A revolution postponed

Intangible assets frequently make-up well over 50% of company value, yet there is no widely accepted method for expressing them on company balance sheets or in statutory accounts. Baruch Lev, one of the world's leading authorities on intangible accounting, believes this has to change but concedes that for it to happen there are some formidable barriers to overcome. By ***Adrian Preston***

For corporations and investors alike the accounting system invented by a Venetian monk, Fra Luca Pacioli, more than 500 years ago remains the basis for the only source of compulsory financial information that listed companies must provide to shareholders: the audited annual statement of accounts.

Of course, there have been numerous amendments and changes to this system in the intervening half millennium or so, but the focus of accounting remains the same. In the 21st century, that system is coming under increased pressure and scrutiny as it is seen as unable to describe, itemise and account for the biggest drivers of companies' value, namely intangible assets. In the US alone, estimates put the annual investment – in the private sector – in intangibles at around $1 trillion each year: a figure that is more-or-less equivalent to investment in traditional plant and equipment.

Intangibles as well as being hard to account for, are also slippery when it comes to a definition. More than simply the traditional IP rights such as patents, trademarks or copyrights that a business possesses, intangibles covers many other aspects of a business including know-how, processes, brands, employees' skills and knowledge – in fact all of the factors that increasingly drive a business's competitive advantage: its intellectual assets, in other words.

Throughout the history of capitalism, speculation has created companies worth, literally, more than the sum of their parts recognised under accounting rules (ie, their physical and financial assets). But in the age of knowledge and intellectual capital, some companies' parts as recognised by their accounting systems are worth next to nothing and certainly confer no discernable competitive advantage, yet the market value of the business may be many billions of dollars.

We do not have to look too far back into history to see the phenomenon at its most inflated. Some of the acquisitions made in the tech boom of the late 1990s saw businesses with few physical assets and very low levels of sales acquired at multiples in the hundreds and even thousands. Though the discrepancy is nothing new, investors and the capital markets in which they operate are increasingly dissatisfied with a system that provides little guide to the value of intangibles and leaves so much of the value uncounted and unaccounted for. Becoming better informed and understanding more about what comprises the missing value between a listed company's book value (ie, what the accounts say) and its market value would appear at face value to be a pretty irresistible request.

The recognition that it is a business's intangible assets that are the principal drivers of value is what some have categorised as the first phase of the intangibles revolution. But, says Baruch Lev – Philip Bardes Professor of Accounting and Financing at Stern School of Business, New York University, and Director of the Vincent C Ross Insititute of Accounting Research at NYU – the revolution must move on to its next phase. "That realisation has been made and there are few that would contend its essential truth. The second phase of the intangibles revolution, though, is asking for a response to the request: show me how you do this better. And in order to start that process you have to have a metric. You start by accounting for it," says Lev, who is widely recognised as one the world's leading authorities in this area.

Measuring intangibles is, of course, extremely

Explanation for intangible capital here

In 2001, Baruch Lev calculated the intangible capital of the 'Smartest 50 Companies' for *Fortune* magazine's Fortune 500 list. The table below shows the top 10 of the *Fortune* list and their ranking based on 2002 data. Here he explains how he calculates intangible capital:

"The value of intangible capital is derived by subtracting from the enterprise performance the normal contribution of physical and financial assets to performance. The remaining, residual performance reflects the unique (above normal) contribution of intangible capital assets to enterprise performance, and provides the basis for the valuation of intangible capital. Thus, for example, if the annual operating earnings of the enterprise are US$1,000, its physical assets valued at US$7,500 and the average return (yield) on physical assets in the industry is 10% then the normal contribution of the physical assets to earnings is US$750 (10% of US$7,500), and the residual earnings of US$250 reflects the contribution of the enabling intangibles, termed intangibles-driven earnings (IDE). Intangible capital is derived by computing the present value of the forecasted stream of IDE."

Put simply, in the chart below, a company whose market-to-comprehensive value (far right column) is less than 1.00 is undervalued according to Lev's method. Conversely, a company whose value exceeds 1.00 is over-valued.

