The Intellectual Capital: Managing by Measure

Paper submitted to the
1999 Critical Perspective on Accounting Conference
April 22nd—April 24th, City University of New York

Miriam Salzer-Mörling, Ph.D School of Business Stockholm University 106 91 Stockholm, Sweden MS@fek.su.se	Ali Yakhlef, Ph.D. School of Business Stockholm University 106 91 Stockholm, Sweden AYA@fek.su.se

The Intellectual Capital: Managing by Measure

Abstract

Ever since the introduction of Taylor's Scientific Management, human labour has been a target for compartmentalisation, measurements and calculations. With the advent of the so-called 'Knowledge Society' the rhetoric of management has shifted its focus from manpower to brainpower. In an "age of mind-crafting", knowledge workers constitute a valuable "capital". Liberated from the constraints of dusty hierarchies and mechanised production lines, the employee in the knowledge society has come to be construed as an empowered knowledge creator; owner of the most strategic resource: Knowledge. Hence, control of such resources has become a source of managerial concern and worry. Under different guises—such as 'intellectual capital', 'knowledge management', 'accounting for knowledge', 'managing intangibles', etc—a far-reaching discourse is evolving with the aim of rendering the "hidden" brainpower into calculable, and thus controllable, assets.

Hence, within the pursuit of universal transparency, knowledge has fallen prey to the vocabulary and practices of accounting, being turned into an objective resource, extracted from the body it dwells, and inscribed in measurable forms which are amenable to exchange, control and deliberation. One of the most heroic attempts at turning knowledge into numbers is undertaken by Edvinsson & Malone (1997). Through a set of practices of division and exclusion, the category of *intellectual capital* is created, thereby creating a flurry of accountable worlds (Yakhlef 1998), metrication instruments, processes, disciplining and disciplined people. Once the semantic of

knowledge is couched in the litany of accounting, the age-old dictum that 'you can only manage what you can measure' is reinsured as the *modus operandis* of good management and rational behaviour. It seems as though numbers are the only means for us to relate to the world and, maybe also, to ourselves. In this paper, we question the way the discourse on Intellectual Capital is constructed, laying bare the motives and intentions animating it.

Introduction

> Upon her arrival to Africa, the Swedish aid-worker is greeted by a native black boy who eagerly and willingly starts to help her unpacking. A long pen-like thing in one of her bags catches his attention:
>
> - '*What's this?* He asks, carefully examining the object.
> - '*It's a thermometer',* replied the aid-worker.
> - '*What's it for?*
> - *'Oh, it's a device that tells you how cold the weather is…'*
>
> The boy muses for a second and gazes at her
>
> - '*But why do you need that, doesn't while skin FEEL?*

Through the history of management, the relationship between employees and their organisation has been the target of many programmes of rationalisation and reformation, albeit scientific management, 'human relations', human resource management, 'Business Process Re-engineering, etc. Among the new-comer to this litany is what has come to be labelled 'knowledge management', or 'intellectual capital', etc. Whereas 'scientific management' sought to remedy the deficiencies of the employee's body and motion in time and space, 'knowledge management' is more specifically posed to target

the mind of the employee. Against background chanting the advent of the information/knowledge society, it has become widely accepted that knowledge is a useful thing for company to have, thereby gaining centre stage in most strategic discussions.

Today, the top concern of corporate managers revolves around such questions as what is knowledge? Where does it reside? How to secure it, spread it, develop it, manage it, measure it, etc? The ultimate aim is to displace knowledge from the body it inhabits to the balance sheet where it is meant to feature as a new type of capital commonly referred to as 'intellectual capital', rivalling and eclipsing the traditional concept of financial capital. By and large, the concept of 'intellectual capital' is today very much en vogue, getting all the headlines, in the popular press as well as more informed research. Hence, within the terms of the discourse on intellectual capital, knowledge has fallen prey to the vocabulary and practices of accounting. Knowledge has become the target of management, of control, of the rational, calculative thinking and of the practices of accounting.

