

## The Intangible Assets Monitor

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### ABSTRACT

**A** "Swedish Community of Practice" emerged during the mid 1980s in Sweden. The "community" today follows two tracks; one is Human Resource Costing & Accounting (HRCA) and the other is a nonfinancial measurement system for intangible assets based on a theory originally brought forward by a work group consisting of members from several Swedish knowledge companies, the so called "Konrad Group." This article describes the development of the latter track. Inspired by McLuhan, it is suggested that individuals in organizations create external and internal structures to express themselves. Indicators can be created that monitor External Structure (Customers and Suppliers), Internal Structure (Organization) and People's Competence. The indicators can be incorporated into a management information system. Indicators that monitor renewal, efficiency and stability are preferred. A matrix framework, called "The Intangible Assets Monitor," is suggested for presenting the indicators. A number of generic indicators are defined under each heading and suggestions for interpretation and examples of how Swedish companies use the indicators are cited.

### THE SWEDISH COMMUNITY OF PRACTICE

In Sweden, a number of research and practical efforts to manage and measure knowledge emerged during the mid 1980s. It might be called a "Swedish Community of Practice" and, as the name implies, the research is primarily practical in nature. The "community" today follows two tracks: One builds on established accounting methods and is financial, Human Resource Costing & Accounting (HRCA). The other track, which might be called the "Konrad track," is a combination of nonfinancial and financial key indicators.

Much of the research that has been done in HRCA makes an implicit assumption, namely that it is desirable to devise information systems that can generate comprehensive Balance Sheets integrated with the P&L Statement in dollars and cents. While theoretically interesting, the all-comprehensive approach has not proved useful in practice (Gröjer & Johanson, 1996, Johanson & Nilson, 1990:1).

Swedish researchers in the Personnel Economics Institute (PEI) at the University of Stockholm have pioneered a more practical alternative in HRCA. They have (Johanson & Nilson, 1996) focused on the P&L Statement and developed methods for quantifying human resource costs into management information systems and into new designs (Telia, 1996) of Profit & Loss Statements.

"The Konrad track" consists of managers who primarily use nonfinancial indicators to monitor and publicly present their intangible assets. It is based on theory originally brought forward by a work group consisting of members from several Swedish knowledge companies, the so-called "Konrad Group." The Konrad Group reported its suggestions in a

report (Sveiby, 1988) and a book (Sveiby, 1989). The group outlined a theoretical framework for public reporting of intangible assets and coined a/o the concepts "Structural Capital" and "Human/Individual Capital."

The designs and concepts were further developed in practice by companies such as WM-data, Skandia and KREAB and via Skandia's "Business Navigator" they later found their way into the USA and Canada (a/o Canadian Imperial Bank).

## WHY NONFINANCIAL INDICATORS?

Indicators, that is a ratio or a quotient such as the financial indicator profit margin (profit divided by sales) or the nonfinancial indicator employee turnover (leavers divided by total number of employees), are very efficient in that they concentrate a great deal of information into one single digit.

They are flexible in the sense that they can be used to measure a process (number of orders handled per person), give some indications of employee competence (average education level and average experience in years), capacity utilisation (monthly seat utilisation per aircraft) or an organization's capacity to produce value for customers (Value added per employee).

Indicators are easy and fast to create because they are independent of any system, so those that are working in the operation can construct them on the spot. This is, however, also a drawback. Objective causal relationships between the indicator and the process or phenomenon that it is supposed to measure are difficult to establish. And unless firmly based within a comprehensive conceptual framework, just about any set of indicators can be designed.

An argument for financial information systems that relates profits or cash flow to tangible assets, capital employed or equity is that by focusing on financial indicators are shareholders guaranteed that management will create "shareholder value".

The argument, however, does not hold in practice. As WM-data shows (see section on WM-data), it is possible to create superior shareholder value by focusing management attention on the intangible assets rather than the tangible assets and the financials.

