

MEASUREMENT AND REPORTING OF INTANGIBLES – A EUROPEAN POLICY PERSPECTIVE

December 2002

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This paper has been accepted by the referees for reading at the intangibles conference at McMaster University, Canada in Jan 03

ABSTRACT

The problem discussed in this paper is the increasing gap between 'real' performance, often increasingly driven by intangible factors, and the information formally contained in both internal and external reporting. This paper summarises some of the evolution of thinking, particularly within Europe, on the measurement and reporting of intangibles, and concludes with an analysis of future problems and opportunities.

KEYWORDS

Intellectual Capital, Intangibles, European Community

BIOGRAPHY – Clive Holtham

After taking a Masters degree in management, he trained as an accountant and was Young Accountant of the Year in 1976. Following six years as a Director of Finance and IT, he moved to the Business School in 1988 as Bull Information Systems Professor of Information Management. He has been an adviser to the European Parliament on educational multimedia. From 2001-3 he is a member of the Programme Management Board of the EU's PRISM \$1.5m research project into the management and valuation of intangibles.

BIOGRAPHY – Richard Youngman

After a career in banking, Richard gained his MBA at the Theseus Institute, Sofia-Antipolis, France. He then went on to set up Perle Consulting, and is responsible for major pieces of work in the EU PRISM project, specifically in relation to research into macro-economic indicators, and for the dissemination aspect of the project.

Measurement and Reporting of Intangibles – a European Policy Perspective

CONTEXT

Over the last 10 to 20 years, there have been a wide variety of innovations proposed for reporting systems. These have aimed to address the intrinsic shortcomings in the historic- and financially-based reports that remain prevalent even today. This paper summarises the evolution of policy thinking, particularly within Europe, on the measurement and reporting of intangibles, and concludes with an analysis of future problems and opportunities.

This paper particularly reviews a two-year project (2001-2003) for the European Commission (PRISM), involving eight business schools in seven EU countries. The objectives of this are to create a pan-European community of academics and other interest groups working on issues related to the intangible economy, with a primary emphasis on dissemination and some original research. Distinctive findings from this first year of research are identified.

THE INTANGIBLE ECONOMY

Nakamura (2001) estimated the corporate sector investment in intangible assets in 2000 was about \$1 trillion - comparable to that sector's investment in property, plant and equipment. Half of this was related to the intangibles of research and development, and of software. The balance was other intangibles, such as brands, human resources, and organizational processes.

There is considerable confusion over the nature of the intangible economy, which is by no means a recent concept. From the early 1950's, Peter Drucker (1955) was envisaging the significant growth of knowledge work. By the early 70s, Bell (1974) was proposing the development of the post-industrial society. But by the mid 1990's, fuelled by the cumulative explosion of usage of information and communications technologies (ICT's), emphasis had increased on ideas such as the digital economy (Tapscott, 1995). These advocates argued that traditional businesses, and even traditional economics were under threat, from concepts such as increasing returns.

We would prefer to describe the post-war period of economic development, not as a knowledge revolution, or as a move towards a knowledge society, but rather as a "digitalisation revolution". We have chosen this term carefully. It emphasises the technological orientation of this revolution, rather than assume it has necessarily leads to profound cultural or automatic business benefits. It highlights that the fundamental development since the second world war has been the steady conversion of a wide variety of products from an analogue to a digital format.

MEASUREMENT AND REPORTING

We draw here on our own work as part of the EU's High Level Expert Group on the Intangible Economy (HLEG, 2000). We suggested there that:

“...the various interest groups are struggling to adapt their analytical models, standards and regulatory policies to reflect the economics of intangibles. The overriding problem is how to isolate the new performance drivers – the portfolio of assets, quasi-assets, commodities and competencies we need to measure. Although much of the hype in the dot.com debate evaporated during the course of the study, a residual concern for investors and other stakeholders - not only in 'new economy' sectors, but in mature industries struggling to stabilise their value chains – is how to differentiate durable modes of

profitable business activity from what, in the long run, will prove to be evanescent, irrelevant, or just plain snake oil.”

