Measuring Intangibles and Intellectual Capital - An Emerging First Standard

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Summary

The high stock market premiums on today's stockmarkets can be one of the indications of an emerging new Knowledge Economy. The parallel development of theories and practice in Sweden and in the US have now laid the ground for a first standard for accounting in the Knowledge Economy, featuring three categories of Intangible Assets plus a fourth category, financial assets. The Swedish concepts have been tested in practice in some cases by up ten years. The practical results suggest that it is useful to measure Intangible assets and that it is possible for managers to create shareholder value, without relying primarily on the traditional financial indicators.

Have we entered a "New Economy" with "invisible" values?

The stock market premium has never been higher than in the mid1990s. The companies making up the Dow Jones Index are at the highest ever level since the depression in the 1920s. The data in the chart below are Intangible assets as % of Book Value each year for all companies making up the Dow Jones Industrial Index (Data Source Value Line Inc.). Based on the data I have computed an "Intangible Assets Index" for each year. The Book Value for each year was set to 100%. The index value 87% in 1920 means that in year 1920 the Intangible assets were 87% of the Book Value., so the total Market Value in 1920 was 187%.

Figure 1. Dow Jones Index 1920-1997. Book Value and Market Value.
So, does this mean that we have a "new economy" that is somehow ruled by other laws, like the law of increasing returns" (Arthur 1996)? We do not know yet, but if the market does not fall substantially, and if US does not experience a depression in 1999-2000, I believe we have a serious indication that something has in fact happened in the US economy, something that will have worldwide implications.

The Commercial value of Knowledge

The commercial value is more visible in companies that lack traditional tangible values, so let’s have a look at the "full" balance sheet of the Australian management consulting and recruitment firm Morgan & Banks, listed on the Sydney stock exchange. M&B’s balance sheet is fairly typical for knowledge organisations. With some 1000 people employed and sales of A$221M in 1997, M&B is one of the largest consulting firms in Australia. The market value of M&B in April 1998 was A$ 200 Mill The material or "visible" component is the familiar balance sheet in annual reports. It itemizes material assets, and shows how they are financed. As per June 30th 1997 M&B had A$11M in cash, A$32M in other Current Assets and A$23M in property, plant and other "tangible investments. Visible financing in a knowledge organisation is usually very simple, and M&B is no exception: short-term debt (A$51M), no long-term loans (hard to arrange, because the characteristic lack of tangible "collateral" makes banks uneasy), and A$15.4M in equity (shareholders’ capital). This equity “earns” a very high return, an after-tax profit of 9.9 million in 1996-97 equates to 64% ROE. Such high ROEs are not uncommon in knowledge companies, and that tells us that there must be something missing in the equation, namely the Equity is understated.

Figure 2. The Invisible Balance Sheet of Morgan & Banks July 1997.

So where is the missing equity? Let us look "under the surface". No less than A$185M in "invisible equity" and intangible assets. From where did I derive that figure? It is the difference between the market value A$200M and the net book value A$15.4M. Note that the division of the 185M into 3 equal parts is arbitrary. We lack data to make a more accurate estimate and Morgan&Banks own annual report does not give us any clues. The market value can be seen as the market’s perception of the value of all the intangible assets, as a whole. The profit 9.9 Mill divided by A$200 Mill is a mere 5%.
Actually, in an international perspective, Morgan & Banks employees are not particularly productive. Its profit is only around A$15,000 per employee. The important issue from a management information perspective is that the present standards grossly understate the value of the assets, and therefore gives a skewed picture for companies where there are no traditional assets. This is quite dangerous for all stakeholders in the new high-tech industries and where people are pivotal for business success, such as knowledge companies and service companies. The high value put on the intangible assets of Morgan & Banks is by no means unique. “Market premiums” are common features on all markets and has been so on the stock markets ever since they became more organised and institutionalised.

**Make the invisible visible**

My purpose with the Intangible Assets Monitor is not to present a full picture of the intangible assets. It is not possible, and this is why the all-comprehensive approaches have failed so far. The purpose is to be practical and to "open a few windows" so managers can start experimenting.

Much of the international research that has been done in this area has assumed it is possible to devise information systems that can generate invisible equivalents in dollars and cents of balance sheets and various methods have been proposed, for treating employees as balance sheet items, measuring them in dollars. Some introduce probabilities or discount a person’s output during a life. While theoretically interesting, unfortunately little of the attempts (Gröjer & Johansson (1991), Johansson & Nilson (1990:1) to convert people or competencies into dollars has proved useful for managers. It is no problem to design indicators, the problem is how to interpret them.

