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Constructing intellectual capital statements

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Abstract

This article analyses the development of intellectual capital statements in 19 Danish firms. These statements are discussed in order to show how they work in relation to knowledge-management activities. Based on survey and interview data from the firms that have collaborated in developing intellectual capital statements, the article focuses on why and how these firms embarked on producing such statements. Three brief case studies illustrate the complexities of this type of reporting, which integrates a three-way relationship between narratives/stories, sketches, and metrics. © 2001 Elsevier Science Ltd. All rights reserved.

The relationship between intellectual capital and knowledge management is important, because intellectual capital statements report on the activities that management initiates and supports in the name of knowledge management. Although the expression intellectual capital statement makes reference to ‘capital’, it is not an authorised accounting term. Some authors use it “to refer to the knowledge and knowing capability of a social collectivity, such as an organisation, intellectual community, or professional practice” (Nahapiet & Ghoshal, 1998, p. 245). Other writers associate intellectual capital more intimately with human resource management (Boudreau & Ramstad, 1997), while yet others associate it with information technology (Davenport & Prusak, 1998). However, the literature offers little specific guidance as to how intellectual capital should be defined. It has been defined as “— knowledge, information, intellectual property, experience — that can be put to use to create wealth”

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(Stewart, 1997, p. x). It has also been seen as the combination of ‘human capital’, ‘organisational capital’ and ‘customer capital’ (e.g. Brooking, 1997, p. 13; Edvinsson & Malone, 1997, p. 11), or simply as ‘competence × commitment’ (Ulrich, 1998, p. 16).

Intellectual capital is said to be particularly important in a knowledge society. Here knowledge and information “have become the economy’s primary raw material and its most important outcome” (Stewart, 1997, p. x). Drucker (1993, p. 7) says that when entering the knowledge society “the basic economic resource ... is and will be knowledge” (see also Nonaka & Takeuchi, 1995; Toffler, 1990; Quinn, 1992; Reich, 1991). Therefore, “the traditional model of ‘accounting’ which so beautifully described the operations of companies for a half-millennium, is now failing to keep up with the revolution taking place in business” (Edvinsson & Malone, 1997, p. 1).

Such comments, however, are to a certain extent ‘hype’. To get a clearer idea about how intellectual capital works, it is interesting to see how it is being put to work. Not many firms publish intellectual capital statements (Johanson, Eklöv, Holmgren, & Mårtensson, 1998; Johnson, Mårtensson, & Skoog, 1999; Larsen, Mouritsen, & Bukh, 1999; Mouritsen, 1998), and those that do not may even consider their statement as being particularly concerned with intellectual capital. There are also other kinds of reporting, such as social accounting statements, stakeholder accounting statements (Gray, Owen, & Adams, 1996; Epstein & Birchard, 1999), or ‘merely’ supplementary accounting statements building, for instance, on parts of the balanced scorecard (Kaplan & Norton, 1996; Olve, Roy, & Wetter, 1998). Thus, it is not at all certain whether all kinds of supplementary statements that are said about intellectual capital have actually been developed with such statements in mind.

This article reports specifically on an experiment in developing intellectual capital statements. On the basis of a study of 19 firms — of which three will be described and analysed later — our aim is to illustrate the main ‘components’ of intellectual capital statements as they materialise in action. We argue that intellectual capital is not *one* thing: it is a fragile construct, which has to be continuously supported and held together by a whole array of interrelated elements. Drawing on insights from actor-network-theory (Callon & Latour, 1981; Latour, 1987), the article illustrates the performative, enrolling and translating character of intellectual capital statements. Here, intellectual capital does not have one immutable essence. Rather, it can mobilise different kinds of explanations about its own meaning and effects. We will show that, analytically, intellectual capital comprises three dimensions. One dimension is an identity story, which is a ‘grand narrative’ of ‘innovation’, ‘flexibility’ or ‘knowledge’, etc., that includes the justification of the identity story. The second is a management model specifying the set of managerial activities that gives substance to the ‘grand story’ in areas such as technology, organisational structure or employee development. The third dimension is a presentation model that identifies the objects that are committed to numbers in the intellectual capital statement. While the intellectual capital debate has been an essentialist search for the ‘true’ properties of intellectual capital, the present article suggests that intellectual capital may be understood as the ‘cohesion’ between an array of heterogeneous elements constituted as interrelated

practices. These practices concern not knowledge, but knowledge management activities as can be found in many different sectors of managerial action.

The following text is organised to illustrate and substantiate these points. First, there is a section on the intellectual capital debate followed by a section on the empirical basis for the article. We then introduce the concepts that will be used in the analysis, and with the help of three cases we show how intellectual capital works in these firms. The article closes with some concluding comments.

1. Intellectual capital

The intellectual capital statement movement of the 1990s can perhaps be said to have begun in the mid-1980s when some practitioners in the service industry in Sweden suggested an extension to the ‘financial’ reporting. The Konrad Group, chaired by Karl Erik Sveiby, created a template for a new annual report for ‘know-how’ companies (Sveiby & Riebling, 1986). These were companies with highly educated employees who attended individually to complex problem solving and made use of non-standardised solutions. According to the Konrad Group (1989), it was necessary to distinguish between know-how companies of this kind and knowledge-intensive firms, the difference being that the latter depended on a set of resources of a more structural kind such as financial strength, experience, established networks, relations with customers, suppliers, etc., whereas the former depended on single individuals.

Later, however, Sveiby (1997, p. xi) generalised his ideas to cover a range of ‘knowledge organisations’, suggesting that fundamentally such firms rely on ‘the professional’. In its attempt to create a new annual report the Konrad Group developed ‘the invisible balance sheet’ that was included in a recommendation from the Swedish Association of Employers in Service Industries in 1993 in a version generalised to suit all service companies (Tjänesteforbundet, 1993). Together with Leif Edvinsson and some consulting firms, notably the Swedish consulting and research firm SIFO,¹ Karl Erik Sveiby seems to have been the prime mover in launching the intellectual capital movement. Along the way, a number of American writers — in particular Thomas Stewart — have joined what is still a very small group of people who often cross-reference each other. Although the movement is global, the network of key people is still small. Up to now, moreover, the intellectual capital debate has been a forum for practitioners, while academics are just beginning to appear on the stage.²

¹ The SIFO group has been acting for some years as consultants on the management control methods for intangibles (Johansson et al., 1999). Their ‘Management of Intangible Assets’ model (cf. Ennerfelt, Paltchilk, & Tillberg, 1996) relates intellectual capital closely to the measurement of attitudes.