Aim of the Paper

This paper attempts to develop an epistemological questioning of this discourse, evolving under different guises: *intellectual capital*, *accounting for knowledge*, *knowledge management*, etc. This epistemological critique draws on ideas from post-structuralism and the sociology of knowledge to scrutinise some of the most heroic efforts to turn knowledge into numbers.

Within the evolving discourse on intellectual capital, organisational members' knowledge has come to be represented as assets, items of property as though they were discrete bundles of legally defined and enforceable property rights, and as if they could be transferred from one owner to another. Even though most philosophers and social scientists are hard put to agree what knowledge is, it is hoped that breaking it down into different categories and attaching these to various types of metrication will tell us something about the nature of knowledge. This point is epitomised in the following note: "…when you can measure what you are speaking about, you know something about it; when you cannot measure it…your knowledge is of a meagre and unsatisfactory kind" (Sir William Thomson 1889).

We then proceed to discuss a number of incoherence and biases plaguing the discourse on intellectual capital. For instance, we discern and question the practice of separation and exclusion (between various firms of knowledge) as method to construct accountable worlds (Yakhlef 1998), a lionisation of cognition to the detriment of other modes of knowing and experiencing the world (Calori 1998), an un/natural bent to favour numbers as a mode of control (Porter 1996) and mode of being in organisation. It is remarkable that mytho-poetic and emotional aspects, as well as intuitive thinking are conspicuous by their absence in this debate.

Subsequently, we turn to an analysis of the intentions and ambitions animating the discourse, where the main concern revolves around the purposes and functions the discourse serves. For one thing, it could be said that the attempt at inventing the

category of ‘intellectual capital’ as an object of thought arises out of an uncertainty which has come to be widely shared amid many a corporate landscape, namely that, intellectual capital, if remained unknown to management, is social danger: the spectrum of the employees holding the most strategic resources underlying the corporation is too harsh a reality for the manager to swallow. Knowledge is not to be insubordinate and hidden from the scrutinising gaze of any governing instance, otherwise, managers cannot be held responsible for things lying beyond their immediate gaze and control. However, the nagging question is how one can put a price and an exchange value on human brains. For another, the reduction of knowledge into numbers has a governing potential (Rose and Miller 1996); leading to what Latour (1986) calls as a centre of calculation.

The Discourse on Intellectual Capital

The formation of the discourse on intellectual capital is predicated upon the assumption that the traditional double-entry bookkeeping system does not reflect emerging realities. It is an inadequate tool for measuring the value of corporations whose value, it is claimed, lies mainly in their intangible components. The aim of the critique of the old system is to create a sense of urgency and necessity, thereby paving the way or legitimising the need for alternative systems. Predominantly the rhetoric is couched in apocalyptic terms, the implication is that there is no future for companies if they do not seriously address and manage their intellectual capital diligently:

> “Step lively now and you will be in the vanguard of this movement, better prepared and more experienced than your competitors. Or wait, until it washes over you and tosses you forward,

> struggling to keep from being dashed and drowned. But make no mistake, whatever path you choose, Intellectual Capital is our future"[1]

Furthermore, this call for a new system is not the making of the researchers or a small group, but rather comes from the environment which puts pressure on organisations to make their assets more visible so that the shareholders can exert more control over their ventures. Hence this

> "…this lack of common practices for disclosing and visualising Intellectual Capital hurts all stakeholders and investors. They, too, can miss a subtle change in tenor or the loss of a key knowledge-carrying employee that signals the coming eclipse of a corporate star" (Edvinson and Malone 1997: 7)

In this connection, a number of (ennunciative) authorities has contributed to the 'making' up of this discourse amplifying the significance of intangible assets to the detriment of financial assets. Often these claims posit that the value of intellectual assets exceeds by many times the value of assets that appear on the balance sheet, and that intellectual capital is the fountain from which financial results are generated, etc. Financial capital is hence made subsidiary to intellectual capital.