The more ambitious proposals to "include people in the accounting system" 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 already 10 years ago account for 65-80% (Eliason et al., 1986) of the employment in the industrialised world and that the rapidly growing largely unresearched subsector I call "knowledge organizations" are already bypassing the manufacturing sector in many countries (Sveiby, 1990).

It is tempting to try to design a measuring system equivalent to double entry bookkeeping with money as the common denominator. It is an established framework with definitions and standards and, therefore, "common sense". I suggest that this is precisely the reason why we should break with it.

The combination of a manufacturing perspective and a financial focus prevents managers from "seeing" the new, largely intangible, world that is emerging. If we measure the new with the tools of the old, we will not "see" the new. Our "common sense" will prevent us.

In 1927 Heisenberg established the "uncertainty principle" of quantum physics, which says that it is impossible to measure simultaneously the speed and the position of particles.

There is no difference between money measures and other measures in this respect. They are at best proxies for human effort. Both are uncertain; their causal relationships are contextual and 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 definitions and standards have been developed.

In fact, one might even argue that financial metrics are further away from "reality" than nonfinancial metrics. Very little of human effort is financial and very few people handle money in their work. Knowledge flows and intangible assets are essentially nonfinancial in nature.

Today, there exists no all-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. Indicators or HRCA calculations are more useful and quite sufficient.

There are signals outside Sweden that nonfinancial information indicators might be near a comeback. Kaplan and Norton (1993) suggest a "Balanced Score Card" that complements the traditional financial focus with three nonfinancial ones: Customers, internal processes and innovation/improvement. They argue that nonfinancial measures should be used for measuring. Although they have a manufacturing perspective and their concepts have a manufacturing bias, their arguments are also valid for service industries.

Nonfinancial measures are not new. Most companies use nonfinancial 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 Ph.D. dissertations per year etc.

Operational efficiency — the efficiency of the Internal Structure as I call it in this article — has been measured at least since the birth of the industrial organization. The other two intangible areas covered in this article are much more recent; customer relations, such as satisfaction levels and competence related measures (e.g., employee satisfaction and retention), are still not monitored on a regular basis by most companies.

## THE INTANGIBLE BALANCE SHEET

A nonfinancial measurement system rests on the notion that 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.

People are constantly extending themselves into their world by tangible means including houses, gardens and cars and through intangible associations with corporations, ideas and other people. People in organizations can use their competence in mainly two directions: outwards working with customers or inwards maintaining/building the organization. Marshall McLuhan (1967) called these intangible extensions "media." Inspired by McLuhan, I suggest that individuals in organizations create *external* and *internal structures* to express themselves.

If the managers of a car or soap company direct the efforts of their people inwards, they may create intangible structures such as better processes or new designs for products, for instance. When they direct attention outwards, they can create, in addition to tangible things,

like cars or soap, intangible structures, like customer relationships and new experiences.

The economic value of a customer relation is no more “invisible” than the market value of a house. The reason why the value of a relation seems invisible today is that it does not have a generally accepted definition and that it is not measured according to a standard. However, these shortcomings do not mean that it is impossible or unnecessary to measure it, only that comparisons between companies and over time are difficult to make.

The “invisible” part of the balance sheet can then be classified<sup>1</sup> as a family of three:

(1) *Employee competence*. This includes the capacity of employees to act in a wide variety of situations. People create two kinds of intangible structures, internal and external.

(2) *Internal structure* may include patents, concepts, models and computer and administrative systems. These are created by the employees and are thus generally “owned” by the organization and adhere to it. Sometimes they can be acquired 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 “culture” or the “spirit” belongs to the internal structure. The internal structure and the people together constitute what we generally call the “organization.” People create the “organization” by interacting with each other and they “enact” (Weick, 1979) the environment.

(3) *External structure* may include 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 the problems of its customers and there is always an element of uncertainty here. Reputations and relationships can be good or bad and can change over time.

A knowledge organization has little machinery other than its employees and because only people can act, they are both the minders of the machines and the machines 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 organization’s external structure. Similarly, it is the smaller amount of human competence that is directed inward that creates, maintains, develops or erodes the organization’s internal structure.