² In recent years a body of literature has been published on intellectual capital, knowledge accounting and related topics. See Johanson, Eklöv, Holmgren, and Mårtensson (1998) for a general survey or Bontis, Dragonetti, Jacobsen, and Roos (1999) for a more specific review of some of the tools that are being proposed for the measurement and management of IC resources.

1.1. Justifying the need: the market-to-book argument

One of the stories of intellectual capital, repeated in almost every book, is that it owes its importance to the dramatic increase in market-to-book ratios on most stock exchanges during the 1990s. Stewart (1997, p. 33), for example, justifies the importance attached to intellectual capital by reference to the huge market-to-book value obtained for firms such as Microsoft, Astra, Rentokil and Oracle. The difference between the market value and the book value is said to consist of its intellectual capital. After all, the argument goes, since the financial accounts account for the material assets, the rest must be due to immaterial assets such as intellectual capital (Edvinsson, 1997, p. 367; Edvinsson & Malone, 1997, pp. 2–3; Sveiby, 1997, Chapter 1; Roos & Roos, 1997, p. 413). Literally, intellectual capital is determined by an equation, $IC = MV - BV$, where IC is the intellectual capital, MV is the market value, and BV is the book value. While we do not deny that such a metric might be interesting to the study of capital markets, the insights provided in relation to specific firms are limited for at least two reasons.

First, there is the problem that intellectual capital is being defined in terms of what it is not: it is not market value, and it is not book value. This has the counter-intuitive implication that, up to a point, intellectual capital is partly a function — albeit possibly a complex one — of the financial accounting rules. As some scope is allowed in the way accounting rules may be applied, there is scope for defining book value, which in turn would affect the intellectual capital. The equation is upsetting from an accounting perspective, in that it suggests that a change in accounting rules would produce a different intellectual capital. This would happen, for example, if the rules for capitalising items in the balance sheet changed, or if the depreciation of fixed assets were accelerated with a consequent difference in the accounting result. In other words, if we accept intellectual capital as such a residual given by the equation, we would also have to accept it as a function of the accounting rules used to construct the book value. This is absurd, as intellectual capital is posited as being separate from financial capital.

Another reason why the market-to-book argument should not be taken too seriously at the level of the individual firm is its assumption that intellectual capital ‘fills’ the gap between market value and book value. If intellectual capital is only used to explain market values, how could it be of any value? If the market already knows the right market value, why bother to compute the intellectual capital? For information to be of any value, it has to provide more insight. Thus, if intellectual capital is to be of any value, it would have to influence the market values. In such a situation, intellectual capital cannot be subordinated to market values. It must be the other way around.

Consequently, intellectual capital should be defined in its own terms, and some questions then arise: in what sense does intellectual capital exist alone, and why do firms report on it? We suggest that intellectual capital statements are about knowledge-management activities. They are not about knowledge, which is a difficult and ambiguous concept; they are about the activities that management sets in motion in the name of knowledge. Knowledge is not interesting for what it is. It is interesting for

its effects, for what it does and how it works, for what managers can do to identify, transport and evaluate it, and for the way it can be communicated to the capital market, or to employees and customers, for instance, so that it can be acted upon. That is to say, knowledge does not have to be true in order to matter; it just has to work (see e.g. Austin, 1962). Therefore, it is necessary to investigate how it is being put to work, and hence the focus here is on knowledge-management activities.

It is interesting to note that this is just what Stewart, Edvinsson and Sveiby do — even if they do not say so — when they move on beyond the hype and rhetoric of their books. They all, after a few pages, start discussing the actions that intellectual capital is supposed to influence. They do this through paying attention to the classification of measurement systems.

1.2. The classification of intellectual resources

In most of the literature on intellectual capital, more attention has been paid to the construction of a general categorisation of its elements than to the specific metrics and measurements that comprise it. Hardly any of the intellectual capital statements that have been mentioned in the literature include a comprehensive discussion of indicators and the relations between them. Rather, the discussion has concerned the classification of intellectual resources with a view to capture the dimensions for such a classification. However, this is not measurement as such, although it could perhaps be considered ‘meta-measurement’.

There are various models and classifications of intellectual resources in the literature. Most are versions of what could be termed the Sveiby–Stewart–Edvinsson model (see Fig. 1) that suggests — although the exact words differ between the three writers — that there are three types of intellectual resources. Sveiby (1997) proposes employee competence, internal structure, and external structure. Stewart (1997) identifies human capital, structural capital and customer capital while, in Edvinsson (1997) the main distinction is between human capital and structural capital, which can then be divided into organisational capital and customer capital. On inspection, it can be seen that these distinctions tend to say the same things. Some assets are related to employees (employee competence, human capital, human-centred

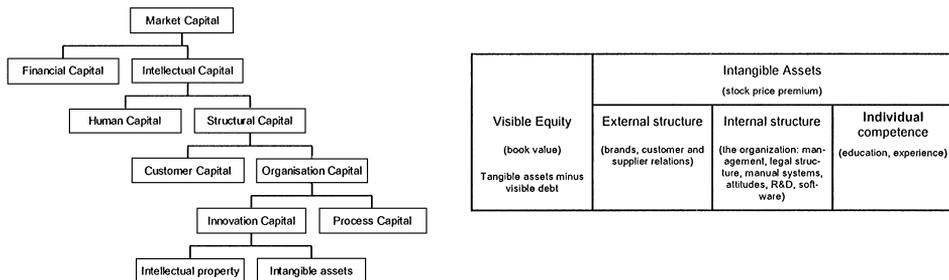


Fig. 1. Edvinsson and Sveiby’s models of intellectual capital.

assets) and are presented as being difficult to manage because they cannot be owned or prevented from going home at 5 p.m. Other assets — internal structure, structural capital, organisational capital and infrastructure — relate to the processes and procedures that are still present after 5 p.m., such as databases, organisational routines and the like. The third category of resources comprises external structure, customer capital and market assets, which are basically about relations with customers.