The notion that there is a value hiatus between the corporation's real value and the value shown on balance sheets has come to be referred to as *Tobin's q*, which is a way of describing of difference between a company's physical and monetary assets and its market value:

Market Value = q* Asset Value[2]

[1] Edvinson and Malone (1997: 22)

where *q* stands for the relation between the market value and the asset value. For example, if *q* = 10, then the market value is meant to be ten times higher than the asset value. As examples of companies that are assumed to have a high *Tobin's q*, Sveiby (Bontis 1997) mentions that "Shares in Microsoft, the world's largest computer software firm, changed hands at an average price of $70 during the fiscal 1995 at a time when their so-called book value was just $7. In other words, for every $1 of recorded value the market saw $9 in additional value for which there was no corresponding record in Microsoft's balance sheet".

These statements, multiplied though they may be, are often reinforced by, and reinforce, a larger, social discourses such as the transition to a Post-Fordist, Post-Industrial economy which puts premium on knowledge and information rather than on raw material. Within this context, knowledge is redefined as an asset that can be identified, that the management has been called on to enhance, measure in order to contribute to the value of the corporation. Skandia AFS was one of the first enthusiastic companies in promoting the idea and practice of intellectual capital, having gone a long way towards making the *human assets* visible in the financial reports. In fact, Skandia was the first company to submit a supplement to the traditional annual report on intellectual capital and to institutionalise the new category of 'director of intellectual capital', to refer to the manager who is made responsible for the nurturing and safe keeping of the so-called knowledge assets.

[2] ICM Conference: Wisniewski, October 1997.

Having depicted the background against which the discourse on intellectual capital has arisen, problematising and marginalising prevailing valuation techniques, let us now proceed to describe the various efforts deployed in translating the complex and sticky domain concerning knowledge into numbers. In this process, we focus on how the malten realm of knowledge is, against its natural bent, successively categorised and subcategorised and subsequently converted into numbers. The category ‘intellectual capital’ should not be taken as a natural cognitive object resulting from a natural unfolding of the history of accounting, but we need to ask how it has found its way from its natural habitat (the body and mind) to the annual report? As noted before, intellectual capital has arisen as a critique of the assumably obsolete model of ‘financial capital’. Hence, the intellectual capital discourse’s motto is to capitalise on other subtler resources having to do with knowledge and the intellect. This process will also lead to the invention of criteria which will support and sustain the overall logic and purposes of the discourse.

Divisions and Subdivisions

One of the organising principles underlying the discourse on intellectual capital is that of division and separation. As constructed by Edvinson and Roos (1997), intellectual capital yields two classes: *human capital* and *structural capital*. The division is based on the principle of the location of that of capital. Edvinson and Malone (1997) define human capital as the value of everything that ‘leaves the company at five p.m.’, that is, the values of the employees. Whereas the locus of the former is the human body, that of the latter is the organisational structure, where knowlege is assumed to be encoded into

databases, infrastructure, etc. Notice that human capital stands for that part of knowledge that could be made explicit, codified in words and figures, barring from the debate other forms of implicit knowledge that resist mapping out and quantification, as discussed subsequently (see section 3 or 4). Human capital has further been subjected to further division and subdivisions, such as *individual* and *shared capital* (Hudson, Bontis 1997).

By contrast, structural capital is everything that remains within the company after 5 P.M, when every employee has gone home. This is meant to be structured into, and documented within the confines and culture of the company. At this juncture, a distinction is made between *customer capital* and *organisational capital.* By 'customer capital' reference is made to the company's relationships with its customers. Organisational capital is claimed to include two further aspects of capital: *innovation capital,* and *process capital*. Whereas the former is described as the company's renewal strength 'expressed as protected commercial rights, intellectual property, and other intangible assets and values'[3], the latter stands for the 'combined value of value-creating processes'[4], as represented in the following figure:

Market Value					
		Financial Capital	Intellectual Capital		
		Human Capital	Structural Capital		
			Customer Capital	Organisational Capital	

[3] Customer Value, Supplement to Skandia's 1996 Annual Report (1997: 22).
[4] Customer Value, Supplement to Skandia's 1996 Annual Report (1997: 23).

				Innovation Capital	Process Captial

Table 2.1: Skandia's Intellectual Capital Model (CD-ROM, June 1996).