The weaknesses in traditional approaches to measurement and reporting have been well established for some time. Johnson and Kaplan (1987) argued that: "Corporate management accounting systems are inadequate for today's environment". There have been a variety of experimental approaches to then addressing those weaknesses. Kaplan and Norton (1996) have developed the Balanced Business Scorecard. Edvinsson (1997) has extended the measurement of Intellectual Capital. But it has not proved easy to develop approaches that can be used for consistent inter-firm comparison. Bontis et al, (1999) reviewed four such approaches – human resource accounting, economic value added, plus the balanced scorecard and intellectual capital already touched on.

The shortcomings in all these approaches, have led to the pragmatic retention of the financial-based approach, despite its own equally severe shortcomings. Perhaps the most promising route to change lies in national-level initiatives. For example, the Danish Ministry of Commerce (1997) has launched a private-public pilot initiative to develop a framework for reporting on intellectual capital. Of particular significance is the work of Brookings (2000a, 2000b) and another public-private initiative from Finland (Science and Technology Policy Council of Finland, 2000) and the work of NORDIKA also in Scandinavia.

Our own conclusion in the High Level Experts Group (2000) was that:

“The present statistical and accounting frameworks are in urgent need of updating. New explanatory models and metrics are needed to enable us to understand the workings of the modern economy, especially the intangible goods and 'content' sectors that are currently hidden from public view. At the firm level, a new generation of analytical tools is needed to enable company boards, shareholders and investors to judge management performance and differentiate good, bad and delinquent corporate stewardship.”

EUROPEAN POLICY RESPONSES

The major early policy initiatives (Figure 1) on the reporting of intangibles have been dominated by North American thinking, with a particularly influential start date being the SEC conference in April 1996, followed by the Brookings Institution research initiative, and the body of work led by Baruch Lev from NYU (Lev, 2001). Later that year, an EU initiative took shape, which led onto an important conference at Louvain-La-Neuve (Buigues, Jacquemin and Marchipont, 2000).

Several European initiatives have been developing during this period. The MERITUM project MERITUM (Measuring intangibles to understand and improve innovation management: www.kunne.no/meritum) was an EU research project which began in November 1998, being concerned with the measurement of non-financial value or intellectual capital. Also in 1998 began a Danish initiative on Knowledge statements, concerned with the practical external reporting of intellectual capital. In 2001, the MERITUM network was succeeded by E*KNOW-NET, a Thematic Network on Intangibles, financed by the STRATA programme.

This paper is in part based on other work being carried out for the European Community, two projects in particular. The first was a completed initiative carried out by Mantos Consulting in conjunction with City University Business School. This was a High Level Experts Group (HLEG, 2000). The question of intangibles then featured in key speeches by senior European Commission staff in Lisbon, Nice and Vaxjo.

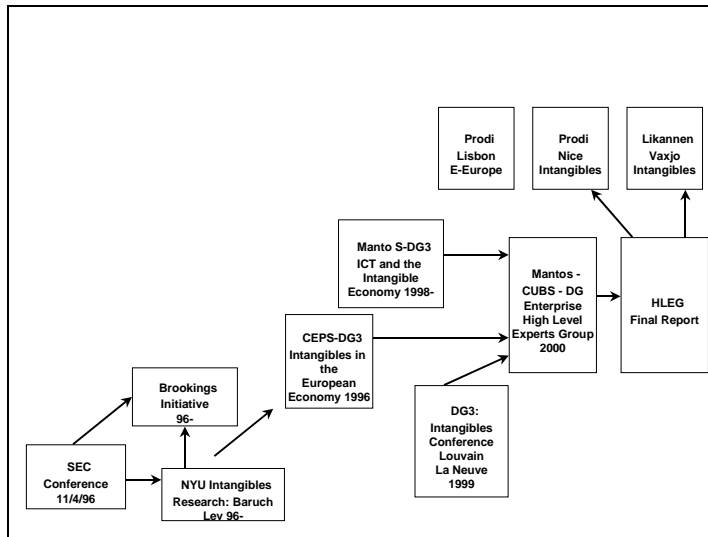


Figure 1

The second project featured here is PRISM, funded under the EU Fifth Framework IST programme. It is a consortium of eight university schools of business or economics in seven EU countries. As its acronym suggests, it has five main concerns:

P policy-making

R measurement and reporting

I intangibles

S skills development

M management

The PRISM project essentially provides a particular lens through which this review of measurement and reporting of intangibles is being carried out. In the PRISM project there are two explicit targets:

- * thematic research
- * dissemination work

Categories of Intangibles

Wagner (2001) has summarised four types of intangibles:

1. technology-based assets, such as secret formulae, technical drawings, and software
2. customer-based intangibles, such as customer data bases, credit histories
3. market-based assets, including brand names and distribution channels
4. workforce assets.