Individual 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 organization. A case can, however, be made for regarding competence as an “asset” of the corporation because it is impossible to conceive of an organization 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.

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<sup>1</sup>The “family of three” including the labels Customer Capital, Structural CVapital and Individual Capital, were coined in Sveiby (1988). The labels and variations of the three families have since become widely used in Scandinavia and lately also in the USA and Canada.

## WHAT IS THE PURPOSE?

Two main purposes can be distinguished and two primary parties of interest:

*External presentation.* The company needs to describe itself, as accurately as possible, to external stakeholders, customers, creditors and shareholders, so they can assess the quality of its management and whether it is likely to be a reliable supplier or a dependable creditor.

*Internal monitoring of performance.* The management needs to know as much as possible about the company, so that it can monitor progress and take corrective action when warning signs appear. This is the purpose of Management Information Systems. Since the modern business is in a more or less constant state of flux, it seems reasonable to conclude that managers should be primarily interested in flows and should be more concerned with the speed with which intangible assets are measured than with accuracy. This suggests that the most valuable systems must summarise large amounts of information.

Parties outside the company, on the other hand, although they are also interested in flows, are usually more interested in position because external accounts only appear at relatively long intervals. Moreover, they also need to assess the risks that their loans will not be repaid or their equity will fall in value. Consequently, because they are further away from the operation, they are concerned with the stability of the organization. The form of presentation is also important to them because they know less than managers about how their business works.

Thus, the emphasis of measurement must be adapted to suit the users. Management information should use indicators that emphasise renewal, efficiency and change, whereas external accounts should feature indicators that also monitor levels and stability. Explanatory text is also useful since it is not possible to compile a full balance sheet, where every intangible asset is expressed in monetary terms.

**Table 1.** The Intangible Assets Monitor.

<b>The Intangible Assets Monitor</b>		
<b>External Structure</b>	<b>Internal Structure</b>	<b>Competence</b>
Indicators of Growth/Renewal	Indicators of Growth/Renewal	Indicators of Growth/Renewal
Indicators of Efficiency	Indicators of Efficiency	Indicators of Efficiency
Indicators of Stability	Indicators of Stability	Indicators of Stability

We are thus interested in indicators that indicate change, i.e. growth and renewal as well as efficiency and stability. The indicators in the following sections are suggestions and examples that need to be adjusted to the reality of each company. They fit neither all companies nor all circumstances. The idea is to select one or at most two indicators per subheading in the table above and display them in a coherent format. A practical example is given in Figure 3.

**MEASURE COMPETENCE**

**PROFESSIONALS: MOST IMPORTANT COMPONENT OF COMPETENCE**

The term “professional” refers to the people who plan, produce, process or present the products or solutions that are requested by their clients. They can also be referred to as “Revenue (Creating) Persons,” which was the term suggested by the “Konrad” work group (Sveiby, 1989). They are the most important value-creating element in a knowledge organization.

The term includes those individuals directly involved in client work, whether or not they are professionals in the field of competence that constitutes the company’s business idea. It does not, however, include members of the company’s support functions, i.e. those who work in accounting, administration, reception etc. They are part of the internal structure and should be accounted for under that head.

Professionals can be classified according to responsibility or occupation. Many non-manufacturing companies, especially knowledge companies, have an informal or formal hierarchy depending on the degree of responsibility for customers carried by the employees.

## GROWTH/RENEWAL

### NUMBER OF YEARS IN THE PROFESSION

A simple and useful measure of competence is the total number of years that professionals have worked in their profession. Although the man-years of individuals are not strictly speaking quantitative, in large groups the discrepancies are smoothed out enough to make changes in the figure worth recording.

The total number of years in the profession is a measure of the skill and experience of a company's whole body of professionals, whereas average experience per professional is a measure of the average skill and experience of each of them. These indicators can be displayed on a graph with 3-5 classes. By calculating the change in the indicator between 2 years, we can also indicate how much the average competence is growing (for an example, see section on Our People and Figure 3).