Table 2:1 displays the different components of intellectual capital as conceived of by Skandia. Further, in order to increase the prospects of calculability of this newly created cognitive object—intellectual capital—a number of perspective are devised: *financial focus, customer focus, human focus, process focus,* and *renewal and development focus,* forming what has come to be commonly called *balanced scorecard.* Whereas the financial focus is assumed to represent the past and the customer and process foci the present, the renewal and development focus is posited to stand for the future. Within this arrangement, the human capital takes centre stage, around which all other components revolve (see the following illustration):

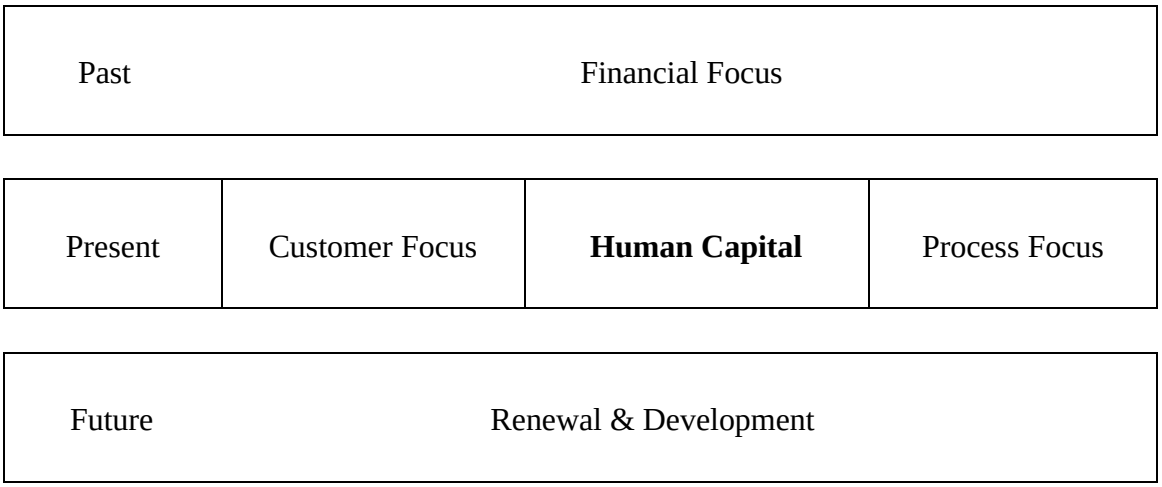

Figure 2.2: The Skandia Navigator (a version of the technique of the 'Balanced Scorecard'.

To illustrate the logic underlying the intellectual model and its accessories work, let us consider an investment in new IT media, for example. Such an investment will be shown in the financial annual report as a cost, thereby reducing the financial value of the company. On the opposite side, the investment will affect positively the other components. It is hoped, for instance, that it will improve customer service, rationalise internal processes, amplify research and development, and make people more productive and more creative. The Balanced Scorecard is a measurement and management technique which seeks to capture the total value—financial and intellectual. What it seeks to measure are the following four areas: *financial, customer, internal/business process* and *learning and growth.* Hence the Balanced Scorecard is only one facet, or a mode of manifestation of the intellectual capital. Notice that there is no consensus concerning these descriptions which we are unable to explore or much less to arbitrate within the limited scope of this paper, but rather our aim is to afford an

understanding of the logic underlying the construction of the category of intellectual and the various accessories devices deployed to operationalise it as an intellectual tool of manage and control organised action.

So far we have been concerned with the various classifications and sub-classifications deployed in order to bring forth the different components of intellectual capital. As we shall see later, underlying such cognitive operations (or discursive practices) is the logic division and separation. Before that, our immediate concern in what follows is to explore how the various categories made visible through the practices of division and separation are converted into an inscription form that is readily amenable to quantification and calculability. Numbers constitute the thread of accounting techniques.

Developing Indicators

The ambition of visualising the category of intellectual capital and of translating it into numbers has led to the invention of a new category—'indicators'. Indicators are different from the traditional key ratios in that they do not display any value in themselves. What they actually measure is change. Let us take an example. Edvinsson and Malone (1997) provide the following example of an indicator: the number of customer visits to the company. In itself this indicator says little about the strategy development of the firm. However when compared to the other indicators within the same focus, or perspective—customer focus, in this case—and the flows among the

other foci and between the top-down flows, one can attach a strategic value to its impact.