Our colleague Clark Eustace (2000) has developed a particularly compelling categorisation of the different types of intangibles, dividing them into three groups (Figure 2).

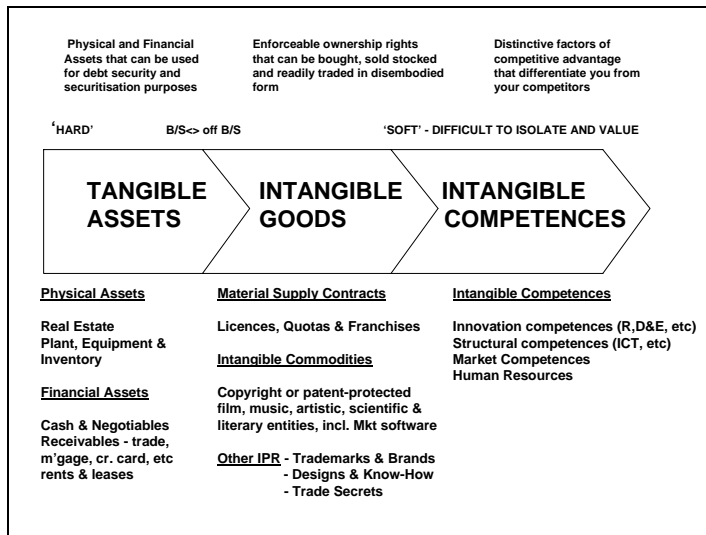


Figure 2: Types of Intangibles (Eustace, 2000)

Intangible goods are made up of two main sub-classes, intangible commodities and intellectual property. Intangible commodities are essentially contractual rights, including publishing and reproduction rights, commercial databases and other marketable software with associated long-term royalty annuities. A key characteristic is that they can be bought, sold, stocked, leased and otherwise traded. Intellectual property, on the other hand, includes those assets whose essential characteristics are derived from the legal system, e.g. patents, copyrights, registered designs, trade secrets and proprietary technology. In this case the cost and time of legal searches can be significant, and rises dramatically in situations where multiple legal jurisdictions are involved (Rivette and Klein, 2000)

The second group, intangible competencies, are valued by successful companies as vitally important in differentiating their market offer from those of their competitors. Although the assets involved are generally bundled together and interdependent to such an extent that they are difficult (but not impossible) to isolate and value, they are now widely deployed as key factors of 'non-price competition'. However important intangible competencies in underpinning the business value chain, these are much more difficult to measure and value consistently across organisations. So it can be concluded that the primary thrust of research and development of intangibles measurement should be devoted to the intangible goods segment of Figure 1.

DEVELOPMENT OF THE FRAMEWORK

A key aspect of the PRISM work has been the evolution of the Eustace Framework. We have mapped below (Figure 3) one perspective of the resources available to an economic unit – a team, a department, a company, a network, or an economy. On the left are the commoditized resources which are easier to value – partly because ownership is clearer and because they can be disentangled from their context. On the right are the sources of competitive advantage. Leaders' ability to orchestrate and manage these resources, be they owned or leased, be they tangible or intangible, entangled or disentangled, will ultimately lead to either the creation or destruction of value. Different players in the economy are interested or comfortable with different parts of the map. Bankers and accountants are more interested in the left side, venture capitalists and entrepreneurs with the right side.