The three writers may word things differently, but they share a common concern to depict an area for reporting and managing that is beyond the realm of financial management. These classifications seek out areas that the financial accounting statement rarely visits, and the measures cannot be constructed ‘easily’ as bottom line indicators. Indeed, they all have open-ended definitions and are explained in examples rather than by mathematical logic as in the case of the double-entry bookkeeping system. Commenting on their system, Edvinsson and Malone (1997, p. 185) say: ‘Is this a definitive list? Hardly’. There is no set formula for the inclusion of measures, which is why measures can only be examples. They never constitute an integrated model. Sveiby (1997, p. 150) states this clearly: ‘The measurement system that I propose does not present a full and comprehensive picture of a company’s intangible assets; such a system is not possible’. An intellectual capital statement is possibly a model, but it is hardly a set calculation that arrives at a figure for the worth of a firm’s intellectual capital. Its headings — employees, organisation, and customers — for the possible extended reporting of a firm’s situation beyond the narrowly financial one have to be applied individually to every situation and filled with figures — often ‘non-financial’ ones. How can such an agenda work? It is here that the practices of reporting come in.

2. The Danish Intellectual Capital Project

The Danish Agency for the Development of Trade and Industry, the Copenhagen Business School, the University of Aarhus, Arthur Andersen and 19 firms have collaborated in a project to explore how the 19 firms, which did not at the time produce intellectual capital statements, would go about creating such statements. The project started in February 1998 and all the firms agreed to develop and publish intellectual capital statements for the years 1998 and 1999. The firms met about eight times a year (roughly speaking monthly with a break for the summer vacation) to discuss their progress, while researchers provided feedback on their activities by suggesting interpretations of what they were doing and of how they made sense of intellectual capital.

The research part of the project rested — and ‘rests’, as it is not yet finished — on three pillars. There was a semi-annual interview with each firm. Researchers participated as observers and commentators on the monthly meetings, and a questionnaire was administered annually. A methodology of this kind does not make the researchers independent of the object they have set out to investigate: being there,

holding multiple interviews, providing feedback, and providing readings are not unobtrusive activities.³

The five issues that held all these methodological devices together were the following: (1) Why do the firm want to measure intellectual capital? (2) Who is involved in the project? (3) How does the firm work with intellectual capital? (4) What is intellectual capital? (5) What potential effects is the reporting of intellectual capital expected to have? Halfway through the project all the firms have produced and published their first intellectual capital statement, and they are currently working on their second one, which will be published in May 2000.

Intellectual capital is analysed with regard to the way it holds various activities and practices together. The interest is not only in the contents of the statements that are being developed. It also concerns the way intellectual capital is mobilised, how it is drawn upon to produce effects and how it is situated in particular organisational settings. Closely following the firms over a three-year period provides an opportunity to study how firms ‘invent’ their intellectual capital. Instead of analysing the final product, i.e. the intellectual capital statement, the aim of the project is to follow the intellectual capital statements in the making (cf. Latour, 1987). It is a question of studying an actor crafting a space around itself and enrolling other elements in a state of dependence on itself (Callon & Latour, 1981). This means that the ‘connections’ that comprise the intellectual capital statement are endowed with the possibility of making “change in the set of elements and concepts habitually used to describe the social and the natural worlds. By stating what belongs to the past, and of what the future consists, by defining what comes before and what comes after, by building up balance sheets, by drawing chronologies (the intellectual capital statement), imposes its own space and time. It defines space and its organisation, sizes and their measures, values and standards, the stakes and rules of the game — the very existence of the game itself,” (Callon & Latour, 1981, p. 286).

Thus, intellectual capital is not seen as a given phenomenon, or as something that has an essence or a specific reference. On the contrary, the referent has to be ‘invented’, and it is this process of invention that the project is observing as it unfolds. It analyses

³ In a sense there is an action research dimension to this research, as to a certain degree it “results from an involvement by the researcher with members of an organisation over a matter which is of genuine concern to them and in which there is an intent by the organisation to take action based on the intervention” (Eden & Huxham, 1996, p. 526). Action research has frequently been criticised for its lack of repeatability, and hence its lack of rigour, because the interventions are ‘one-offs’. In this project, however, a number of issues confronting the companies will be comparable, e.g. the same type of contact to the Ministry and the same professional consultants participating in the project, the same introductory material and the same requirement regarding the delivery of an intellectual capital statement. Further, we have the opportunity to investigate in advance the motives of the companies for participating in the project and the background of the different participants. The intervention in any one of the organisations will be different from that in any other since the issues raised during the interviews will not be exactly the same, the firms may participate in different meetings, etc. But it will be possible to try out theories in these slightly different settings, adjusting the interpretation of the theory to the circumstances. Since the criteria of credibility in this research project are based, to some degree, on judgement, we are approaching the research questions from as many different angles as possible in the collection of data (cf. Denzin, 1989).

how and by what agreements and means the very notion of intellectual capital mediates organisational procedures and actions that serve to define what intellectual capital is all about, both as a set of inscriptions and as a set of organisational decision-making processes. We are interested not only in the details of the statements that are being developed but also in the question of how intellectual capital is mobilised, how it is made to perform, how it will be drawn upon to produce effects and ultimately, how it will contextualise itself.

In order to increase our sensitivity to the particulars of each separate firm's development process, we attempted to remain as 'dimensionless' as possible, "making no a priori distinction between the size of actors, between the real and the unreal, between what is necessary and what contingent, between the technical and the social" (Callon & Latour, 1981, pp. 291–292). This does not mean that all actors have the *same* size, but "that a priori there is no way to decide the size since it is the consequence of a long struggle." (Callon & Latour, 1981, p. 280) Such a continuous struggle of translation not only calls for sensitivity to the specificity of each site. It also suggests that the intellectual capital statement is highly unstable. A black boxing of the intellectual capital statement is a possible effect of this struggle, but it is by no means an assured effect. In principle, a stronger actor could replace intellectual capital, but this is a matter for the future to show.

2.1. Working with intellectual capital

Most of the firms — 85% — centralised their work regarding intellectual capital. The units involved were usually the human resources department and the accounting department, but in all cases there was strong involvement on the part of the top managers. Statistical evidence suggests that in about 85% of the firms top managers were part of the project group, and that in about 65% of the cases people from accounting and human resources were also engaged. As 21% of the firms do not have a HR department, the presence of HR issues is stronger than what the naked data suggests.

What effects are interesting for firms working with intellectual capital, and why do they work with it at all? Fig. 2 illustrates the importance of a set of possible reasons for producing intellectual capital statements. The figure is based on questionnaires completed in the spring of 1998 and 1999, in which respondents were asked to indicate on a five-point Likert scale the importance attached to the specific reasons suggested. The figure shows the percentage of the firms that rated the suggested reasons as 'important' or 'very important'. Most firms agree on almost all the points. This is not very surprising, since the questionnaire was developed after completion of the first round of interviews, and was thus able to accommodate the answer categories that had been found to be relevant.