The research in Human Resource Costing & Accounting has brought forward some interesting Swedish projects (Johansson & Nilson (1994) both at Ericsson and in the public sector Telia (Telia Statement of human resources 1994 in Journal of HRCA vol 1. N:o 1) with an the emphasis on personnel accounting calculations, for use in decision-making. They have for instance assessed the costs of sick leaves and of personnel turnover and designed indicators that can be used as rules-of-thumb by managers.

An argument for information systems like Economic Value Added (EVA that relate profits or cash flow to tangible assets, capital employed or equity, is that only by focusing on tangible flows are shareholders guaranteed that management will create "share-holder value". They may perform as reminders for the CEO to keep share holder interest in mind, but it is dangerous as some enthusiastic supporters argue to use such ratios for operational control. They do not shed light on the whole range of intangible assets that exist, and they are not useful as management information systems monitoring the daily progress of a business. As WM-data shows (see below), it is possible to create superior share-holder value by not focusing on the tangibles, but on the intangible assets.

The more ambitious proposals so far, share another fundamental flaw: they tend to be based on an implicit manufacturing or industrial perspective. They do not take into account that service companies account for 70-85% of the employment in the industrialised world and that the rapidly growing largely unresearched subsector I call "knowledge organisations" (Sveiby 1997) are already bypassing the manufacturing sector in many countries. Depending on one's perspective any indicator is subject to a large number of possible interpretations, so the coherent conceptual framework is the fundament that must be built first. As an example consider the issue of what constitutes an investment.

**Investment in Intangible Assets**

When a company invests in material assets like machines, or computers, the money is paid out of liquid funds, and a corresponding amount is booked as an asset on the balance sheet under a
heading like "machinery". In accounting terms, there has been a negative cash flow, but no expenditure. The cost is incurred gradually, as the asset is depreciated.

When a company invests in an intangible asset like a research program or an entrance to a new customer segment, it is not generally permitted to record the value of the research as an asset on the balance sheet. The investment thus appears both as a negative cash flow and as a cost item. Both types of investment are inspired by the same motive; to achieve higher profitability in the long term, by sacrificing cash flow in the short term. The difference in accounting treatment, however, is very confusing and is made more so by the fact that the "cost" of intangible investments can take forms other than direct payments from cash reserves. It may take the form, for example, of accepting an assignment that yields little cash revenue but has great publicity value or seems likely to enhance competence. Here again the intangible asset is "financed" by "invisible" equity.

Expenditure on R&D generates value, which is clearly owned by the company, so it is reasonable to regard such expenditure as investment. True, the economic value is uncertain, but the same can be said of any investment, including the value of city center office buildings, as many investors have learned the hard way in recent years. However, cash outlays for knowledge acquisition is not always an intangible "asset". Many commentators insist training and education costs should be viewed as investments, but to whom or what does the value created by such investment adhere? When individuals pay for their own education, they are investing in their own personal capital, but when such education is paid for by the company, the link between payer and asset is broken. The company is paying for an asset it will not own. Individual competence is "owned" by individuals, not companies so, from the company’s point of view, money spent on educating employees should be treated as a cost, not an investment.

Why Non-Financial Measures?

It is tempting to try to design a measuring system equivalent of double entry bookkeeping with money as the common denominator. It is an established framework with definitions and standards and therefore "common sense".

This is precisely the reason why we should break with it.

If we measure the new with the tools of the old, we will not "see" the new. Any measurement system is limited by Heisenberg’s uncertainty principle (1927) which says that it is impossible to measure simultaneously the speed and the position of particles. The physicist Bohr (opposed by Einstein) argued that this means that the observer is always involved in the measurement and that the physical world does not have well-defined attributes. If truth is in the eye of the beholder in the physical world it is even more so for the world of business. There is no difference between money measures and other measures. Both are uncertain and all are dependent on the observer. There exist no "objective" measures. The main reasons why the money measures seem more "objective" and "real" are that they are founded on implicit concepts of what a company is and that the measures have been around for so long that they are guided by definitions and standards.