### LEVEL OF EDUCATION

The level of education of Professionals affects the assessment of the quality of their competence and thus the company's ability to achieve future success. It is interesting to maintain a historical record of this information, both for internal use and for purposes of comparison with other companies in the same field of knowledge.

The reason why formal education is of interest is that the main competence gained by students at academic levels is how to process vast amounts of information, a key competence today (for an example, see section on Our People and Figure 3).

### TRAINING AND EDUCATION COSTS

Although the visible cost of training is seldom very high, it is still worth recording. Two possible indicators are training costs as a percentage of turnover or number of days devoted to education per professional. Training costs must, of course, also include the time spent since it is generally the most expensive item.

### MARKING

Level of education is, generally speaking, an imprecise assessment of competence. The best way is to award marks. Quite a few companies, especially large multinationals, now give their executives marks, but it is unusual to do so with other employees. It should not, however, be too difficult to do this for professionals, especially if one has already introduced career talks. The point is that as soon as one has given marks, statistical methods can be used for analysis. It is possible to trace how competence develops in various fields, how it changes with time, affects personnel turnover etc.

## EFFICIENCY

### PROPORTION OF PROFESSIONALS IN THE COMPANY

A key indicator of efficiency is the proportion of professionals in the firm, which can be obtained by dividing the number of professionals by the total number of employees. This measures how important the professionals are to the firm. It is useful in making comparisons between companies in the same business, provided that the number of professionals is calculated in the same way for all the companies compared. The proportion of professionals varies from one type of business to another and thus can be used only for comparisons within the same area of operations (for an example, see section on Our People and Figure 3). This quotient also enables the leverage effect of the professionals to be calculated (see below).

### THE LEVERAGE EFFECT

How important are a company's in-house professionals to its ability to generate revenue? This can be calculated from the following formula:

Profit per professional	=	Profit	x	Revenue	x	No. of employees + freelancers
		<u>Revenue</u>		<u>No. of employees + freelancers</u>		No. of professionals
<b>General efficiency indicator</b>		<b>Sales efficiency indicator</b>		<b>Personnel efficiency indicator</b>		<b>Leverage indicator</b>

Note that this indicator takes account of all the people engaged in projects, whether formally employed or not. This tells how much of the earning power is attributable to the company's own professionals. The leverage effect can be calculated at all levels.

### VALUE ADDED PER EMPLOYEE

Value added per employee is a better measure of ability to produce than, say, turnover or profit per employee. It is better because turnover may be heavily influenced by commissions or by goods and services that just go straight through the company. It is also better than profit for purposes of comparison because profit figures are relatively easy to manipulate, at least in private limited companies (profits can be taken out as salaries, fringe benefits, pension insurance premiums etc.). Value added per employee is of course also sensitive to manipulated profit figures or perks disguised as costs. It is not as sensitive as profit, however, because the grand total of salaries, open fringe benefits, employers' contributions and profit is quite a large sum (maybe \$80,000-\$200,000) compared with profit per employee which seldom exceeds \$30,000-\$60,000.

Ability to add value varies between types of business and between individuals, but in large groups the individual variations tend to even out so that the average for the group as a whole does not differ so much from other groups in the same market. Thus if one analyses a number of companies in the same line of business, one will find that value added per individual lies within the same order of magnitude. The differences are no greater than can be explained by the varying degrees of efficiency with which the management staffs run their respective businesses. By measuring value added per employee and comparing the result with previous years and other companies in the same industry, one can get a fairly good appreciation of how your company's ability to produce and generate profits develops.

### VALUE ADDED PER PROFESSIONAL

Value added per employee is a good measure of efficiency in most companies. In knowledge companies, value added per professional can be regarded as the "purest" measure of ability to produce economic value. It is the professionals, by definition, who bring in all the revenues. These revenues must then cover all the costs incurred in keeping a professional in the field (travel, office, secretary, management and administrative staff) and he himself, of course, also commands a market price in the form of salary, pension and other emoluments.