The figure shows that the reasons were associated with intellectual capital statements centring around the relations between people, knowledge, inter-organisational relations and organisational routines. It also shows that all the reasons mentioned attracted a high level of interest not only the first year but also the second. This means, on the one hand, that the interest in intellectual capital as being involved in rather

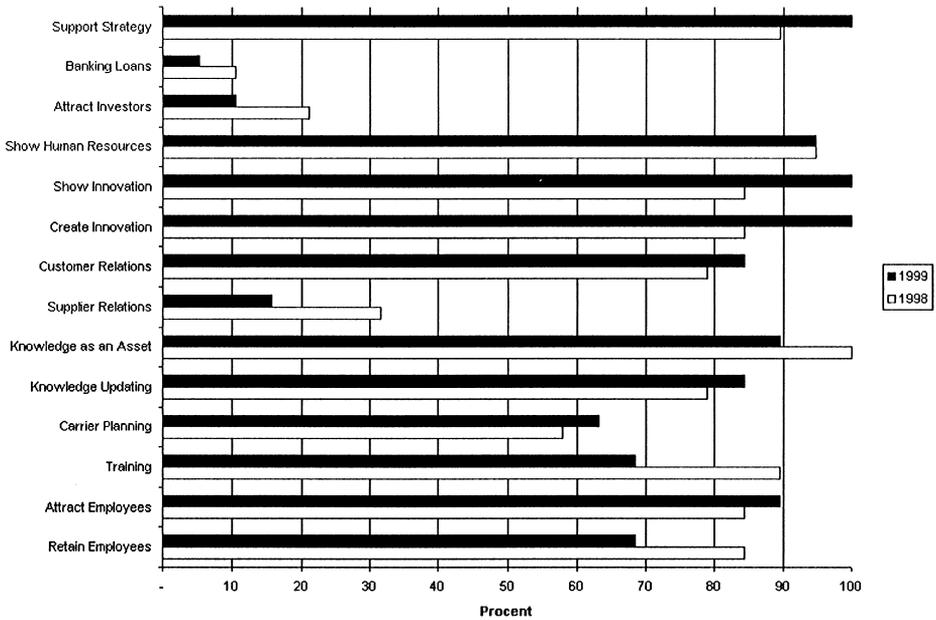


Fig. 2. Reasons for working intellectual capital statements.

a complex set of organisational relations is stable across firms and over time. On the other hand, it also indicates that the reasons why the firms work with intellectual capital remain stable, or perhaps become even more clearly stated, since the issues deemed to be important in the 1998 survey are generally assigned even greater importance in 1999. It is also worth noting that only very few firms see intellectual capital as particularly interesting in relation to the capital market. Knowledge-management concerns, rather than ideas about attracting capital, appear to be the main overall justification for the interest in intellectual capital. All in all, Fig. 2 shows that the firms’ main motives for working with these statements are as a support for their strategic activities; to attract, retain and develop their employees; and to strengthen and display their knowledge-sharing and innovation activities.

The first round of intellectual capital reports was published in the spring of 1998, by which time only the 16 firms listed in Fig. 3 had completed their reports. The remaining three firms also published a report, which include a template for their proposed intellectual capital statement but they did not include any actual measures.

As is show in Fig. 3, the 16 firms used a variety of indicators ranging in number from 6–7 to more than 50. Firms with a small number of indicators generally reserved these for statements on human resources, while a larger number of indicator gradually produced more statements on customer relations and organisational processes as well.

These statistics show a certain variation, suggesting that intellectual capital statements are pointing towards different things in the different firms. The aggregate

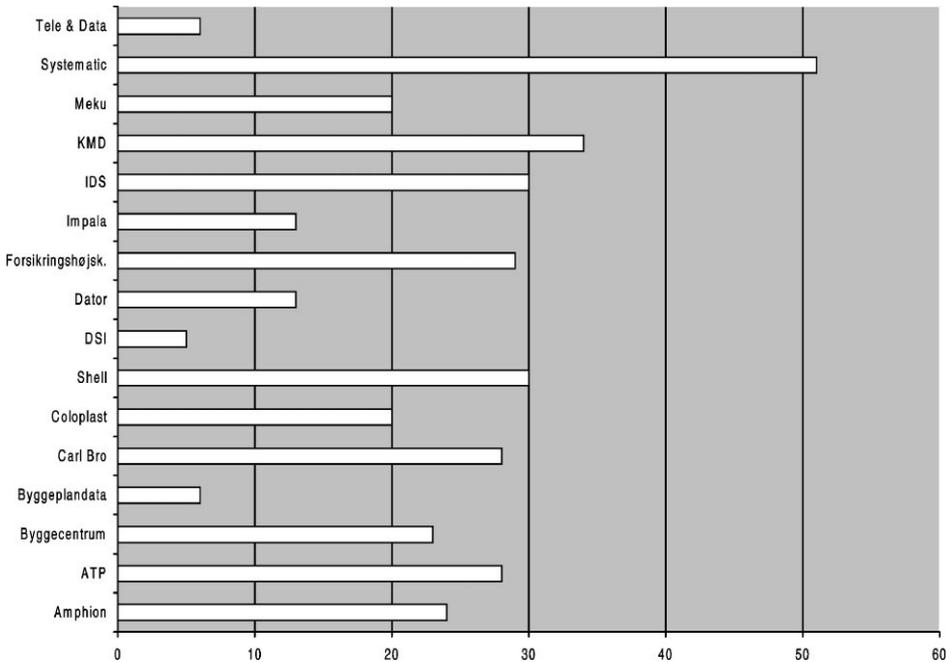


Fig. 3. Number of indicators in intellectual capital statements.

figures do not show explicitly how this variation works — whether it is a quantitative difference only, or whether it is also qualitative. In the following section three examples are presented showing that a qualitative difference exists, which suggests in turn that intellectual capital attaches itself to organisational practices in different ways.