Indicators could be seen as a transitory step towards the realm of numbers. They are hoped to transform vision and strategic objectives into measurable inscription forms. This boils down to developing a set of indicators which would represent as accurately as possible the company's vision. In this process, the overall vision of a company is subjected to the same practices of division and separation as those noticed before. Accordingly, the vision or mission of a company is broken down into different components, referred to as *Critical Success Factors* (CSF) which lend themselves to calculability. CSFs are meant to represent factors that are significant for the success of a certain strategy. One of the problems which arises in this connection is the difficulty in determining what factors to include and what others to exclude, given that factors that could be seen as critical for the success of any strategy may theoretically be indefinite. The only way of circumventing this difficulty is to develop the criterion of relevancy. Hence if these indicators are to be of any use, one should restrict oneself to those critical criteria that are most relevant. The following table displays a set of samples of indicators used by Skandia:

Financial Focus
Value added/employee ($)
IT expenses/administrative expenses (%)

Processing time, out payments (#) Application filed without error (#)
Renewal and Development Focus R&D expenses /administrative expense (%) Training expenses/employee ($) Premium from new launches (%)
Human Focus Employee turnover (%) Number of women managers (#) Average age of employees (#)

Table 2.3: Examples of Indicators used by Skandia.

The selection of relevant criteria is an arbitrary process which is attendant upon the perception and attitudes of those who are entitled to make the selection. As noted by Roos et al (1997) 'it is extremely rare for managers to sit down and try to understand where the company's value comes from'. Hence both the identification and selection of CSFs are a subjective in nature (Kaplan and Norton 1996). The meaning of indicators is related to the flows of the CSFs underlying it. For instance, the flows linking a certain indicator to the overall strategy exhibits the extent to the indicator is in concordance with the strategy; while the flows among the different foci (from Processes focus to the Human, Renewal and Development, Customer and finally to the Financial focus) shows the extent to which the indicator can be used in the measurement process, such as how well an increase in an indicator belonging to the Renewal &Development Focus is correlated with the Financial Focus. It is important to note that the latter flow shows the input-output relationship between investment in intellectual capital and financial outcome ensuing from it. However, the logic of this correlation can be questioned. To what extent can the relation among the various foci (especially between, the Financial Focus, on the one hand, and the other foci, on the other) can be established? Indicators

are generated from changes in the Financial. An improvement in the Financial Foci may not be connected to an improvement in intellectual capital, thwarting the prospect for achieving the return on intellectual capital.

Indices

Indices are devised to address some of these limitations just mentioned above. The expression *intellectual capital index* (IC index) is the contribution of the London-based consultant company, Intellectual Capital Services (ICS). The underlying assumption is that indices can be developed to capture in numbers indicators, perspectives and other areas of interest. It is posited to include all the indices into a consolidated index for the whole company (Roos et al 1996). The intellectual capital index is meant to capture the total capital of a company, ranging from its knowledge, to its strategy and business. The idea behind the index approach is simple: a number of indicators is expressed in

ROIC= Flows from IC to FC/Flows from FC to IC

Recent developments in the area of intellectual capital have taken a vivid interest in the individual intellectual capital. On this count, the individual intellect has become the target of measurement, control and evaluation. Some companies are well along the way of developing individual indices for their employees, the aim is to produce self-monitoring, auto-piloting people.

To sum up, the area of intellectual has become a discipline, or in Foucault's terms, a *discursive formation* in that it has created professors, journals, conferences, and many other enunciative authorities, such as consulting firms and industry analysts whose sole business it is to devise and elaborate different measuring techniques, theories and concepts, disseminated in the popular press as well as in more informed circles.