What is left over must suffice to finance equipment and depreciation of the same as well as maintenance of knowledge capital (training). What remains after those costs have been paid is the profit to be distributed as dividends to shareholders or used by the company for consolidation or investment. Value added per professional indicates the importance of the professionals to the company and can be used for the same kinds of comparison as in the foregoing section.

### STABILITY

#### AVERAGE AGE

Older people are more "stable" than younger, i.e. they tend to stay and not leave the company. An organization with (on average) older professionals is likely to be more stable than a "younger" organization in the same industry.

The average age is a good indicator of stability. It is also, just like turnover and seniority, an indicator of dynamics. A very high average age indicates a stable company with more wisdom than drive. The average age has a habit of creeping upwards, unless management is alert, so a steadily increasing average age over a long period of time is a warning sign (see section on WM-data: Monitoring intangible assets for financial success).

#### SENIORITY

Seniority is defined as the number of years employed in the same organization. The seniority of professionals can be used as an indicator of stability of competence. If computed for the category of administrators, it can also be used as an indicator of the stability of the internal structure (see section on Rookie Ratio).

## PROFESSIONALS: TURNOVER RATE

Staff turnover is generally regarded as an indicator of stability. It is a good indicator because it is easy to calculate and to compare with other companies. A very low turnover (below 5%) suggests a stable but not dynamic situation. A very high turnover rate (above 20%) usually suggests that people are dissatisfied. Turnover should be kept in a "band" and sudden changes in the turnover rate are usually an indication that something has changed internally in the company. Companies can actively use the turnover rate as a management tool to sustain a sufficient level of dynamics (for an example, see Figure 2). The turnover rate can be made more or less sophisticated. It can be divided into external (people leaving the company) and internal turnover (job-rotation) or as here into the turnover rate for professionals and administrative staff. The turnover rate is usually calculated as the number of leavers during a year divided by the number of people employed at the beginning of the year.

## MEASURE INTERNAL STRUCTURE

The main activity of employees who work in general management administration, accounting, personnel, reception, filing etc. is to maintain the internal structure. Activities such as routine maintenance of computer systems and databases should also be classified under this heading, unless they refer to a specific customer or group of customers.

## GROWTH/RENEWAL

### INVESTMENT IN THE INTERNAL STRUCTURE

Investments in new subsidiaries or new methods and systems are examples of cash outlays that are often accounted as costs. Such investments are indications of a build up of the internal structure and should be monitored and presented on a yearly basis. The indicator can be calculated as a proportion of sales or (better) a percentage of value added (see example below and Figure 3).

### INVESTMENT IN INFORMATION PROCESSING SYSTEMS

Investment in information technology influences the internal structure. In many industries it is also regarded as a measure of progress in accomplishing the corporate mission. An insurance company with more advanced IT systems can solve its customers' problems more efficiently. Companies with systems for information retrieval and distribution have a powerful structure that supports the organization.

Thus IT investments, expressed as percentages of turnover or in absolute figures, can provide valuable clues to how the internal structure is developing. The number of computers and/or other IT packages per person can also be used as an indicator.

## EFFICIENCY

### PROPORTION OF SUPPORT STAFF

Proportion of support staff of the total number of employed indicates efficiency of the internal structure. A *change* in the proportion indicates whether the efficiency is improving or not. The inverse of this ratio is the proportion of professionals (see Figure 3).

### SALES PER SUPPORT PERSON

Sales per employee can be used as an indicator of how large a volume the organization's internal structure can handle. A change in the proportion indicates whether the efficiency is improving or not (for an example, see Figure 1).

## VALUES AND ATTITUDE MEASUREMENTS

Value judgements are a component of competence. One type of value judgement that is useful to know about is the attitude to workplace, customers and superiors. Just as one can measure the attitude of the market to the company, one can get a picture of employee attitudes to their place of work. If those attitudes are favourable, they will either contribute consciously or unconsciously to enhancing the company's image among its customers. However, if the employees take a dim view of the company, this attitude will unconsciously transfer over to customers and can nullify the arguments in the most elaborate advertising campaign.