3. The structure of intellectual capital statements

As Fig. 3 shows, there is a noticeable variety in the number of indicators in the published intellectual capital statements, indicating that there is no a final, accepted model. The intellectual capital statement therefore has to be constructed or invented in the context of the particular situation. In this process the firms appear to mobilise two kinds of firm-specific models that we have called the presentation model and the management model. The *presentation model* is often based on a sketch defining the themes around which measurements are organised. The associated *management model* designates the management activities that are ‘referent’ for the presentation model.

The Danish project is concerned with external reporting, i.e. the disclosure of intellectual capital. Thus the sketches and indicators that we see in the intellectual

capital reports are related to the presentation models of the specific firms. These models differ because the knowledge-management activities are organised in different ways in the firms, and are made to work through a variety of managerial foci ranging from human resource development, and the application of IT systems, to structural organisational arrangements.

3.1. The generic intellectual capital model

Despite the presence of such differences, certain aspects in the way these firms go about constructing their intellectual capital statements allow us to derive a more generic model of the structuring process. This model, shown here in Fig. 4, illustrates how the *measurements* are defined and connected with a set of *management arenas*, and how these in turn connect with a *scenario* in the sense of a narrated organisational identity which endows them with relevance. These three elements are closely linked to one another, albeit in very different ways in different firms.

Fig. 4 shows how intellectual capital statements make connections between measurements, themes represented around these measurements, and the broad story that makes intellectual capital productive. There are three kinds of fundamental issues represented by matching kinds of information. ‘What Is’ information is concerned with the question ‘do we have the right portfolio of resources?’. The ‘What Is Done’ information raises the question ‘are we carrying out the right qualifying or upgrading activities?’, and the ‘What Happens’ information is concerned with the broad question ‘Does what we do work?’. These measurements are indicators

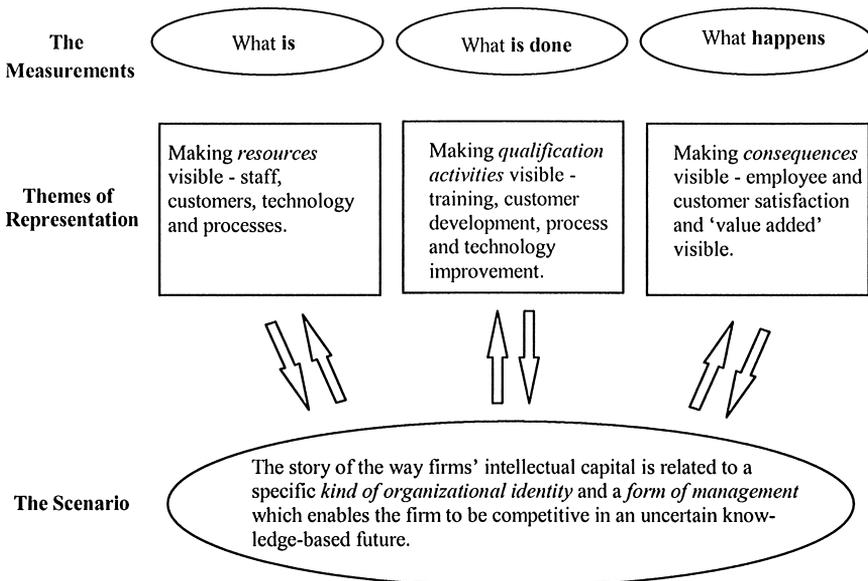


Fig. 4. The elements of the intellectual capital statement.

in a performance-management system, typically embracing employees, customers, processes and technology. Statements on employees are people-related measures such as formal qualifications ('What Is'), investments in on-the-job training and education ('What Is Done') and employee satisfaction ('What Happens'). Likewise, statements on customers are measured in terms such as number of large customers ('What Is'), marketing efforts per customer ('What Is Done'), and customer satisfaction ('What Happens'). Statements on processes may show resources per process ('What Is'), quality activities ('What Is Done') and throughput and waiting time ('What Happens'). Lastly, statements on technology may be concerned with PCs per employee ('What Is'), IT investments ('What Is Done') and IT certificates ('What Happens').

This generic model builds on the resource-based view of the firm or competence theory (e.g. Grant, 1996, 1997; Hamel & Prahalad, 1994). From this perspective a starting point for the formulation of strategy, as indicated in Fig. 4, may be a statement of the firm's identity and purpose (cf. Grant, 1998, p. 107) or an understanding of "who you are, and what you want to be" (Roos, Ross, Edvinsson, & Dragonetti, 1997, p. 62). In this way, intellectual capital statements signify an interest in the form and kind of internal, foundational capabilities that can drive future earnings in a broad sense, rather than a primary focus on profits, market share and customer satisfaction, all of which are measures of current results (Ross, 1998).

3.2. *Sketches, measurements and narratives*

A glance at actual intellectual capital statements suggests that many types of measurement are possible, but that the choice of measures to report is not an arbitrary one. The relevance of measurements is determined by their ability to support the firm's identity story and the specific form of management that seeks to 'implement' it. What count as 'What Is', 'What Happens', and 'What Is Done' measures, will depend on the general story of organisational identity and the specific form of management activities that constitutes it. Although the intellectual capital statement may not be a complete *smorgasbord*, it does open the way for a variety of different kinds and configurations of measurements, as the three examples to be discussed below will demonstrate. It is interesting to note that most of these indicators may be labelled 'non-financial', even if in a technical sense such a designation does not hold. Market share information is financial, and so is cost of training per employee. What makes it possible to call these indicators 'non-financial' is that they are mediated by information from outside the financial database, rather than because they lack reference to financial information. However, certain other types of information, such as measures of satisfaction, time or quality, are more obviously 'non-financial'.

There is much more to an intellectual capital statement, though, than the measurements and themes of representation. There is the interpretation that connects the themes of representation to a story line. Intellectual capital statements acquire relevance not because they are logical in a strict mathematical sense like financial key

ratio analysis such as the DuPont pyramid. Rather, they are relevant because they can be made to support, and not to conflict with, a broad story about the identity of the firm. This broad story is about relationships between employees, customers, technologies and processes, and about the role of people's 'psychic energy' or 'motivation' directed towards identifying and solving the firm's problems at large. The intellectual capital statement includes a story of organisational identity in which some measure of 'empowerment' has a place, because new markets and a greater variety of customers, technologies and relationships have to be served. There is 'talk' about an increasingly 'individualised firm' (Bartlett & Ghoshal, 1997). This is important because, as Czarniawska (1997) puts it, "if we want to understand a society, or some part of a society, we have to discover its repertoire of legitimate stories and find out how this evolved" (Czarniawska, 1997, p. 16).

