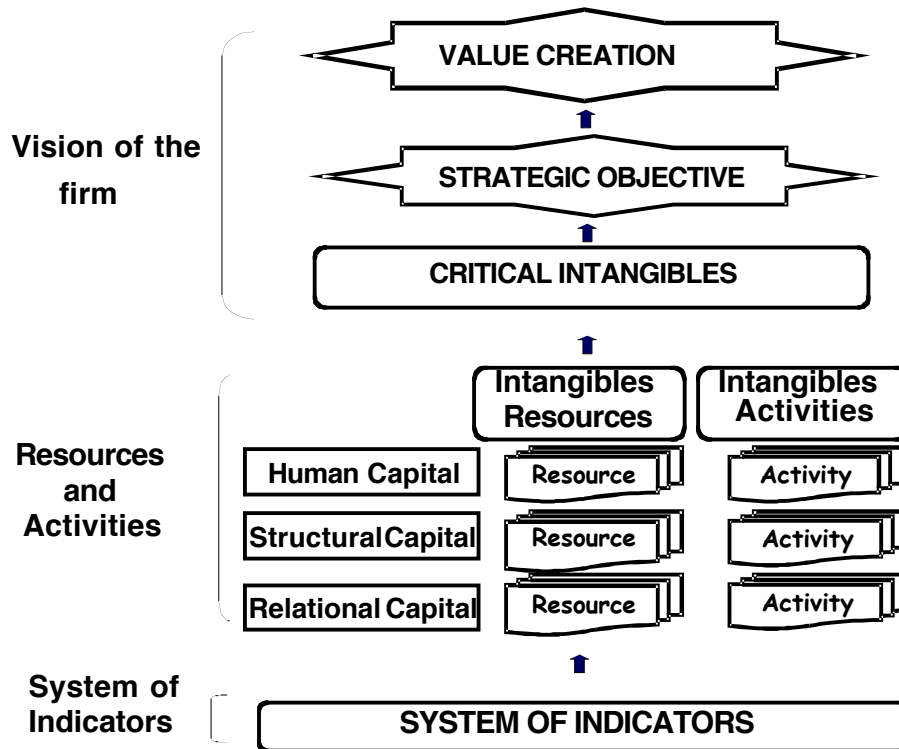
For example, if a particular company considers it crucial to use information technologies for the production of a high-quality service, a useful indicator could be the increase in the ratio of the number of PCs / total number of employees. However, a financial indicator to the same effect would be the investment in the memory and software upgrades of the current PCs.

102. In sum, the presentation of an indicator set has the following characteristics:

- It creates a visualisation that allows actions to be translated into a system of indicators.
- It has an array of indicators that will tell the ‘whole story’.
- It typically has indicators from all three domains of Intellectual Capital. If not, the specific reason for it is to be mentioned.
- It may contain a mix of financial and non-financial indicators.
- All indicators must be verifiable even when not purposely audited. The method for producing, defining and presenting them should be provided in the report.

103. Although its Intellectual Capital is highly specific to each company, we have tried to develop a schema of the whole process described above. Companies are to disclose how the different steps are enhancing the firm’s value as is shown in Figure 7.

**Figure 7: A Schema for the presentation of Intellectual Capital Statements**



## 6. Some practical issues related to the preparation of Intellectual Capital Statements

### 6.1. How to collect the information

104. The information on intangibles should be collected by means of a measurement system. Once the measurement system is designed and implemented and the type of data to be collected is defined, information is gathered from:

- The company’s databases.
- Questionnaires, such as employee or customer satisfaction surveys.
- Interviews.
- The accounting system and the document flow underlying the accounting system (invoices, job sheets, time sheets, bills-of-material, etc.)
- External sources.

### 6.2. Who should prepare the information inside the company

105. It is necessary to distinguish between the individuals in charge of the development and design of the measurement system as such, and those engaged in the actual development of the indicators.



106. Among the first group on design and development, we usually find the following: (Bukh *et al.*, 1999):

- Top/senior management
- External/internal consultants
- Human resources managers
- Accounting and financial managers (CFOs)

107. With regard to data gathering, information must be obtained from the different departments of the company, since the data needed is of a diverse nature.