Once measures have been selected, they colour what we see and how we act, and the problem with translating actions into money is that very few people in an organisation handle money directly. Most of them work by using their competencies in the service of customers. Money is merely a proxy for human effort, and the 500-year-old system of accounting sheds little light on the vital processes in organisations whose assets are largely non-monetary, and intangible. As of today, there exists no comprehensive system that uses money as the common denominator and at the same time is practical and useful for managers. Depending on the purpose for measuring, I do not think it is necessary either. Knowledge flows and intangible assets are essentially non-monetary. We need new proxies.
This lack of a coherent theoretical framework that fits the emerging knowledge economy is characteristic (Amidon1996) of the present development: It is not the academic world that has been defining the turf so far. Instead it seems that an emerging practise is currently driving the concept makers. Most companies measure at least some of their intangible assets and they use non-monetary indicators particularly for measuring operational efficiency. Manufacturing companies have for instance measured their output in “tons per hour”, hospitals and hotels measure bed utilisation, schools measure average marks, universities measure number of PhD dissertations per year, etc.

Operational efficiency – the efficiency of the Internal Structure as I call it – has been measured at least since the birth of the industrial organisation. The other two intangible areas; External Structure and Internal Structure are still not monitored on a regular basis by most companies. The problem is not that “intangible measures” are difficult to design. The problem is more what to measure and that the outcomes seem difficult to interpret. Customer surveys when used systematically yield an abundance of data which managers find difficult to correlate with changes in business performance. Kodak for instance, does a monthly survey of some 300 customers in each area of the business, asking specific and open-ended questions.

The Intangible Assets Monitor Framework

The “invisible” intangible part of the balance sheet can be classified as a family-of-three:

![Intangible Assets Monitor Diagram](image)

**Individual competence** is people’s capacity to act in various situations. It includes skill, education, experience, values and social skills. People are the only true agents in business; all assets and structures, whether tangible physical products or intangible relations, are the result of human action and depend ultimately on people for their continued existence. Competence cannot be owned by anyone or anything but the person who possesses them, because when all is said and done employees are voluntary members of the organisation.

A case can, however, be made for including competence in the balance sheet, because it is impossible to conceive of an organisation without people. People tend to be loyal, if they are treated fairly and feel a sense of shared responsibility. That is why companies are generally willing to pay some kind of compensation to those who retire or have to be laid off. This kind of compensation varies from country to country, but often takes the form of redundancy pay, umbrella agreements (“golden parachutes”) and pensions. Although such commitments are not recorded as liabilities in the balance sheet, they can be seen as pledges or commitments, like leasing or rental contracts, and thus a form of invisible financing of employee competence.
Internal structure consists of a wide range of patents, concepts, models, and computer and administrative systems. These are created by the employees and are thus generally "owned" by the organisation and adhere to it. Sometimes they can be acquired from elsewhere. Decisions to develop or invest in such assets can be made with some degree of confidence, because the work is done in-house, or bought from outside. Also, the informal organisation, the internal networks, the "culture" or the "spirit" belongs to the internal structure. The internal structure and the people together constitute what we generally call the "organisation".

External structure consists of relationships with customers and suppliers, brand names, trademarks and reputation, or "image". Some of these can be considered legal property, but the bond is not as strong as in the case of internal assets because investments in them cannot be made with the same degree of confidence. The value of such assets is primarily influenced by how well the company solves its customers' problems, and there is always an element of uncertainty here. Reputations and relationships can be good or bad and can change over time. The external structure is not particularly liquid, and unlike the material assets, they may or may not be legally owned by the company. The economic value of a customer relation is no more "invisible" than the market value of a house. The reasons why the value of a relation seems invisible today is because it does not have a generally accepted definition and that it is not measured according to a standard. But these drawbacks do not mean that it is impossible or unnecessary to measure it, only that comparison between companies and over time are difficult to make.

Because of the reluctance of banks to lend for investment in intangible assets, the development of intangible assets is mostly self-financed. In other words, the invisible assets are matched, on the financing side of the balance sheet, by equally invisible finance, most of which in the form of invisible equity. Knowledge organisations like Morgan & Banks or WM-data have little machinery, other than their employees and because only people can act, they are both the minds of the machines and the "machines", the revenue creators, themselves. For the most part, their competence is directed outwards, to the task of generating revenue, by solving customers' problems. It is this outward-directed energy that creates the relationships, networks, and image that comprise the organisation's external structure. Similarly, it is the smaller amount of human competence that is directed inwards that creates, maintains, develops or erodes the organisation’s internal structure.