As the sketchy outline of the logic underlying the discourse on intellectual capital displays a number of cognitive practices. Prominent among these is the assumption that reality is dividable into ever small components and that these components can unproblematically turned into figures. As noted above, the development of these figures are arbitrary and do in no way seek to grasp any reality or value that is independent from the relations and interrelations constructed by the discourse itself. The principle of division and separation are predicated upon the assumption that reality is dichotomously structured, ordered in a binary logic. Further, the indicators and the indices deriving from the vision and the strategy of the company reduce critical success factors to

intellectual changes and their interplay with financial resources. The choice of such success factors may be ill-advised since it is biased towards favouring cognitive, intellectual resources, at the expense of others, as discussed in the next section.

3. Definitional Practices

What if we were to begin by posing the question of how this discourse is constructed and what purpose it serves? What is proposed here is then to search out the dynamics of the process that constituted the category of ‘intellectual capital. Any critique should start with an examination of the definition of the object and the classification of its subcategories. It is to be noted from the outset that are many ways of telling the story of Intellectual Capital, depending on the various schools of thought and theorists. Therefore, in this presentation, we try, as much as possible, and draw on one version of this discourse, focusing mainly, but not solely, on the work of Edvinsion and Malone (1997).

Within the evolving discourse, the expression ‘intellectual capital’ is defined, by Edvinsion and Malone (1997: 44), in the following way:

> “Intellectual Capital is the possession of the knowledge, applied experience, organisational technology, customer relationships and professional skills that provide Skandia with a competitive edge in the market”

From this it would emerge that it is unproblematic to establish a correlation between the possession of these resources mentioned and competitive edge. While it is possible that

Skandia enjoyed a high growth rate from the beginning of the 1990s onward, can we attribute that to the implementation of the practice of the Intellectual Capital? During that period, the economic situation in general has improved significantly, therefore it is difficult to establish such a causal link between the practice of Intellectual Capital and competitive edge as definitional features of the discourse.

Intellectual Capital, according to the authors, consists of two categories: ‘human capital’ and ‘structural capital’, the distinction between being that the former constitutes the value of everything that leaves the company at five P.M., the latter is everything that stays in the company, when the human capital has left. Hence, by structural capital is meant the company’s documentation, customer databases, software, structures, trademarks, manuals, etc—all of which are aspects that the company can purport to possess. Now, these definitions are not detached descriptions of the nature of these two phenomena. Rather, these are prescriptive, functioning as the basis for action: since human capital implies uncertainty for the company—being unalienable and hard to measure—the challenge is to extract it and transform it into structural capital—which can be amenable to control and measurement.

The implications of these definitions the human capital is corporate danger, since it can go out through the door and never come back. Therefore, part of the tasks of the practice of Intellectual Capital is to enforce routines of documentation, of transferring knowledge from humans to machines where it can be articulate in more endurable and stable forms. From this perspective, the discourse is not only concerned with visualising the total value of a company, but primarily with creating that very value it purports to

visualise. Hence, it is the structural capital that is more interesting, not because it opens up new vistas of knowledge and insights for the employees, but because it offers more prospects for control and measurement.

On the other hand, the overall distinction between human and structural capital is not a hard and fast one. To recall, structural capital is divided and subdivided into five foci, or perspectives: financial, customer, process, renewal and development, and human. The human focus picks up such dimensions as staff turnover, number of women managers and average age of employees. In this connection, human components emerge under the guise of the structural capital, casting a cloud over the overall distinction between the human and structural capital (Olve et al 1997).

Remarkable is the way the discourse is organised in dichotomies: human *or* structural. Structural capital displays another dichotomy: organisational *or* customer. Finally the organisational involves a third dichotomy: process *or* renewal (see figure 1). It is as though there was no ambiguity, no vagueness, no overlapping between the dichotomous concepts. Can we talk of a human-less structural capital, a renewal activity without processes, and organisational capital which excludes its customer capital? Where do the boundaries of human capital stop and where do those of a structural capital begin? Is it defined in terms of transportability? How about software, databases existing in computers, these too can be transported home after work? The law of excluded middle (A or not A) presupposes that the symbols used are precise which they are not (Russel 1923, in Calori 1998). The mode of reasoning in terms of *either or* displays antinomies without synthesis, overlooking fuzzy logic thinking. For Hegel, however, reasoning is

based on three moments, not two. He calls them *understanding, dialectic reason* and *speculative reason*, more commonly known as *thesis*, *antithesis* and *synthesis*. The understanding operation determines and defines a concept (thesis). The dialectical reason is the movement of thought that responds to a limit defined by understanding, by going to the contrary concept that lies beyond the limit, its opposite or contrary (antithesis). Speculative reason 'reflects on the total movement from the original to its opposite and establishes an overall perspective that will explain how the two contraries fit within a single complex thought (Burbidge 1993, quoted in Calori 1998) (synthesis) which is at the heart of *being-nothing-becoming*.