Company Name	Current ranking (based on 2002 data)	2001 ranking	Intangible capital (US$ billion)	Market-to-comprehensive value (physical + financial + intangible capital as a ratio of market value)
General Electric	1	1	324	.79
Pfizer	2	2	200	1.29
Exxon Mobil	3	5	164	1.04
Altria Group	4	4	143	.55
IBM	5	8	134	.93
Merck	6	10	124	.99
Microsoft	7	5	123	1.59
Verizon	8	9	105	.80
Intel	9	6	95	1.09
SBC Communication	10	7	62	.90

difficult. Since they are unique (ie, the factors that confer singular competitive advantage on a particular business) there is no market for intangibles such as exists for tangible assets, so they are hard to compare with one another. Even attempting to provide a precise valuation is an extremely challenging task.

The intangibles accounting crusade

Lev has been a champion of more detailed and transparent accounting for intangibles and greater disclosure to investors for longer than most – he has been writing on the subjects for well over 20 years. Two events, though, have propelled his views to greater prominence and unquestionably greater relevance: the dotcom boom (and subsequent bust) and the corporate scandals that rocked the likes of Enron, Worldcom and Global Crossing. These events demonstrated how shaky a hold on the reality of a company's value many investors have.

When a company's published accounts say that it is worth one figure and the market values it at not simply a percentage higher, but a multiple many times in excess of the book value, investors clearly have a problem in deciding what the difference comprises. When companies like Enron failed so spectacularly, what happened to the intangible assets that made up nearly all of Enron's market value at its peak? "The loss in value of intangible assets by Enron was noted by [Federal Reserve] Chairman Greenspan. Two weeks later, a major article in the *Wall Street Journal* asked where all the intangible assets have gone, mentioning Enron and Global Crossing specifically. To investigate this issue, I asked one of my Ph.D students to review the financial reports of these firms. The results were astounding: these companies did not spend a penny on research and development. There is no mention of R&D in Enron's last three annual reports," wrote Lev in a paper for the *Federal Reserve Bank of New York Economic Policy Review*. What such observations show is that in the absence of any codified and commonly implemented measures to account for the value of intangibles, investors will be hard pushed to find any relevant published information from which they can derive their own assessments.

The problem – like the valuation gap – is big and getting bigger all the time. The market-to-book value ratios of listed companies, though lower than at the peak of the dotcom boom nevertheless show that, even by a conservative estimate, between at least one-half and two-thirds of the value of listed companies around the world is bound up in intangible assets. Yet there are no real measures in place to help investors and managers alike to gauge how those assets have achieved that value and whether the valuation is realistic. Neither is there a formal or widely accepted method which enables people to breakdown intangibles into their constituent parts and apply valuations to these. One commentator on the hi-tech industry in the US, Michael Malone, wrote in the aftermath of the Enron collapse: "The real values crisis represented by the Enron mess is far deeper, and stretches across the economy. We are all being victimised by it, and the situation is growing ever worse. It is the great unreported business story of our time: the growing failure of the accounting system to accurately capture what is going on in the new hyper-speed economy."

Investors' ignorance raises the risk factor

What investors do not fully understand or are kept in at least partial ignorance about, they must mistrust. This mistrust has the heaviest impact on innovative and research-intensive

How intangible reporting can help the markets

An experiment conducted jointly by investment managers Schroders, PricewaterhouseCoopers and Coloplast – a Danish manufacturer of medical products – demonstrated the impact of providing more systematic and fuller information about intangibles. Coloplast produces extensive information about its intangibles, including quantified information on human resources, product development, and customer satisfaction as well as information on patents held and applied for in a specific financial year. The information is published in the annual report to accompany the conventional financial reporting.

The experiment involved providing analysts at UK investment managers Schroders with two different sets of Coloplast reports. One that had intangibles information included, the other with the intangibles data stripped out, but the narrative left in. Analysts were given one or the other and were instructed to produce revenue and earnings forecasts for the business based solely on their review of the documents. The results showed that those analysts who had received the report containing the intangibles information were much more upbeat about the business, and were in favour of buying the stock, even though they produced lower earnings estimates. Those who had based their forecast on the report without the intangibles information were much more likely to recommend a sell for the shares.

companies, as the risk weighting applied to their businesses impacts on them heavily by raising their cost of raising finance. Lev has conducted considerable research that, he argues, demonstrates that innovative, research-driven businesses are routinely undervalued by the markets and in consequence their cost of capital is unnecessarily high. This means that innovation is stifled as managers eschew riskier basic research that results in genuinely new products or services and instead focus on modifying existing products, a process that he describes as the "vicious circle". The vicious circle has the greatest impact on precisely those businesses that are in most need of financing.

