

Measuring intellectual assets

Introduction

The industrialised world is rapidly moving into an era where economic growth is increasingly knowledge driven. The last twenty years have seen an exponential growth in the capabilities of information technology which has enabled globalisation, has increased international competition, has strengthened the need for continuous innovation and fuelled a growth in the services sector.

More of what is produced and consumed today is intangible. A greater emphasis is now placed on information technology skills, customer relationship skills and personal skills than on manual skills. By the year 2005 it is thought that manufacturing and agriculture in the UK could account for just 15% of output and employment. Ideas and knowledge are now the principle raw materials of the knowledge economy.

Research has shown that a firm can sustain a competitive advantage, by creating a barrier to entry, if it is able to “hold” valuable resources that are not held by other companies. In the past resources such as raw materials, capital, land and machinery were those that would provide the entry barriers. As this is no longer the case other resources such as brand, corporate routines, skills and creativity are now those resources which give a competitive advantage. It is in fact the intangible nature of these resources which gives a firm the ability to create a sustainable competitive advantage. A recent example was observed during the dot com phenomena, when internet start up companies could not obtain the needed technical resources because the skill sets they needed were rare.

As products, raw materials and skill sets have become ever more intangible so the inherent value of companies has changed. A recent study by the Brookings Institution on the value of non financial companies showed that in 1978 twenty percent of corporate value was attributable to intangible assets, whereas in 1998 this had increased to eighty percent.

As the world has undergone this metamorphosis, practitioners, accountants and academics alike have identified a perceived need to manage, measure and report on the intellectual value of companies. Although a proliferation of measurement tools have been created it is still questionable as to whether companies are seeing any benefit in measuring the more intangible aspects of their businesses. There appears to be confusion over whether the measurement of intellectual resources should be used for control and compliance, as a tool to help management grow the business, or whether the reporting of such data will lead to the capital markets viewing the company more favourably.

Intellectual asset measurement systems

Research in the area of performance measurement has shown that many companies have good financial and operational measures and even external measures such as market share. However, it is still rare for companies to have good measures for their intellectual assets or for how those assets are deployed.

Good measurement systems should satisfy two key areas of performance, effectiveness and efficiency. Intellectual resource effectiveness measures fall into two categories. Effectiveness can be measured as the change in intellectual stocks and therefore companies should measure activities that increase those stocks, for example recruitment and training. The second measure of effectiveness is to understand how intellectual resource management affects business performance, for example what returns are being achieved on intellectual assets. In terms of efficiency, intellectual resource measures can include operating performance measures such as lead times, customer satisfaction, employee productivity, or learning measures such as the number of participants in communities of practice and the number of people trained.

A non coordinated effort has been made to create measurement frameworks for intellectual assets. The frameworks that have been created are broadly similar, and have resulted in a number of index measurement frameworks such as Skandia's Navigator, Brooking's Technology Broker, Sveiby's Intangible Asset Monitor and Roos' IC-Index. In the majority of cases the frameworks are basically a hierarchy of measures with each category of intellectual assets being measured by its own set of

indices. Indices are a collection of measures specific to the business; they can range from direct counts (i.e. number of staff), ratios (i.e. hits per web page) or concrete financial measures (i.e. amount of revenue generated per person). Ratio measurements are useful to help determine the efficiency and productivity of a company's intellectual resource. To date no standardised index method has been settled upon, although Kaplan and Norton's Balanced Scorecard is the most widely accepted and used.

Unfortunately the measure of intellectual stocks is not entirely accurate and when companies try to assign a value to their intellectual assets it heavily relies on a number of assumptions and approximations. It is difficult to create a standardised framework across companies, let alone industries, as although two organisations can be similar in terms of size, industry, markets, and the amount they invest in research and development they will combine, use and exploit their organisational knowledge differently. Therefore if the same stock of knowledge represents different combinations of expertise it is difficult, from a measurement perspective, to create a general framework of measures.

Where measurement frameworks have been successful there have not only been clear links between the strategy and the measures but between the stocks and flows of intellectual components. The measurement tools mentioned above have been the most successful as they inter-relate each of the components to help a business show how each of the individual components singularly and collectively affect the creation of financial capital.