108. Once the necessary information has been obtained from different departments, the staff in charge of the preparation of the Annual Report appears to be the most suitable individuals as they have a sound expertise in the accumulation, integration and disclosure of information (on intangibles).

109. No matter who is responsible for the preparation of the Intellectual Capital Report, top management should be committed to and engaged in the preparation of the Intellectual Capital Report of the firm.

### **6.3. Frequency**

110. The frequency in the preparation of indicators will depend both on the type of company and the dynamics of the industry in which it operates, and on the firm's strategy.

111. As a general rule, the fiscal year is the minimum period recommended to collect information about the firm's intangibles. However, at present, the tendency is to shorten the reporting period and increase the frequency as a result of the demands of interested third parties (investors and creditors). This is technically feasible given the existence of sophisticated IT-tools that enable the firm to collect information more timely and at a lower cost.

112. The measurement of intangibles is to refer to the same time periods considered in the firm's Financial Statements. The Intellectual Capital Statement may be published together with, or at the same time, as the Financial Report is disclosed.

113. Nonetheless, the specific needs of management will determine the appropriate reporting periods for each firm. The information needed for managerial purposes could require shorter periods (quarterly or biannual information) and higher frequency than needed for external purposes.

114. It is advisable to carry out a cost-benefit analysis to establish the frequency with which periodic information on intangibles should be prepared by the firm.

## 7. References

Bukh, Per Nikolaj; Heine T. Larsen; Jan Mouritsen. (1999) Developing intellectual capital statements: Lessons from 23 Danish firms. Paper presented at the OECD International Symposium on Measuring and reporting intellectual capital: Experience Issues and Prospects. June 1999.

Bukh, Per Nikolaj; Heine T. Larsen and Jan Mouritsen (2000). Constructing intellectual capital statements. Forthcoming in the Special issue of *Scandinavian Journal of Management* dedicated to the 15<sup>th</sup> Nordic Conference on Business Studies, Helsinki,

Bukh, Per Nikolaj Jan Mouritsen and Heine T. Larsen (2000). Towards a framework for intellectual capital statements. Contribution to the MERITUM report from activity 1, In: J.E. Gröjer and H. Stolowy (Eds) *Classification of Intangibles*. Cahiers de Recherche 712/2000. Groupe HEC, Jouy-en-Josas, France, pp. 263-278.

Caddy, I. (2000). Intellectual capital: Recognizing both, assets and liabilities. *Journal of Intellectual Capital*, 1,2: 129-146

Cañibano, L., García-Ayuso, M. and Sánchez, P. (1999) The Value Relevance and Managerial Implications of Intangibles: A Literature Review. OECD web page: [www.oecd.org/dsti/sti/industry/indcomp/act/ams-conf/symposium.htm](http://www.oecd.org/dsti/sti/industry/indcomp/act/ams-conf/symposium.htm) Contribution to the MERITUM report from activity 1, In: J.E. Gröjer and H. Stolowy (Eds) *Classification of Intangibles*. Cahiers de Recherche 712/2000. Groupe HEC, Jouy-en-Josas, France, pp. 78-126.

Cañibano, L., M. García-Ayuso and M.P. Sánchez (2000a) Accounting for Intangibles: A Literature Review. *Journal of Accounting Literature*, vol. 19, 2000, pp. 102-130.

Cañibano, L., M. García-Ayuso and M.P. Sánchez (2000b) Shortcomings in the measurement of Innovation: Implications for Accounting standard setting. *Journal of Management and Governance*, vol. 4, n° 4, pp 1-24

Cañibano, L., Sánchez, P. (1998) Measuring Intangibles to Understand and improve innovation management. A Research Proposal to the TSER Programme. Autonomous University of Madrid.

Carter, A. (1996). Measuring the performance of a Knowledge-based Economy. In: OECD. *Employment and Growth in the Knowledge-based Economy*. Paris, pp. 61-68.

European Commission (2000a) Innovation policy in a knowledge-based economy. Final Report of the expert group. A MERIT study Commissioned by the European Commission. Enterprise Directorate General.

European Commission (2000b) *Towards a European Research Area*, Communication from the Commission to the Council, the European Parliament, the Social Council, the Economic and Social Committee and the Committee of the Regions. Mimeo.