The problem faced by knowledge-intensive companies in getting hold of capital at competitive rates became abundantly clear at the beginning of this decade, after the excesses of the late 1990s.Those constraints still apply, and are compounded by generally sceptical and wary capital markets – a problem that Lev is keen to point out. "Extensive research indicates that investors, bereft of fundamental information about intangibles and overstating their risk, systematically under-price the shares of intangibles-intensive enterprises, burdening them with an excessively high-cost of capital," he says. It is, Lev claims, an institutional problem: "It emanates from serious information deficiencies at both the corporate and capital market levels, which negatively feed one another."

Whose neck is on the intangible block?

Managers are generally very resistant to the idea of having to measure and report on intangibles. Lev points out that though, for example, there is a very strong correlation between spending on R&D and commercial success, it is very hard to know which aspects of research are creating returns successfully, and it is very hard to measure this. "Managers don't want to be embarrassed, and this risk aversion means that they hesitate to put things on the balance sheet that might create failure. There may be nothing to show for investments into R&D, so it goes uncounted and unaccounted for," he says. But he also believes that it is not simply managers' risk aversion that prevents accounting recognition for intangibles: "There is a huge antagonism towards the better disclosure and reporting of intangibles." Accountants and auditors, Lev explains, do not want to be held accountable for the value placed on a particular intangible asset if, as many different events have demonstrated can happen, there is a possibility that a future collapse in value of a business may lead them having to defend their valuation in a court of law.

The combined force of managers and accountants means that the resistance to moves that will create rules for more formal disclosure is a formidable barrier, one that Lev believes will not be overcome any time soon. He notes that for many the reaction to the news that the United States' Federal Accounting Standards Board (FASB) was dropping its project examining formal reporting measures for intangibles was that they were "really happy they tanked it". The FASB pleaded poverty as the reason for not continuing with the project. An explanation that Lev takes with a wry weariness, commenting that of all the projects underway at the FASB, this was the only one to be dropped. In addition, the SEC having made some encouraging noises about the desirability of greater transparency in the reporting of intangibles, he notes, also does not see intangibles as a priority at the present time. Yet the simple facts of why more information needs to be made available about intangibles are clear: market-to-book ratios of listed companies must eventually yield to more rigorous, systematic and standardised means of explanation. In their absence, the problems will continue to rebound on those companies and investors who marvel at the gap, but keep it supported by faith rather than reason.

On the other side of the Atlantic, Nigel Sleigh-Johnson is Head of Financial Reporting at the Institute of Chartered Accountants of England and Wales. He says that the reluctance to put intangible assets on the balance sheet is understandable given the recent history of the dotcom boom and bust: "Valuing intangibles is not held to be possible in a sufficiently reliable way, and this difficulty is compounded by some of the values being talked about during the hi-tech boom which proved to be based on pretty ephemeral notions." Instead, Sleigh-Johnson argues that the way forward is not for intangibles to be recognised in accounts, but for companies to provide investors with more detailed narratives accompanying the main financial reports. The Operating and Financial Review (OFR), a document which accompanies annual reports and is at present a voluntary supplement to them, is due to become compulsory, possibly by the end of 2003, for all UK listed companies. It will provide, says Sleigh-Johnson, "very useful additional disclosure". As for actual accounting for intangibles he says that he foresees "no significant progress in the short to medium-term".

A call for disclosure

In response to what he believes is a strong adherence to the *status quo*, Lev has modified his demands for recognition of intangibles in accounts, and is instead asking for greater disclosure. "What I am saying now is: don't put it in the balance sheet. It doesn't have to be recognition, only disclosure. So you don't need to value it, just provide information," he explains.