Hence, the intellectual capital statement is more than just a set of metrics. There are also sketches/visualisations and stories/narratives. Together these metrics, sketches/visualisations and stories/narratives form a network, which constitutes the report. The metrics show that management is serious about intellectual capital, and that it can be held accountable for its words and the aspirations it espouses. The sketches/visualisations construct a certain 'wholeness' in the organisation of metrics or measurements, while the story/narrative suggests how the legitimacy of the intellectual capital statement is created.

4. The intellectual capital statements: narrating organisational identity

In the following pages three examples of this network will illustrate the way it works. The examples have been chosen from among the 19 firms in the Danish project in order to show that intellectual capital reporting can be interpreted and used very differently by firms. They choose various ways to preserve and develop their capabilities and knowledge resources. The examples illustrate the complexities involved in connecting the identity story, the management model (showing management's levers in knowledge management) and the presentation model (a sketch of the boundaries of the specific idea of intellectual capital).

4.1. Dator

Case 1 concerns Dator, a small Danish IT company where the story line shows a firm working to integrate the 'heart' and the 'mind'. The case illustrates a three-way interaction between a comment on the knowledge-management problems of the firm, a sketch indicating the boundaries of what intellectual capital means in this particular firm, and the set of measures reported in the intellectual capital statement.

All the measures here are constructed around the employees. The management model concerns the way high professional capabilities can be combined with personal qualities, social competencies, so that the employee is able to act as a responsible

Case 1: Dator

<p><i>Dator's technical solutions are produced in project groups, which are assembled differently from project to project. Employees' knowledge can be divided into professional knowledge and application knowledge. The professional knowledge concerns programming, software and hardware. Application knowledge refers to customers' processes and needs.</i></p>			
Category \ Form	"What happens": Effect measures	"What is done": Internal key indicators	"What is": Statistical information
Employees		<ul style="list-style-type: none"> * Average training investment /employee/year * Training investment (% of total salaries) * Average hours of on-the-job training * Average hours 	<ul style="list-style-type: none"> * Number of staff * Numbers of women/men * Intake of new employees (last year) * Resignations (last year) * Staff distribution (development/operations/other) * Average seniority * Average age of staff * Educational profile * Employee education
Customers			
Processes			
Technology			

project leader. It is a case of a ‘capable’ organisation enacted through its members. As they suggest in Dator:

We usually say this place is characterised by ‘hard fun’. It must be great to be here. This is what we want, and this is precisely what young people want. Work has to develop us and to be fun at the same time. We have a reputation that says you can only be an employee here if you have top grades, but we try hard to explain that this isn’t the only kind of knowledge we want. It is true that a person has to be professionally very able, but his or her personal competencies are just as important.

There is a concern here that intellectual capital should be a matter of ‘heart’ and ‘brain’, which have to be in accord. Knowledge-management activities aim to attract and retain the best people — ‘best’ in both a professional perspective and a personal perspective. The competencies needed are not only academic but also ‘social’. This is particularly important because most of the employees work independently as project leaders in collaboration with customers, and because it is a small firm, Dator’s employees have to be able to manage things on their own.⁴

4.2. Systematic

This is different from Case 2, which concerns Systematic, another Danish IT firm, but a larger one than Dator. Systematic has a different constellation of presentation

⁴ Dator could be the kind of firm envisioned by Jensen in his recent book about the new era into which the information society is morphing, and in which the new work concept is changing “[f]rom hard work to hard fun” (Jensen, 1999, p. 117; also p. 133).

and management models. The presentation model is a variant of the EFQM model that is used for quality awards in many parts of Europe, and it illustrates a managerialist approach to intellectual capital. It demonstrates in a causal model how results are constructed on a basis of inputs and transformations. Here, the ultimate results are financial, but results relating to customers, employees, innovation and the surroundings are also mentioned.

The measures used by Systematic are mainly configured around the ‘What Is’ and ‘What Happens’ indicators. Systematic’s management model is concerned with the way individuals and organisation can be aligned. It is also concerned with the way standardised routines and controls will allow excellence — such as high quality and delivery on time — to materialise in project-work with customers. This kind of ‘capable’ organisation performs by way of standardised processes and highly qualified employees, and the relation between these two show up in quality products. As Systematic says:

We solve a problem for the customer and deliver a piece of software. In principle, we are a consulting firm offering knowledge and expertise rather than a product-house delivering standard solutions. My picture of Systematic is that we deliver unique solutions based on the people and processes we have... . Our TQM project is closely related to our intellectual capital project. It is about processes and we want to include more measures of our projects’ timeliness in the statement.

Here, Systematic suggests that processes should be central to knowledge-management activities. The development of project management systems, quality, and reliable delivery times are parameters of the management activities launched to improve work in the areas suggested by the presentation model, i.e. customers, innovation and employees. It is a model of the ‘income statement’ regarding intellectual capital, and it is intended to indicate the systematic links between efforts and results.

4.3. *Carl Bro*

Case 3 concerns Carl Bro, a Danish consulting engineering company, and it tells a story of intelligent solutions. It is metaphorical in stating what intellectual capital is to produce. The presentation model breaks down intellectual capital into parts, which yields seven different forms of capital to be reported: human capital, customer capital, image capital, innovation capital, process capital, and IT capital.

Carl Bro’s story is complemented by a set of measures focusing on portfolio metrics (‘What is’) but also on effects in the form of ‘What Happens’ ratios. Together these produce a model of a ‘balance sheet’ of intellectual capital whose elements are treated as separable ‘assets’ that can be grouped in the seven categories. The model does not describe the throughput process, as in the case of Systematic, but instead singles out the resources of the firm.

Carl Bro’s management model is concerned with the organisation of virtual competence centres, comprising groups of people who debate certain professional issues pertaining to the professional and academic foundation of their practices. It is ‘virtual’ in the sense that, as an enabler, Carl Bro has set up its intranet. A manager heads each

Case 2: Systematic

Systematic's most important resource is knowledge. The foundation of the company is based, first and foremost, on the knowledge and competency of our employees (human capital), but also the knowledge and experience of our customers, processes and technologies (structural capital).