Goldfinger, C. (1997) Understanding and measuring the intangible economy: Current status and suggestions for future research. CIRET seminar. Helsinki.

Haanes, K. Lowendahl, B. (1997) The Unit of Activity: Towards an alternative to the theories of the firm. In: Thomas et al (Eds), *Strategy, Structure and Style*. John Wiley & Sons.

Hall, R. (1992) The strategic analysis of intangible resources. *Strategic Management Journal*, n° 13, pp. 135-144.

Harvey, M.G. and R.F. Lusch (1999) Balancing the intellectual capital books: intangible liabilities. *European Management Journal* 17, 1:85-92

Jeny-Cazavan, A.; Löning, H. (2000) How companies manage and measure intangibles – A survey of French practices. Paper presented at the 23<sup>rd</sup> Annual Congress of the European Accounting Association, Munich. March 2000.

Johanson, U., Eklöv, G., Holmgren, M., Mårtensson, M. (1999). *Human Resource Costing and Accounting Versus the BSC. A Literature Survey of Experience with the Concepts*. A report to the OECD. OECD web page:  
<http://www.oecd.org/dsti/sti/industry/indcomp/act/ams-conf/symposium.htm>.

Johanson, U., Mårtensson, M., Skoog, M. (2001) Mobilising change through the management control of intangibles. Forthcoming in *Accounting, Organisation and Society*.

Larsen, Heine T., Jan Mouritsen, and Per Nikolaj Bukh. (1999). Intellectual capital statements and knowledge management: Measuring, reporting and acting. *Australian Accounting Review* 9(3):15-26.

Mouritsen, Jan, Heine T. Larsen, and Per Nikolaj Bukh. (2000). Reading an Intellectual Capital Statement: The case of Systematic Software Engineering. Working paper, Department of Operations Management, Copenhagen Business School.

Mouritsen, J. et al. (2000) Development of Guidelines for Intellectual Capital Statements. London Meritum meeting. May 2000

OECD (1999) International Symposium on Measuring and Reporting Intellectual Capital: Experience, Issues and Prospects, 9-11 June, 1999. Amsterdam, [www.oecd.org/dsti/sti/industry/indcomp/act/Ams-conf/symposium.htm](http://www.oecd.org/dsti/sti/industry/indcomp/act/Ams-conf/symposium.htm).

Roberts, H., (1998) Management Accounting and Control Systems in the Knowledge-intensive Firm. Paper presented at the 21st Annual Congress of the European Accounting Association, April 1998, Antwerp, Belgium.

Roberts, H. (1999) The Control of Intangibles in the Knowledge-intensive Firm. Paper presented at the 22<sup>nd</sup> Annual Congress of the European Accounting Association, Bordeaux, 1999.

Roberts, H. and P. Berthling-Hansen (2000) Ready for Intellectual Capital? A multiple case study of 25 firms in the Norwegian graphical, newspaper and magazine industries. Paper presented at the 23d Annual Congress of the European Accounting Association, March 2000, München, Germany.

Roberts, H., (2001) Intellektuell Kapital: bedriftens usynlige verdier [Intellectual Capital: the firm's invisible values], Confederation of Trade and Service Industry (HSH)/Confederation of Norwegian Business and Industry (NHO), November 2001.

Sánchez, M.P., Chaminade, C., Olea, M. (2000) Management of intangibles. An attempt to build a theory. *Journal of Intellectual Capital*. Vol.1, n° 4, pp. 312 – 328.

Sanchez, P., Escobar, C.G. (2000) The Delphi method as a validation tool for the Guidelines for the measurement and management of intangibles. Paper presented at the Meritum Sevilla Meeting. January 27-29, 2000.

Stolowy, H. And Jeny, A. (2001) International Accounting Disharmony: The case of intangibles, Forthcoming in the Special Issue on Measuring and Reporting Intellectual Capital for the New Millennium of the *Accounting, Auditing and Auditability Journal*, Vol. 14:4.

Vickery, G. (1999) *Intangibles and Competitiveness: An Empirical Approach*, Edward Elgar Publishing, 1999

Vickery, G. (2000) Accounting for Intangibles: Issues and Prospects. In: P. Buigues et al. (Ed.) *Competitiveness and the Value of Intangible Assets*. Edward Elgar Publishing. pp. 72-99