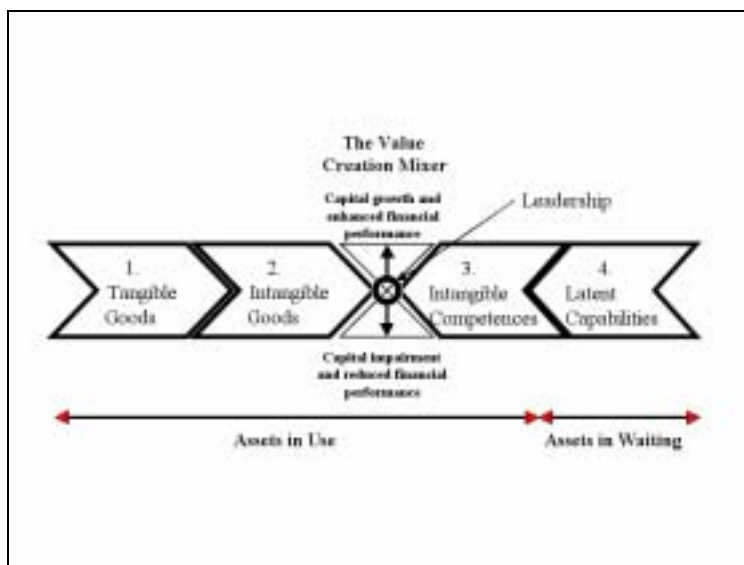


Figure 3: PRISM evolution of the original Eustace Framework

PRISM RESEARCH AREAS

Policy implications of the intangible economy

A policy research group based at the University of Ferrara will examine the effectiveness of EU innovation policies aimed at fostering technology transfer, with special reference to the changing role of IPR and the promotion of corporate and academic spin-offs into the SME sector. The research is led by Patrizio Bianchi, Dean of Economics.

Measurement of intangibles in macroeconomic statistics

Equating intangibles with services has become a major source of confusion in economics and economic statistics, and a new taxonomy is needed to replace the old dichotomy between goods and services. If the official systems of macroeconomic statistics are to reflect the realities of the economic activities they measure, it is essential that intangible goods (licences and copyright or

patent-protected film, music, artistic, scientific and literary creations, including market software) are clearly differentiated from both tangible goods and services, which are inherently transitory. In the context of redrawing the strict delineation between physical goods and 'immaterial' services in the macroeconomic data systems, the objective is to develop new concepts, definitions and classifications that will make it possible to a) collect better information about intangible goods and their role in the modern economy, b) assess their impact on overall production, employment and economic growth, and c) recommend changes in the SNA and ESA. An assessment of the size, structure and dynamics of the sector will also be made. The research is led by Peter Hill, Visiting Fellow at City University Business School, London, and formerly Professor of Economics, University of East Anglia and Head of Economic Statistics and National Accounts, OECD.

New business indicators and value models

Led by Jan Mouritsen, Professor of Management Control at Copenhagen Business School, this research will concentrate on the special problems of managing intangible assets and competencies, with special reference to their information requirements from a managerial rather than an external reporting perspective. The objectives are a) to explore the possibilities of developing a set of indicators that provide a cogent and consistent measurement of a firm's immaterial, intellectual and knowledge resources with a view to value creation, and b) to examine the characteristics of new business models of relevance to the new economy.

Accounting, financial analysis and audit

Led by Stefano Zambon, Associate Professor of Accounting and Business Economics at Ferrara, the objective is to carry out a critical assessment of the various innovative conceptual approaches and practices in the area of accounting and reporting, financial analysis and audit that are emerging as a response to the intangible economy. Working closely with the IASB and EFFAS, the research will aim to provide an authoritative policy agenda for auditors, professional accountants and financial analysts, and will include areas where existing accounting standards and market regulatory systems may need special attention.

Banking and venture capital metrics

Led by Frede Mørck, Visiting Fellow at Copenhagen Business School and a senior executive with venture capitalist, Dansk Kapitalanlaeg Aktieselskab, the objective is to develop new indicators for measuring intangibles in order to improve risk management and competitiveness in the banking and venture capital sector. Based on a survey of the current status and use of intangible measurement tools in the finance sector, the results will be analysed and structured in terms of a) existing methods and metrics for risk assessment, b) gaps and circumstances in which new measurement tools are required and c) a framework and rationale of (intangible) indicators for assessing and monitoring investment risk.