4 Bias towards Intellectualism at the Expense of Emotions

Underlying the discourse on Intellectual Capital is the assumption that knowledge could be transmitted from individuals to structures. More relevantly, we need to investigate whether the form of knowledge that could be verbalised and encoded into organisational structures is the source of competitive advantage Is there more to knowledge than just the objective, codifiable, explicit side of it?

Indeed, most theorists are at one that individuals—and by extension, organisations—know more than they can tell. For Polanji all knowledge has tacit dimension (1966). At one extreme of a continuum, knowledge is almost completely tacit, semiconscious and unconscious in people's heads and bodies, and on another extreme it is almost completely explicit, or codified, structured and accessible to people other than the individuals originating it (Leonard and Sensiper 1998). To the extent that the tacit

dimension is not publicly available and hence difficult to imitate, should not this be the source of competitive advantage, rather than the components that are accessible to consultants and partners as well as competitors? Spender (1996) argues for the case of competitive advantage from tacit knowledge.

A view of structural capital such as presented by the authors would not represent the share of individuals who are 'feelers', that is, who deploy heuristics and intuition in enacting and solving problems. Based on Jung (1933), the psyche performs four fundamental functions: sensation, intuition, thinking and feeling. Sensation and intuition are essential for the gather information about the world, thinking and feeling are complementary functions for the evaluating of information (Calori 1998). Individuals vary as the use of these functions, some tend to use a pair for finding/solving problems at the expense of the other pair. However, these functions are complementary, bringing imagination, motivation, planification and experience:

> 'intuitives see what others do not see, propose new ideas, disregard practical details, describe the world with metaphors and symbols and create organizational myths; feelers inspire peers and subordinates, respond to challenges, sponsor new ideas, share information power and resources…and promulgate organizational stories and myths; thinkers plan (i.e. match goals with resources) organize and coordinate; balance novel with routine, and reward according to outcomes; sensors match skills to tasks, pay attention to practical details, make things work, decribe the activities in concrete terms and learn from action' (Calori 1998).

Hence, whatever can be encoded into what is construed as 'structural capital' would by any measure be a fair and true picture of the company's value, since this favours one mode of being and functioning, one that lionises the intellect, cognitivism. Feeling and

emotion have been conspicuous by their absence in this debate; this is so even though many efforts today are being deployed by many theorists to bring emotions into the domain of intelligence (usually referred to as 'emotional intelligence' (such as treated in Salovey and Mayor 1990 and Fineman 1993).

5 Bias Towards Numbers as a Mode of Knowing and Controlling the World

> "The perspective taken in this book is that these two concerns [measurement and management] are two sides of the same coin: what you can measure, you can manage, and what you want to manage, you have to measure." (Roos et al 1997)

Within the terms of this discourse on Intellectual Capital, there is a concerted effort to make them visible and show their value in financial and annual reports. The problems begin when you try to capture the secrets and the tacit knowledge that the employees have in numbers. Increasingly, managers of organisations have become aware of the fact that translating human capital into a structural capital is itself an investment. If knowledge is safely stored in the organisational databases and structures an organisation stands to lose less money if one of its experts leaves it with all the knowledge and information s/he may have.

