

# Intellectual Capital and Knowledge Management

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## INTRODUCTION

Knowledge management (KM) and intellectual capital (IC) are not one and the same, and although some overlap is apparent, the relationship is far from trivial and requires exploration. Some intellectual capital such as brand is not knowledge, and some knowledge that cannot be transformed into value is not intellectual capital.

This article illustrates the paradigm of IC and its measurement, focusing then on tensions in the relationship of KM and IC and their origins.

Sullivan (2000) moves us toward the understanding of KM as *value creation* in all its aspects, vs. IC, or ICM (IC management), as *value extraction* (thus, measurement, accountability, explicability, etc.). He defines intellectual capital very briefly as “knowledge that can be converted into profit” (p. 192), implying that some quantification of the value of knowledge is required.

## BACKGROUND

The history and development of intellectual capital and intellectual-capital management somewhat correlate to that of knowledge management, and it seems superfluous to elaborate on the practicality of intellectual capital, where practice was preliminary to theory. The IC movement is a paradigm derived from a practical need: to bridge the apparent gap between the firm’s books and the classic accounting vehicle, and the actual market value. According to Petty and Guthrie (2000):

*[t]he intellectual capital movement is undeniably grounded in practice (Roos et al., 1997; Larsen et al., 1999; Mouritsen, 1998). The development of intellectual capital reports, for instance, can be traced back to the desire for individuals working with or within businesses to improve their understanding of what comprised the value of the business so as to manage better those things that generate value. (Sveiby, 1997; Edvinsson & Malone, 1997; Johanson et al., 1999)*

They also say (p. 158; see also the definition of IC in “Key Terms”), “Often, the term ‘intellectual capital’ is treated as being synonymous with ‘intangible assets.’”

The paradigm of IC is established rather commonly in the literature as divided into three subdomains: human capital, organizational capital, and customer capital (or human capital, structural capital, and relational capital; Bontis, 2002; Edvinsson & Malone, 1997; Stewart, 1997; Sullivan, 1998). This division is meaningful toward measurement, a focal point of the IC movement.

## IC Measurement and Models

Valery Kanevsky and Tom Housel write, “Understanding how to accelerate the conversion of knowledge into money is the real challenge in the information age” (as cited in Von Krogh, Roos, & Kleine, 1998, p. 269). Tracking that process of conversion into value leads to measurement. Roos, Roos, Edvinsson, and Dragonetti (1998) emphasize that the definition of intellectual capital must be clear and measurable: In order to manage intellectual capital, it must be measured.

However, the measurement of knowledge assets triggers both great interest and great skepticism. Indeed, the measurement of IC is still being experimented with various models.

One of the ultimate goals of measuring intellectual capital is its proper acknowledgement and reporting, similar to the more familiar accounting and reporting system of tangible assets in firms. The perspective of the stocks and flows forms of knowledge (following the resource-based view of the firm) inspired a comparison to familiar forms of accounting reporting. According to Bontis, Dragonetti, Jacobsen, and Roos (1999):

*In a way, the identification of stocks creates a series of still photos of the company’s intangible resources, whereas the flows provide the animation. Adding a flow perspective to the stock perspective is akin to adding a profit and loss statement to a balance sheet in accounting. The two perspectives combined (or the two reporting tools, in the case of accounting) provide much more information than any single one alone.*

Indeed, Lev (2000a, 2000b) says, “Accounting’s 500 year exceptional durability is being severely tested...a major contributor to such asymmetries are the archaic

accounting rules which treat most investments in knowledge as regular expenses.”

As to the principle behind actually calculating intellectual capital, Mouritsen, Bukh, Larsen, and Johansen (2002, p. 11) say, “Authors such as Edvinsson and Malone, and Stewart suggest that intellectual capital is a combination of human, structural and customer capital, whose worth can be identified by subtracting the firm’s book value from its market value.”

Although measuring IC is recognized to be crucial, frameworks have not yet reached statutory recognition as paradigms, thus allowing us but a sample and flavour of some available models and tools implemented toward the metrics of “intangibles” within the scope of this article. This is not due to the lack of models, but to the lack of standards. Further literature reviews of the tools elaborate beyond the scope this theatre allows (Bontis et al., 1999).

According to Petty and Guthrie (2000), “it is the limitations of the existing financial reporting system for capital markets and other stakeholders [that] have motivated an evolving dialogue on finding new ways to measure and report on a company’s intellectual capital.” The product of this dialogue is a plethora of new measurement approaches that all have the aim, to a greater or lesser extent, of synthesising the financial and non-financial value-generating aspects of the company into one external report. Principal among the new reporting models are the intangible asset monitor (Sveiby, 1988; 1997; Celemi, 1998); the balanced scorecard (Kaplan and Norton, 1992; 1996); the Skandia value scheme (Edvinsson and Malone, 1997; Edvinsson, 1997); and the intellectual capital accounts (DATI, 1998).

It is interesting to compare the frameworks of several of the main classification schemas for reporting intellectual capital. These three principal ones, which emerge prominent in IC literature, show progress toward alignment within the IC paradigm (Table 1).

A conclusion from this comparison is that by now there are the first signs of an aligning idea in the perception of intellectual capital, hence, its measurement. There is clear identification in classification between capital

relating to human assets, and capital relating to structure—be it internal or inclusive of the external values.

Moreover, entwined in all frameworks is the profound realization of the value and qualitative characteristics of the attempts to quantify the qualitative via various proxy indicators, as the nature of knowledge, and in particular the nature of its value, is qualitative.

But we must remember that there is no widely accepted standard, and firms may measure their intangible assets rather than be obliged to do so. What measure, metric, tool, or approach is preferable is purely dependent on the circumstances of the organization as there is no binding authoritative view or legislation in the matter (although the need for it is reoccurring in the literature; Bassi & Van Buren, 1999; Van Buren, 1999).

Tools that resemble the familiar accounting tools for reporting are being developed, such as intellectual-capital statements (Mouritsen et al., 2002; Mouritsen, Larsen, Bukh, & Johansen, 2001), and attempts through practice raise a lantern for future recognition and regularity (Wyatt, 2002).

## THE RELATIONSHIP BETWEEN KM AND IC

To sum up intellectual capital, and in particular its possible measurement and reporting, it is possible to consider intellectual capital as the knowledge phase in accounting using the principle analysis of knowledge; that is, the accounting reports and balance sheets familiar to us consist merely of the information of the firm, whilst the intellectual-capital reports are in fact the actual accounting knowledge of the firm and its values.

We have so far taken “raw financial data” (Edvinsson & Malone, 1997, p. 77), the signals, and put them in formation in order to inform (hence it becomes information) in the accounting reports. The knowledge of the firm, mostly tacit, was created in the mind of the reader, be it an accountant, investor, or so on, using other various tacit and explicit sources to inform. The intellectual-capital movement is trying to make explicit as much of this

*Table 1. IC paradigm*

Developed by	Framework	Classification
Sveiby (1997, 1998)	The intangible-asset monitor	Internal structure External structure Competence of personnel
Kaplan and Norton (1992)	The balanced scorecard	Internal-processes perspective Customer perspective Learning and growth perspective Financial perspective
Edvinsson and Malone (1997)	Skandia value scheme	Human capital Structural capital

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