Case studies

The available case studies such as Skandia and Dow invariably relate to the first- generation, pioneering initiatives, and recent publications are almost wholly devoid of new cases, especially European and non-manufacturing cases. To this end, five European business schools (City University Business School, IESE, KTH, TSM, UCC) will collaborate to produce fifteen high-

quality case studies, each supporting and illuminating a particular aspect of the main lines of research, with emphasis on European experiences. The first tranche address such topics as the optoelectronics, IPR deficiencies, XML reporting protocols, and new forms of employment contract.

E-Government forum

Led by Edward Truch, Director of the Henley Forum, the objective is to identify and publish leading edge practice in the area of government-to-citizen and government-to-business interaction (e-government). In this context, the immediate objective is to organise and launch a pilot e-government forum as the basis for a separate research programme in its own right.

THE PORTFOLIO OF CASE STUDIES

One of the objectives of the project has been to develop sufficient new materials, particularly case studies to support a leading-edge Masters Degree module in intellectual capital. With ten case studies completed at the time of writing, it is possible to map them against a version of the framework developed in Figure 3. This shows value creation being affected by both the business context of the intangibles, as well as the business culture. It can be seen that the PRISM cases are fairly well distributed across this value creation spectrum (Figure 5).

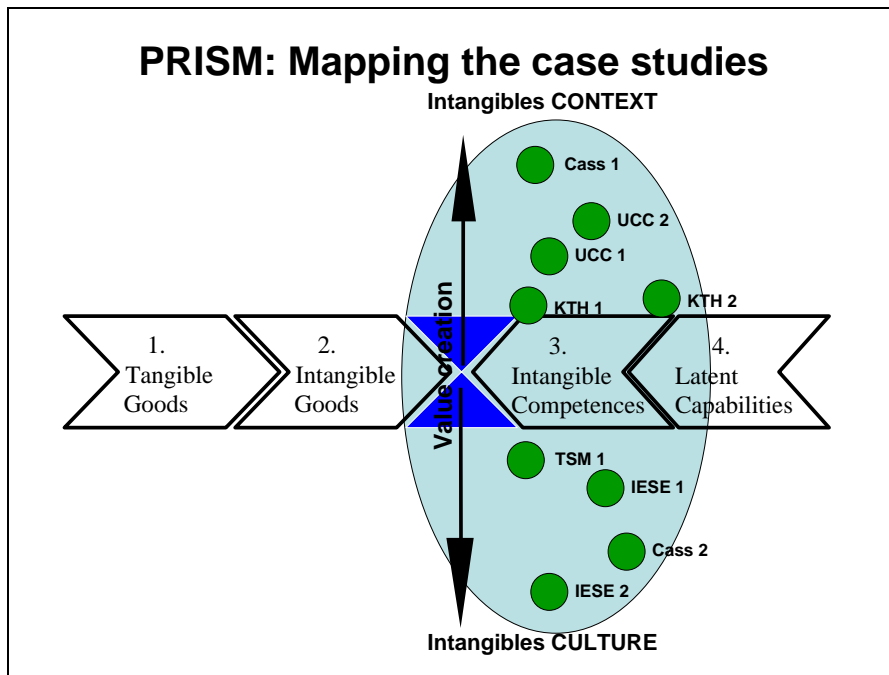


Figure 4

EMERGING ISSUES ARISING FROM PRISM

Now the PRISM project has completed its first phase some wider issues have been emerging:

- * language
- * disciplines
- * resistance
- * building a community of practice

The roots of criticism of the historic and financial orientation of external corporate reporting are both deep and wide, but this has not necessarily assisted practical innovation. Such innovation has generally been sporadic, not systemic, with early adopters being Skandia (Sweden), Colorplast (Denmark) or Dow Chemical (USA).

For internal reporting, much freer from the conservative standards which dominate external reporting, more widespread progress has been made. However, these forms of reporting most typically relate to the micro (firm) level. They do not relate to the macro (national economy) level, nor to the meso (market) level. In the HLEG study we paid particular attention to the macro level, and identified a need for urgent study of the issues. In parallel, OECD has been studying this area.

The intellectual case for significantly more explicit measurement and reporting of intangibles appears to our research team to be clear-cut, being based on the likelihood of resource misallocation, as well as the scope for misrepresentation, amplified by the dotcom crisis and examples like Enron. The objections to that case fall into several categories. Unfortunately, overall these categories tend to be mutually supportive. Indeed the sheer volume and intensity of the objections to change have become one of our central concerns after completion of the first phase of the PRISM project. We have noted in particular the study by Loughborough University (Wilson, 2000), which showed widespread resistance by finance directors of large UK companies to voluntarily widening their disclosure to include more intangibles.