This newly invented category—intellectual capital—as well as the subcategories constitute cognitive objects which, if they are to be surveyed and controlled, have to be inscribed in quantifiable inscription form, namely numbers. For, once divided up into subsets and purified from fuzziness and ambivalence, it is only a small step for them to be converted into numbers. To recall, the passage from categories to numbers is via the

concept of indicators. Indicators involve a number of Critical Success Factors which are meant to derive from the overall strategic vision and extend to the various foci or perspectives. We have also noticed that indicators are aggregated into indices. Remember further that the process of converting the strategic vision into indicators and indices is subjective in that the identification and the selection of Critical Success Factors are arbitrary and subjective in nature. Subjective though this process may be, it brings intellectual work to rationality. By translating knowledge into the economic—supposedly rational—language, managers are hoping to improve the prospects of rational behaviour and control. As it were, accounting has the particularity of turning inherently subjective components into institutional objectivities by virtue of being widely presupposed to be true (Porter 1996). Numbers are 'objective because they are stable, not the other way around' (Ibid.).

6 Concluding Remarks

This is so, even though it does not come as natural for knowledge to be conceived of in terms of resources that can be equated with money, the universal measure of accounting. As a consequence, the invention of intellectual capital amounts to reducing knowledge into numbers, the preserve of accounting techniques.

The function of accounting techniques is to expose knowledge, to make it visible to internal as well as external agencies, and to subject it to the practice of exchange against some value, money, drawing knowledge closer to the market, making its value subject to the laws of maket, of competition, etc. By inventing the techniques for calculating it,

managers and the corporations have become responsibilised for its creation and deployment. Furthermore, the invention of this category implies not only the invention of a new metrication instruments, but also a disciplining and disciplined category of managers and employees, albeit 'manager of intellectual capital', or 'knowledge executive' or 'knowledge worker'. Managers of intellectual capital are responsibilised for the efficient deployment of knowledge.

Furthermore, a closer look at the logic underlying the intellectual capital discourse will reveal more incoherence and inconsistencies. As noted by Goethe already in the 18th century, "We live in credit and debt" (Goethe 1795, quoted in Jackson, 1996). Hence, it would be expected that the invention of the category of 'intellectual capital' should inescapably lead to the invention of a category that stands for its opposite—for instance 'intellectual debt'—if we are to preserve the system with double entry book-keeping. Remarkably enough, the 'debt' side has been conspicuous by its absence as a theme in the discourse.

Intellectual capital is an intellectual technique fabricated in order to isolate certain desirable assets, and to make possible the invention of techniques that are adequate to enhance control of those assets.

References

Calori, R (1998) 'Philosophising on Strategic Management Models', *Organization Studies*, Vol. 19, No 2. (pp. 281-306).

Jackson, Myles W (1996) 'Natural and Artificial budgets: Accounting for Goethe's economy of nature', In Power, M (Ed.) *Accounting and Science: Natural Inquiry and Commercial Reason*. Cambridge Studies in Management.)

Kaplan, R. S and Norton, D. P. (1996) *The Balanced Scorecard*. Boston, Massachusetts: Harvard Business School Press.

Leonard, D and Sensiper, S. (1998) 'The Role of Tacit Knowledge in Group Innovation'. *California Management Review*, Vol. 40, No 3, Spring 1998.

Polanji, M (1966) *The Tacit Dimension*, New York, NY: Doubleday.

Porter, T. M. (1996) 'Making things quantitative', in M. Power (ed) *Accounting and Science: Natural Inquiry and Commercial Reason.* Cambridge Studies in Management.

Roos, J, Roos G, Edvinson, L and Dragonetti, N. C (1997) *Intellectual Capital*: *Navigating in the new business landscape*. London: MACMILLAN.

Salovey, P and Mayer J. D (1990) 'Emotional Intelligence', *Imagination, Cognition and Personality,* Vol. 9, pp 185-211.

Spender, J. C (1996) 'Competitive Advantage from Tacit Knowledge? Unpacking the Concept and its Strategic Implications', in Moingeon, B and Edmondson, A (eds.) *Organizational Learning and Competitive Advantage*, London Sage Publications, pp 56-73.

Thomson, William (1889) 'Electrical units of measurement', in *Popular Lectures and Addresses,* London.

Yakhlef, A (1998) 'IT Outsourcing and the Construction of Accountable Worlds', *Organization*, Vol. 5, No 3, pp 426-446.