The type of information that he has in mind varies widely, but all of it is or should be relatively easy to acquire. Except that, of course, it is not. Take, for example, the issue of staff training. Most businesses will be able to tell you the cost of sending their management hot-shots on MBA courses. But what about the cost of their mentoring programme? What is the cost of the time taken by senior executives who assist their juniors? In fact, a survey conducted by the Training Institute of America found that only 10% of the companies surveyed knew what they spent on training in total. "All companies say that they value training, but they are unable to analyse or demonstrate the value that they get from their training expenditure. They don't disclose it because in many cases there is nothing meaningful to disclose," says Lev. This lack of appropriate information is a theme which he returns to again and again. But he does not blame managers. Rather, it is the system of accounting under GAAP which does little to encourage the collection of appropriate data. "Information required for GAAP is all that is collected, and so that is all that is available," he says. External demands exacerbate the paucity of information that is available to managers, and as you can't manage what you can't measure, intangibles information is largely systematically ignored.

But Lev's pessimism is not all pervasive. He believes that calls for change may arise from quarters beyond the regulatory realm. "The one thing that would trigger a change is an outcry from the capital markets for more and better information on these issues," he suggests. Again, though, this is a development posited in the longer term that is unlikely to have an immediate impact. To demonstrate this, Lev mentions a study conducted by seven of his Ph.D students. Lev told them to listen in to over 100 financial analysts' conference calls with companies. Only a few of the analysts throughout the entire process asked about intangibles. However, there are signs that this is changing, and in particular in the pharma and biotech sectors. Here, the value of company R&D pipelines, and the attempt to reach some consensus about what these figures may mean across an industry, is a key element of the market in shares of those businesses. Analysts specialising in pharma routinely ask detailed questions about, for example, the calibre of scientific personnel and patents alongside questions about new compounds and clinical trial procedures.

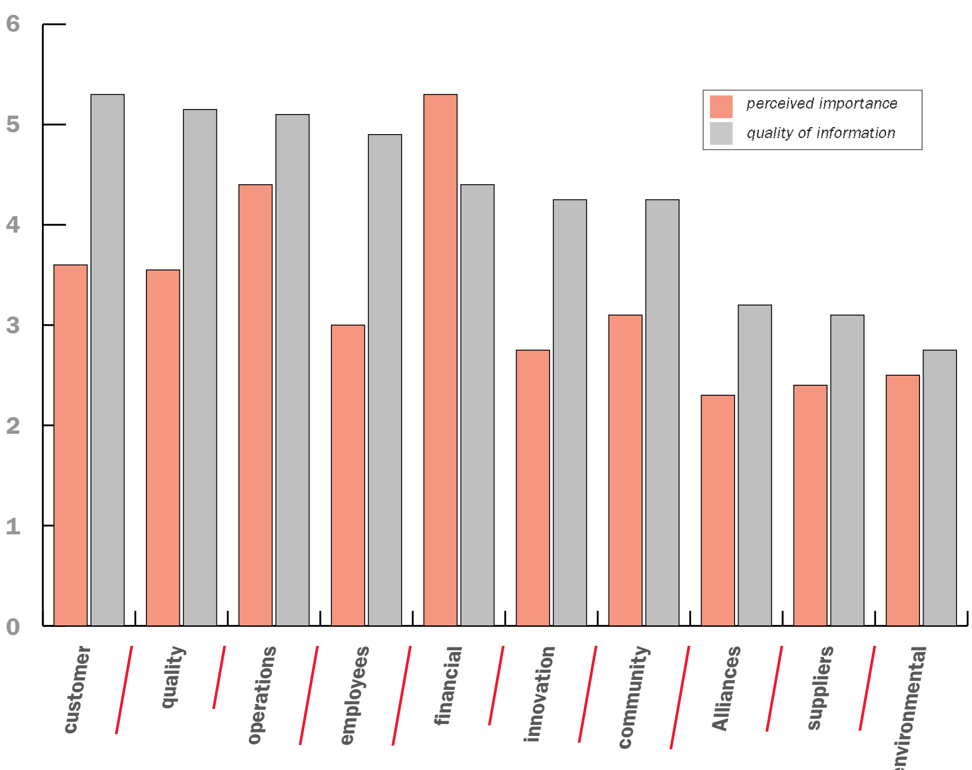
Internal systems replicate the concerns of the external

The lack of information about a company's intangibles is not restricted to those outside of the business. One of Lev's more startling insights is that the majority of companies could not provide this type of information even if they wanted to. As noted above, most internal management systems are geared towards external demands and these are largely those imposed by GAAP. In a recent article written for the *Harvard Business Review* under the title 'Sharpening the Intangibles Edge', Lev outlines four questions that managers should ask themselves:

- The first question relates to R&D investment strategies. Lev asks managers to say how they should allocate investment across the range of R&D activities. He says that in order to know whether or not spending should be increased in one area, and decreased in another, or whether R&D should be carried out in-house or outsourced to a third party, managers need to have information relating to the returns on R&D investment. His summary is short but brutal: "I have yet to encounter an

Factors for success and information available

In 2002, Cap Gemini Ernst & Young's Centre for Business Innovation asked 480 executives to identify the factors that helped them to create value and to assess the quality of the information that they held on those factors.



Source CGEY Center for Business Innovation organisation that has this information."

- Secondly, Lev focuses on collaborative activities. Most large companies have these in one form or another, most with around 30 active alliances and some with as many as 100 or more. Lev asserts that few companies know the value that they gain or lose as a result of these collaborative ventures, and more specifically what the transfer of intangibles is between collaborating organisations. Quoting a recent article from management consultants McKinsey he suggests that fewer than one in four applies performance metrics to these kinds of venture.
- His third question covers employee training. All companies train their people, but how they record or analyse inputs and outputs is unavailable to most of them. The question he asks is this: should a company increase or decrease, maintain internally, or farm-out employee training? The point of the question, he says, is to identify the knowledge requirements for making a decision like this.
- The final question that he asks relates to what he calls brand enhancement activities. To gauge the effectiveness of such activities, it is necessary, he argues, to link the costs of activities like advertising and product promotion with their benefits (ie, the increase of a price premium over competitors and the growth in market share).

The point of these questions (and these are but a few of the many that could be asked) is, he says, that very few companies manage this type of data, because their internal information systems are geared to external (ie, GAAP) financial reporting requirements. Yet, without this knowledge managers are unable to provide – even for themselves let alone investors – information that would allow them to answer questions such as those posed above, and what is more start to allocate investments according to the answers.

A study carried out by Cap Gemini Ernst & Young's Centre for Business Innovation further reinforces the assertion that managers are starved of information about the most important assets their businesses possess. In 2002, 480 executives were asked to identify what they felt to be the factors that helped them to create value and then to assess the quality of the information that they held on those factors. The results showed that more than 80% of respondents said that they get very poor management information about the value drivers they assessed to be the most important to their businesses.

Finding the answers

So, intangibles are acknowledged as the major growth driver of the 21st century economy. It is clear that innovation can deliver competitive advantage. But in the absence of common and commonly applied metrics, how are investors to understand how well or badly a company can innovate. How can they understand how much R&D investment is productive? How good management is?

Baruch Lev believes that there is a system of accounting that can provide managers with the tools necessary to provide investors with the information they need to create much more efficient company valuations. He calls it innovation accounting. Innovation accounting is to GAAP, he says, what the 19th century corporation is to that of the 21st century. Where GAAP is historical, innovation accounting looks forward. So, instead of having an expense mentality, innovation accounting sees spending that promises future benefits as an asset. So, for example, R&D, brand enhancement activities or acquired technology are recorded as assets, rather than immediately expensed as they are under GAAP. In this way, he believes, intangibles-intensive companies can be valued more accurately, with more precise risk definitions resulting in a lower cost of capital, so allowing them to continue to invest in genuine innovation.

Lev firmly believes that, although his ideas meet with resistance from a number of quarters, businesses will eventually have to yield to the pressure to provide consistent and comparable information about their intangibles. To illustrate this, he talks about how he was recently asked to analyse the different R&D streams of one of the largest chemical companies in the world and to provide its senior executives with figures showing the returns on the different types of research that the company carried out. The results of his report, he says, were astonishing. He was asked to present his findings at an internal meeting. "They asked me to speak at midday," Lev recounts, "and they were still discussing the findings at seven o'clock when they had to be dragged into dinner."

The message, he says, is clear: "If you give people the numbers that allow them to start talking, they will start to think more clearly about their strategies and how they want to go about allocating resources. Managers are tired of simply being told that their intangible assets are very important. They know this. What they want is someone to show them how to manage them better." ■

We are grateful to Professor Lex for allowing us to refer to his article 'Sharpening the Intangibles Edge' published in the Harvard Business Review.

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