Another preliminary finding of the project is that much of the early thinking about intangibles has been dominated by those with backgrounds in accounting or economics.

Our other preliminary finding concerns the sheer ubiquity of intangibles. We find them without difficulty in every case study we are examining. What varies between organisations is the extent to which they have articulated this ubiquity, if at all. This historical evolution highlights some degree of tension between North American and European approaches at national/international policy, meso and micro levels.

In addition to the academic literature, there is a parallel strand which promulgates the products of consulting firms in relation to intangibles. Some researchers have tended off the record to be highly sceptical of such approaches. Yet they surely form at least a key part of the issues surrounding intangibles measurement.

One source of confusion is that of language. The traditional accounting definition of intangibles is very limited, to areas such as patents, brands, and goodwill. We are also finding, perhaps inevitable in a multi-disciplinary study, that words have different meanings across disciplines. There has been a third problem of different phrases being used for a single meaning. One final

point relates to multi-lingualism. In Swedish, for example, there is no word that exactly equates to intangibles.

PRISM STUDIES

So, where does this status quo leave the development of intangibles measurement in Europe in particular? One very positive dimension is the increasing interest being taken by the European Community. Two or three years ago, we can recall certain degree of scepticism towards intangibles in Brussels. Today there is much greater recognition of their importance. Secondly, the opportunity exists to draw together the various independent initiatives under the banner of the EU's forthcoming Framework 6 research programme. The variety of efforts at national level within Europe are also noteworthy, especially the Nordic work and that in Denmark.

However, structurally, the EU is at a severe disadvantage relative to the USA. America not only has a single economy. It has a single set of reasonably coherent institutions. And the American willingness (or even delight) to innovate is in marked contrast to the mindset of many institutions spread right across the continent of Europe.

Our own assessment is that in many ways it may well need a crisis in order to accelerate the pace of institutional change. Although the Enron crisis had some potential as a stimulus, it was overlaid with wider considerations such as avoiding meltdown of parts of the accountancy profession. The dotcom crisis still needs to be retold as a systemic failure in the management of intangibles. It is not enough to see the bursting of the dotcom bubble simply as the correction of irrational exuberance.

There were constant attempts to measure intangibles in ways that to some of us defied common sense, let alone GAAP. The rhetoric of the knowledge economy is widespread at political level. If there is any real meaning to the knowledge economy, then it is essential to begin to put into place a more appropriate supporting measurement infrastructure.

In examining the question of resistance' some initial hypotheses can be put forward. The first is that ambiguity and uncertainty in reporting is greatly valued and appreciated by at least some information providers. I personally find it quite remarkable, not that corporations try to distort financial results through devices such as EBITDA. What is more remarkable is the willingness of even reputable business newspapers to actually report on such data uncritically.

One set of information users who are deeply concerned with greatly improved measures are the banking sector. One of our research projects is setting out to evaluate the views of venture capitalists.

RESISTANCE

In setting up the PRISM research project, we had anticipated a lack of awareness, or even a lack of interest, in the measurement and reporting of intangibles. What we had underestimated was the extent of resistance. Some of this is overt. Much of it is covert.

We have categorised the origins of resistance into three types:

- secrecy

We have seen examples in our own case study research where a high technology company was very well aware of the value of its intangible assets. But it was not they judged in their interests to reveal this publicly. The value only came to light after the company was acquired.

- self protection

Some players feel threatened by new approaches to measurement which they perceive either as deskilling them, or even as bypassing them.

- conservatism

Conservative resistance is opposition to the new, not preservation of the old

DISCUSSION AND CONCLUSION

Research to date has primarily served to highlight some of the problems involved in the measurement and reporting of intangibles. Experimental development work has tended to relate to early adopters. Early adopters do not need to be persuaded of the benefits of innovation in reporting. The problem lies with the majority and with laggards. Much more attention needs to be devoted to the process of change, including the motivation of those who need to be engaged in change either as active supporters, or by reducing resistance.

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