Category \ Form	COMPANY MODEL		
	FOUNDATION	EFFORTS	RESULTS
	Vision	Values Goals	People Processes Infrastructure Customers Employees Innovation External Relations Financial result
	“What happens”: Effect measures	“What is done”: Internal key indicators	“What is”: Statistical information
Employees	<ul style="list-style-type: none"> * Absence due to sickness (days/employee) * Total employee satisfaction * % of employees perceiving Systematic as a satisfactory/very satisfactory workplace 	<ul style="list-style-type: none"> * Training days (employee/year) * Training investment (employee/year) * Size of project teams * Team member participation in different project phases 	<ul style="list-style-type: none"> * Staff number * Average number of full-time staff * Staff distribution over different tasks * Average age of staff incl. % under 40 * Number of software engineers/number of staff employed in administrative functions * Intake/reduction of software engineers * Professional software experience - total number of years * Professional software experience - average per software engineer * Educational profile * Cola-index
Customers	<ul style="list-style-type: none"> * Total customer satisfaction * Duration of existing customer relationships * New strategic customers during the year * % of customers who would recommend Systematic 	<ul style="list-style-type: none"> * Customers visiting Solvejg's lunch buffet * Participation in research projects 	<ul style="list-style-type: none"> * Distribution of turnover between projects and own products * 5 largest project customers as % of project turnover * 5 largest licence sales as % of product turnover * Export's share of turnover * Number of licences sold during the year * Active project customers during the year * Active project customers during the year (Defence/Non-Defence)
Processes	<ul style="list-style-type: none"> * BOOTSTRAP process assessment * Software Development Performance (5 positions) * Score in European benchmark survey of software companies * Own products share of turnover * Average response time for calls to switchboard * Total telephone service index (share of calls completed in first call) * Number of platforms IRIS is compatible with * Employee satisfaction with 'quality and efficiency of processes' * Customer satisfaction with 'quality of services and products' * Pizza-index (per employee) * Quality certificates (ISO 9001, AQAP) 	<ul style="list-style-type: none"> * Consumption of internal hours on Software Process improvement * Investment in product development * Investment in process improvement * Total investments in innovation activities (incl. % group turnover) 	
Technology	<ul style="list-style-type: none"> * Employee satisfaction with 'office premises' * Number of hits on web-site per day * Bicycle index (% of employees using a bicycle as their primary means of transportation to work) 	<ul style="list-style-type: none"> * Investment in computer equipment * Investment in premises and office equipment 	<ul style="list-style-type: none"> * PCs/workstations per employee * Number of servers in network * m² office space

virtual competence centre. Carl Bro is a ‘capable organisation’ in the sense that employees are equipped with the ability to collaborate with customers in the course of producing intelligent solutions. On the one hand, by virtue of membership in one or

Case 3: Carl Bro

<p><i>Our national and international services require innovation and cultural sensitivity. Our employees strengthen their abilities by representing the Carl Bro Group locally and internationally. This makes it easy to work across borders and cultures. The Carl Bro group delivers intelligent solutions by constantly being one step ahead strategically and professionally. This requires a broad spectrum of expertise. The number of employees of different backgrounds has therefore been constantly growing. Through co-operation across these backgrounds we reach our common goal – intelligent solutions.</i></p>		<p>Map of capital</p>	
		<p>Category \ Form</p>	
	<p>“What happens”: Effect measures</p>	<p>“What is done”: Internal key indicators</p>	<p>“What is”: Statistical information</p>
<p>Employees</p>	<ul style="list-style-type: none"> * Share of satisfied employees 	<ul style="list-style-type: none"> * Investment in training (employee/year) * Share of employees with updated development plan 	<ul style="list-style-type: none"> * Number of staff * Number of women / men * Distribution by age * Educational profile * % of staff working abroad
<p>Customers</p>	<ul style="list-style-type: none"> * Customer satisfaction * Image amongst managers of other firms * Image amongst students (% seeing Carl Bro as an ideal/potential future employer) 		<ul style="list-style-type: none"> * Distribution of turnover public: private sector customers * Distribution of turnover by centres of expertise * 5 largest customers’ share of turnover * 10 largest customers’ share of turnover
<p>Processes</p>	<ul style="list-style-type: none"> * Share of employees satisfied with the administrative system * Total number of first-time sales of new concepts/products * Number of first-time sales of new concepts/products per employee 	<ul style="list-style-type: none"> * Total number of innovation projects * Number of innovation projects per employee 	<ul style="list-style-type: none"> * Number of projects involving different sectors of the company * Share of interdisciplinary projects of all projects * Share of projects involving different business units * Share of turnover from projects involving different business units
<p>Technology</p>		<ul style="list-style-type: none"> * Investment in IT per employee 	<ul style="list-style-type: none"> * % of employees with the possibility of teleworking * Size of shared knowledge data base in gigabytes * Number of shared knowledge documents on Intranet

more competence centres, the individual employee has professional knowledge. On the other, the individual employee is encouraged, by the help of certain employee development programmes to enter upon relations said to be characterised by interdisciplinary thinking, creativity and inventive attitudes. For example it was said in Carl Bro:

What do we think the intellectual capital statement tells about us? Primarily that we are willing to think and change. That is: there is no final story about the firm. Our story is that we would like to be society’s advisors. A place, a house, where you go if you have a large and complex problem, and we will solve it — on the basis of good ethics and social understanding. This is our story, and the intellectual capital statement supports it, but does not in itself tell it. When I say intelligent solutions, I mean giving the customer the best solution and having an appropriate basis for it. It is partly about mission, values and vision. Intelligent solutions are ethical, — and we construct them also by having good IT infrastructures, etc.

Carl Bro explains here that a whole infrastructure attaches to an intellectual capital statement. First of all, the statement itself does not tell the firm’s story, which is

complex, full of nuances and often metaphorical. Yet it helps to create a certain seriousness about the story. The story itself is enacted on different levels of understanding and produces a range of justifications for the relevance of the firm. It is presented as a social asset that helps society to solve its problems. It also has missions, values and visions, which help employees to grow, and its solutions are intelligent. The idea of intelligence is a substitute for a complex description of the engineering craft, and its justification is found in appeals to social benefits. The last part of the quotation explains that — in order to be able to do this — there has to be a good portion of infrastructural assets. IT has to be in place, organisational competence centres have to be in place, and employees have to be outgoing and interested in mingling with society.

