Chapter 13
Measuring and Valuing Knowledge-Based Intangible Assets: Real Business Uses

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ABSTRACT
This chapter offers a practical guide to the structure, taxonomy, measurement and use of intellectual capital (IC) in business. It traces the roots of IC and exposes and explains the remarkable lack of consensus that has been allowed to develop over the years and the methods used to try to measure it. In keeping with the practical, yet grounded, approach of the chapter, the chapter focuses on business innovation from an IC perspective. Most importantly, through a case study, the chapter introduces a practical means of measuring IC and modelling businesses predictively connecting soft issues such as human capital and relationship management with hard financial output. Recognising that IC is still an evolving discipline, the chapter offers a number of areas for future research and case study.

INTRODUCTION
This chapter will have several facets but the overall mission will be to offer a practical guide to the structure, taxonomy, measurement and use of intellectual capital in business.

Although Intellectual Capital (IC) has its roots in the leading-edge economics of the 1930s, the modern implementation of the subject dates back to 1987 and the Swedish Konrad Group’s attempt to demonstrate the role of intangible assets in business. Since that early work and the enthusiasm shown for the concept through the early and mid-1990s there has been a considerable dissipation of effort into subsets and niches and away from the central questions concerning how IC can be used for practical purposes in business such as explaining the process and cost of asset formation, finding the appropriate level of investment...
in meta-activities such as knowledge management and supporting the innovation process.

Perhaps the most important and damning fact concerning the application of intellectual capital is that there are hardly any companies or government organisations that use it, or if they claim to, it is usually at a most trivial level which is of little practical use to the company or organisation or the outside observer. Recently there have been attempts by supra-national bodies such as the EU to impose intellectual capital systems or at least recommend how to approach the use of intellectual capital. Sadly, these have gained little acceptance although the involvement and interest of the EU is very helpful. At the same time there is renewed interest in measurement and the difference between value measurement and financial measurement. This new interest has led to the involvement and extension of advanced market techniques such as real options theory to the measurement of business value in intellectual capital terms. There have been other attempts using stochastic techniques but it is arguable that these or other recent advances have proved any more useful than earlier attempts to measure and predict business value. On the other hand, there is evidence that the seemingly intractable problem of measuring intellectual capital in a meaningful way can be undertaken and this will be developed from the historical and theoretical arguments.

So far in the chapter, three important terms have been used without much concern about their definition or application. These terms are capital, assets and resources. Of these, the first two have precise meanings in accounting and as a result, it is helpful to avoid or abandon their use if confusion with their other meanings is possible. Henceforth in this chapter, “resources” will be used as the preferred term as it has no well defined meaning in other contexts. “Capital” will only be used within the term “intellectual capital” and will use as a collective term for all non-financial and non-physical resources of a company or other entity. The term “asset” will be avoided as the accounting meanings and treatments are specific and different from those that emerge in this chapter.

This chapter is intended to be practical yet rigorous. It opens with two reviews, the first is a review of intellectual capital and the second is a review of innovation. The first requires little further justification but the second does.

The development of intellectual capital including the basics of any usable intellectual capital model is required as it offers a means of showing how IC can explain all company activities in relation to each other.

Innovation is the key driver for economic growth on firm level, industry level, national level and global level. OECD estimate that at least 50% of sustainable growth is due to innovation. Only innovation drives above average sustainable financial returns on both the industry and firm level. In firm terms this means that at least half of the future value component of the share price of any firm should come from innovation.

The importance of innovation was illustrated by the chairman’s summary of the OECD Council at Ministerial Level in Paris, 15-16 May 2007 which included a section entitled “Innovation: Advancing the OECD Agenda for Growth and Equity” (OECD, 2007a). The section recognised ministers’ agreement that innovation performance is a crucial determinant of competitiveness, productivity and national progress. Ministers agreed that there is a need to improve the framework conditions for innovation through further opening and integrating the product and labour markets. This is an important insight since Ministers support the idea that innovation is more than developed technical ideas but is also concerned with people and business processes. They also underlined the pervasive nature of innovation, noting in particular the importance of education systems to ensure the supply of skills and of researchers and the need to foster greater private investment in innovation. At a more practical level for companies, Ministers welcomed the publication of two reports, Moving up the Value Chain – Staying Competitive in the
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