WM-data: Monitoring Intangible Assets for Financial Success

But can a non-monetary management information system guarantee financial success and shareholder value? Yes, let us see how one of Europe’s most profitable computer software/consulting companies, Swedish WM-data, uses non-financial indicators to monitor its knowledge-based strategy.

WM-data is today the biggest of the Swedish listed independent computer software and consulting companies, after more than a decade of unprecedented growth. The main reason for the success is a very deliberate strategic policy of focusing on corporate knowledge build up, customer relations and competence development. In the terminology of this book, WM-data has pursued a knowledge focused strategy ever since its foundation more than 25 years ago. WM-data attributes its rapid growth to the fact that it lacks central head quarter functions, like marketing and HR. It consists of a "web" of quite independent subsidiaries and a very small top management team. The aim of the corporate structure is to support creativity and enable close customer relations; the ideal size should not exceed 50 employees per work environment. Top management keeps a tight control supported by a management information system. WM-data considers financial measures useless for management control and has designed a system of non-monetary indicators, which top management uses to follow up their operation on a weekly, monthly and annual basis. WM-data uses traditional indicators like return on equity and return on investment only at group level. In their Annual Report 1997 (p.25) they state that
Traditional financial controls are of limited use in managing, understanding and assessing a knowledge-based company. This requires more in-depth analysis of the knowledge-based company’s critical business targets and concepts.

Can you create share-holder value without focusing on the return on equity? WM-data's answer is Yes: A knowledge-based company also requires a certain level of financial capital, but it is rarely crucial for solving the customers’ problems.

And it makes sense: If the financial capital is not essential, if it is not the bottleneck, why use it as the common denominator? WM-data shows how financial value can be generated by focusing on the intangible value.

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<tr>
<td>N:o of employees</td>
<td>560</td>
<td>5150</td>
<td>25%</td>
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<tr>
<td>Turnover M(SEK)</td>
<td>275</td>
<td>7951</td>
<td>40%</td>
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<tr>
<td>Net Profit M(SEK)</td>
<td>48</td>
<td>570</td>
<td>28%</td>
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<td>Market Value M(SEK) Dec 31</td>
<td>212</td>
<td>10325</td>
<td>47%</td>
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<td>Intangible Assets M(SEK)</td>
<td>90</td>
<td>8838</td>
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| Return on Capital Employed               | 37.0%| 37.8%|
| Return on Equity                         | 26.4%| 30.7%|
| Profit per employee '000 SEK             | 80   | 131  |


Figure 4. WM-data Intangible Assets per share Source: Annual Report 1995
An Emerging Standard?

This "Family-of-three" categorization and corresponding theory about measuring intangible assets was developed by a Swedish working group in 1987 and published in a report in Swedish language, (Sveiby ed. 1988) and later in a book (Sveiby ed. 1989). The "Konrad theory" has since become widely used in Scandinavia. More than 40 Swedish companies measured and reported their intangible assets according to these principles in 1995 (Öhman 1996). WM-data adopted the original Konrad-theory for measuring and presenting in their Annual Reports already in 1988, so WM-data now has a unique 10-year track-record.

The theory was further developed for management information purposes which is called the "Intangible Assets Monitor", (Sveiby 1997a).

An internationally well-known approach is the "Balanced Score Card" (Kaplan&Norton 1996), which was developed in the USA around 1990, independently from the Swedish efforts at the time. BSC is not designed specifically to measure and publish intangible assets, only to take a more "balanced view" on internal performance measurement.

There are some similarities between the two theories. Both theories suggest that non-financial measures must complement the financial indicators. Both concepts categorize the non-financial, the "intangible" areas into three. Both also argue that the non-financial ratios and indicators must be lifted from the operational to the strategic level of the firm. Both also agree that this approach to measuring is not a new control instrument; it should be used for improving learning and dialogue.

But there are also some important theoretical differences.

1. The Intangible Assets Monitor is based on the notion of people as an organisation’s only profit generators. The profits generated from people's actions are signs of that success, but not the originator of it. Human actions are converted into both tangible and intangible knowledge "structures". These structures are directed outwards (external structures) or inwards (internal structures). These structures are assets, because they affect the revenue streams. BSC does not make this assumption.

2. The Intangible Assets Monitor assumes a set of three Intangible Assets, and that we should try and find metrics indicating the growth, renewal, efficiency and stability of these assets. The idea should be to get a "peek" into how the intangible asset(s) are developing, by designing indicators that correlate with the growth of the asset in question, its renewal rate, how efficiently we are at utilising it, and the risk of losing it. BSC achieves its purpose to balance the traditional perspective by adding the three other perspectives, there could in principle be many more perspectives.