These three cases illustrate that intellectual capital statements are but one element in a wider network of relations. The whole array of relations constitutes the possibility of the intellectual capital statement having some form of intelligent value. The metrics help tell a story about the mechanisms by which the firms attempt to construct knowledge-management activities, but they do not themselves explain what these are. The story points this out, but in the abstract as metaphors of the effects of the firms' doings, and in a more concrete list of activities concerning knowledge management that the firms predicate. Dator primarily reports employee measures and has a story about the human brain and heart being necessary to the conduct of good business. Systematic is concerned with the transformation of actions into effects — ultimately into financial effects — where such things as quality control systems and reliable delivery times are structural objects for managing knowledge. Carl Bro uses a sketch that distinguishes between 'assets', and suggests that the individual types of asset have to be integrated, as is clear from this firm's simultaneous emphasis on employee development, infra structure, and customer relations.

All the firms in this project are interested in all areas of intellectual capital development, but their efforts are guided by different priorities that are tied to the local situation. The intellectual capital statements analysed in this paper are the firms' first attempts, and they are all developing their model as regards measures as well as sketches and stories. There will most likely be changes as they proceed. However, it is interesting to see that they all claim that the intellectual capital statement is concerned with identifying, managing, and sharing knowledge. Firms assemble their own configuration of themes and measures, which is why each and every set of measures has to be accompanied by an interpretation. This is what the stories and the sketches help to accomplish. The three elements of the intellectual capital network come together, and together they identify the way intellectual capital is concerned with the management of knowledge in the individual firm.

5. The object of intellectual capital statements: knowledge-management activities

The relationship between intellectual capital and knowledge management is an intimate one. In empirical intellectual capital statements, knowledge-management activities — rather than 'actual' knowledge — are made visible. These are not

presented in bottom-line terms based on the digitisation of the market-to-book value, but rather as a set of loosely linked ‘non-financial’ indicators that do not add up to any ‘grand conclusion’ even though they support a ‘grand story’. They digitise various aspects related to the activities managers set in motion to mobilise and leverage ‘knowledge’.

In a company like Dator knowledge is created and disseminated as a result of the contribution of the committed employee. Thus, the locus of knowledge is the individual, and management cannot govern the development and creation of knowledge by way of a command and control structure but only by crafting metaphors, allegories and models to encourage lateral thinking. The organisation is empowered, highly decentralised and individualised (see also Bartlett & Ghoshal, 1997) and its knowledge-management strategy is ‘person-centred’. The firm’s human resources strategy is thus central, and the intellectual capital statement reports on its implementation.

In the two other examples, Systematic and Carl Bro, the corporate competence consists of the ability — or knowledge — to consolidate bundles of interpersonal technologies and skills. These are integrated in competencies or capabilities emanating from the combination or co-ordination of technologies and skills, and the locus of knowledge in this perspective is therefore collective (cf. Hamel & Prahalad, 1994, p. 223; Prahalad & Hamel, 1990, p. 81). These two organisations are concerned with the mechanisms that integrate various organisational loci, skills and technologies. The mode of knowledge management here is not person-centred but centred on processes and procedures.

These two perspectives in which knowledge management can be mobilised indicate two different types of knowledge-management activities. The ‘person-centred’ strategy focuses on human resource mechanisms and shows itself in policies for recruitment, training and development and career planning, as in Dator. Under this mode of knowledge management the manager’s job is one of constructing portfolios of people with different technical and social skills. In contrast to this, the ‘collectivity-centred’ strategy focuses more on various sets of IT-applications, organisational forms and project-structuring activities that management can employ to craft relationships between people and technologies.

If these are the forms of knowledge management that underlie the intellectual capital statements, do the statements reflect such activities? This is where the interpretation of the reported metrics, sketches and the stories has to be addressed anew. First of all, behind the stories it is possible roughly to identify a set of management activities, which confirm their plausibility. They indicate different sets of ‘knowledge in work’. In Dator the emphasis is on creating a portfolio of people with ‘brains’ suited to a highly complex product. The firm is seeking top-quality graduates. Further, many of the activities undertaken concern the ‘heart’ — getting employees to perceive the collectivity as integration at the level of ‘culture’ and ‘shared ideas’. This is a focus on human capital. Systematic, in contrast, focuses more on developing procedures that allow the firm to deliver constantly at a high level of quality and adherence to deadlines in production activities. Here the focus on infrastructure and performance-management systems is more pronounced, and although there is also a certain

concern for human capital and customer capital, the main and most characteristic mechanisms are instances of organisational capital. Organisational capital is also important at Carl Bro, but in its story this firm points out that customer capital may be even more important, as the attempt to increase sensitivities vis-à-vis customer confirms this.

In all three cases, the 'referent' of knowledge management consists of the activities that managers perform in its name. These can involve changes in IT systems, human resource programmes, organisational review mechanisms, and detailed operating systems for empowerment and decentralisation. The object of knowledge management thus varies, and the intellectual capital statement provides a possibility for checking and monitoring whether the programme of knowledge management is being pursued. In this respect, intellectual capital statements can be seen as stories about the ways firms implement competence strategies. These stories are constantly being tested through the sketches and the metrics. Thus the stories, the sketches and the metrics are never simply there for the strict measurement of the value of intellectual capital. They are there to support the transformation of value. Since strategy — competence strategy rather than competitive strategy as such — varies between firms, it is no surprise to find that stories, sketches and metrics vary greatly as well.

6. Conclusion

As illustrated by the variation between the intellectual capital statements in the Danish Project, there is no set model for intellectual capital statements, nor do they provide a bottom-line indicator of the value of intellectual capital. Intellectual capital statements are situational, and they are mobilised by firms to help to implement strategies rather than to describe historical results. They are concerned not only with metrics, but always with the change activities that are made visible and legitimated by sketches and stories as well. Measurement and process cannot be separated because together they continue the language and practices of intellectual capital. The intellectual capital statements do not disclose the value of the firm's intellectual resources. Rather, they disclose aspects of the firm's knowledge-management activities. The metrics, stories and sketches on the one side and the knowledge-management activities on the other are integral parts of the intellectual capital statements.

The Danish project is not yet over, and the firms agree that they have not yet found their preferred model for intellectual capital statements. The kind of analysis presented here is a part of the project and is a reflexive aspect of it. It may help to change some firms' aspirations about the project, which is why the conclusions arrived at in this paper are provisional. The firms, for instance, will hardly in the future be as they are described here. Intellectual capital will not be what it is now. It is interesting that several of the firms have asked for the project to be prolonged. As they say, two intellectual capital statements are not enough, and they are only just beginning to understand their complexity and potentiality.

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