Benefits of measurement

The number of measurement frameworks is continuously growing as researchers attempt to standardise metrics across industries, improve measures for disclosure and look for better ways of predicting future performance. But why are companies measuring their intellectual stocks and flows, what real benefits does this give them? Recent research carried out for at the Centre for Business Performance at Cranfield

University has shown that most companies use intellectual asset measures for strategic reasons or for influencing the behaviour of their managers and employees.

A good quality business performance measurement system should be guided by strategy and should be used to assess and challenge the assumptions underpinning the current strategic direction. In addition the verification or rejection of strategic assumptions may potentially impact the intellectual resource allocation within organisations. The intellectual resources that a company needs, and that they therefore measure, depend on the strategic direction and competitive landscape that the company faces. It was found that because intellectual asset measures are guided by strategy a different set of measures was used by each of the companies.

In terms of managerial control it has been suggested for some time now that financial performance measures should be supplemented or replaced by non-financial measures, which are more informative of employees' actions and can improve contracting. In terms of behaviour most organisations have realised that relying purely on financial measurement can encourage short-term thinking especially if those financial measures are linked to compensation systems. A justification for the use of non-financial performance measures in compensation plans is the higher level of information these measures provide about managerial effort and actions desired by the firm. Although it is generally recognised that measures should affect managerial behaviour and actions in order for the strategy to be realised and that a performance measurement system should evaluate the impact of practices on the journey towards achieving those strategic goals, Jonathan Low demonstrated, through an audience response system at a Forbes conference, that 70% of CEOs admit that there is a big gap between what gets measured and rewarded and what actually drives performance. However, our recent research has shown that non financial measures are mainly being used by companies for managerial control and for the basis of compensation.

Research has shown that the quantity of voluntary disclosure is increasing, and that the pressure on companies to account for and disclose non financial data is growing. Studies in both the US and the UK have shown that analysts value information about intellectual assets. In addition a number of empirical studies have also demonstrated that companies who are able to make meaningful disclosures about their long term

prospects achieve more satisfactory market valuations. Although some research suggests that a growing number of companies are beginning to report their intangible indicators in the annual report this was not seen in the Cranfield research. Nearly 50% of companies did not report any aspects of their intellectual assets, over 45% briefly discussed their assets with only 5% of companies making any concerted effort to account for or report their assets separately to the financial report. One reason for these findings is that intangible indicators are often difficult to define and even more difficult to measure. Therefore, it could be that firms are being careful about disclosure as internal measures aren't yet tried and tested and they do not want to run the risk of exposing the company to external criticism.

Implications

In considering the measurement of intellectual assets, firms need to be clear about the motivations for undertaking such an exercise. In a highly knowledge based organisation intellectual resources should be an overriding factor in helping to determine and to execute strategy, and if so this should be the starting point for measuring such assets. Where the aim of a company is to increase the number of intellectual assets and to leverage value from those assets then the performance measurement system should be geared towards influencing behaviour that focuses on intellectual asset value creation. It is suggested at this stage that no company should see disclosure as the primary motivation for measuring intellectual assets. As and when internal measurement is satisfactory then firms can consider the external reporting of their intellectual assets.

About the Author

Dina Gray is a researcher in the Centre for Business Performance at the Cranfield School of Management. Prior to joining Cranfield Dina was the Director of Intellectual Capital at AIT Group plc where she was instrumental in looking at how the company could work smarter and profit from utilising its Intellectual Capital to gain competitive advantage. External recognition of Dina's work has come from AIT being awarded the Arthur Andersen UK award "For motivating and retaining employees", and 5th place in the Sunday Times' "Best Company to Work For".

Dina has made numerous presentations on the culture, working practices and knowledge management techniques that have been developed within AIT as well as publishing an FT Executive Briefing entitled “Intellectual Capital: Measuring and Enhancing the True Value of Your Business”.

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The Centre for Business Performance: <http://www.cranfield.ac.uk/som/cbp/>

Further reading

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