3. BSC does not question the foundation of "what constitutes a firm". While the Intangible Assets Monitor is based on the notion of a "knowledge perspective" of a firm, Kaplan Norton regards the notion of the firm as given by its strategy. They just want managers to take a more "balanced view". They argue in their book p.8 (1996): "The Balanced ScoreCard complements financial measures of past performance with measures of the drivers of future performance. The objectives and the measures of the Score Card are derived from an organisation’s vision and strategy."

The authors of both concepts thus agree that money is only one of many possible proxies for measuring human action, but the conceptual standing point is different.

I argue that in a knowledge economy people should not be regarded as costs but rather revenue creators and that knowledge or people's competence are sources of wealth creation. If the notion of people as revenue creators is accepted, we have to come closer to "the source" of their knowledge if we wish to measure it more accurately.
So even if the BSC on the surface of it may look similar as the Intangible Assets Monitor, the origins and the concepts beneath are very different. Therefore, BSC users will probably develop non-financial indicators that are different from those using the Intangible Assets Monitor.

**Figure 5. The Skandia Navigator**

In 1993 Leif Edvinsson combined the two theories, the Konrad conceptual framework and the Balanced Score Card. He applied a Balanced Score Card presentation format to the Konrad - theory and published it in a supplement to Skandia’s Annual Report, using for the first time the word, “Intellectual Capital”, instead of the accounting term “Intangible Assets” (Edvinsson & Malone 1997).

The emergence of two similar categorisations independently of each other, one in Sweden and one in the USA, is encouraging because it suggests a certain robustness. The categorisation of intangibles into a “family of three”: assets, capitals, focuses, structures, perspectives or what other labels one prefers, is now widespread. We also have a number of organisations testing it in practice so it has the potential of becoming a first global standard.

**Table 2. The three conceptual Frameworks for Intangible assets compared.**
A possible Standard Approach to Measuring and Presenting Intangible Assets

A possible standard for measuring and presenting Intangible Assets could be:

1. The organisation monitors and presents itself using a Score Card approach with Indicators.
2. The intangible assets are categorised into three:
   - External to the organization
   - Internal to the organization (but outside the individual employees)
   - Individual (internal to the individual employees)

1. Indicators for Financial or tangible assets are presented as the fourth category.
2. Indicators are a combination of financial and non-financial.
3. The indicators are presented in a coherent fashion together in a separate section or supplement.
4. The traditional accounting system and the rest of the Annual Report remains unchanged.

Wanted: New Systems for a New Economy

Measurement systems can be used for control or for dialogue. As language for dialogue, metrics are excellent, because they force us to define relationships mathematically and to be stringent. Well designed indicators based in a coherent theoretical framework are like the words and the grammatical syntax of a language. It can help managers understand how the relationships between people and profit look like in their own company.

Unfortunately, the requests I have received from executives in Australia and the USA tend to focus on the control aspect. Managers that install new measurement systems for controlling the performance of their people are missing the plot and they risk alienating their staff and destroy the source of revenue creation capacity: their people. Our organisations do not need more control, they need liberalisation from the straitjackets of an irrelevant financial control system; the legacy of a long passed industrial era. Individuals need more creative space and they need systems that support a more open dialogue so they can contribute more to the strategy of their companies.

The Intangible Assets Monitor, with a process that emphases intangible assets as consisting of mainly human relationships and knowledge creation, is designed for organisations that already are experiencing the effects of the Knowledge Economy. The first to experience the Knowledge Economy are the high-tech firms, the service companies and the professional services firms. They are the pioneers and they are totally abandoned by the financial accounting profession. The underlying principle of measuring intangible assets, intellectual capital or what we prefer to call it, must be that it complements the accounting system with a new language for the dialogue of peers, not another system for controlling subordinates. The choice of assets to measure and the design of indicators depend on the company, its strategy and the most important value creating processes.

Measuring intangible assets is an art form very much in its early stages and Australia needs people who have both the qualifications to develop measurement systems in their companies, and who understand the problems involved in measuring intangibles and reporting and interpreting this fuzzy stuff. They have to be pioneers, willing to accept the hardships involved in arguing their case to bean counting accountants and doubting financial markets.

Then we will not destroy the wellspring of knowledge - only help each other to utilise it better.

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Business Review Weekly (BW) June 3 1996