The results from attitude polls should be summarised in a few indices, which are then followed-up on a yearly basis. It is imperative that the statistical methods used are consistent from one year to another because we are more interested in *change*, than in absolute level.

## STABILITY

### AGE OF THE ORGANIZATION

An old organization is generally more stable compared with a new one. Signs such as "Est. 1887" are often used by retailers to indicate to foreigners that the shop can be trusted. The age factor of a company is easy to compare with that of its competitors.

### SUPPORT STAFF TURNOVER

The support staff and managers are the backbone of the internal structure. It is vital for the survival and efficiency that they function well; a low turnover rate indicates this vitality. The turnover should be kept in a band, just like the turnover rate for professionals. Because the objective of a support staff is to maintain the internal structure, a lower turnover than for professionals is preferable.

## “ROOKIE RATIO” AND SENIORITY

Rookie Ratio is defined as the number of people with less than 2 years of employment. Recently, employed people are less stable than old. They are also less efficient in that they have not yet socialised into the tradition of the organization, so they do not know the most efficient way around. There is usually a higher personnel turnover among people with less than 2 years of seniority in organizations. A high percentage of “rookies” in the administration is, therefore, a sign that the organization is less stable and less efficient. Rookie Ratio and seniority are each others complement; both indicators can be used.

## MEASURE EXTERNAL STRUCTURE

The time employees spend working for customers represents a potential for maintaining, building and developing relations with customers in direct projects for them. The professionals spend most of their time — maybe as much as 90% — on knowledge conversion, many of them in a very intense co-operation with the customers.

## CATEGORISING CUSTOMERS

If all customers were what the company defines as profitable customers and they also helped to develop competence, enhance image and generate new assignments, then the company would be perceived as being highly successful. But of course they are not. Traditional financial statements can be supplemented with a statement showing customers grouped by categories, as Celemi illustrates below (see Figure 3 and section on Invisible Revenues). Information about changes in customer structure can provide very useful input for an assessment of the company’s potential to develop.

## GROWTH/RENEWAL

### PROFITABILITY PER CUSTOMER

Companies that make an effort to find out the profitability of their customer base often find to their dismay that up to 80% of their customer sales is not profitable. Somewhat unexpectedly, there is generally little information available from companies on the profitability of customers. This is because the costs are not accrued to customers but to products or functions. Customer profitability should be monitored as a routine. You should categorise costs and revenues to enable you to calculate the indicator profitability per customer. This is a much more valuable criterion than profitability per product or market segment.

## ORGANIC GROWTH

Organic growth, i.e. increase in billings with income from acquisitions deducted, is a measure of how well your business concept is received by the market. Note that purchased growth, i.e. growth attributable to increased billings as a result of corporate acquisitions, is not necessarily an indicator of success. It may be such an indicator if, for example, the acquisition

was a disguised mass recruitment of a group of professionals. If, however, a knowledge company grows by buying companies in other lines of business, then that may be evidence that its original business concept is no longer generating enough growth.

## **EFFICIENCY**

### **SATISFIED CUSTOMER INDEX**

Measuring the degree of customer satisfaction is perhaps the best way to determine whether results are about to improve or deteriorate. Nowadays many companies make a systematic effort to acquire information about their customers' perceptions of quality and other attitudes toward the company. The results of these polls are primarily used in marketing and scarcely in financial forecasting, though it is perfectly feasible to append an index of customers' quality perceptions and attitudes to the financial statements.

There are several methods on the market to measure customer satisfaction. An index of this type need not be sophisticated to provide valuable information. The main requirement is that it should be repeated at regular intervals, always with the same procedure and the same definitions, so that one can make comparisons and estimate trends.

### **WIN/LOSS INDEX**

Companies that make a great deal of their business from tenders can calculate a simple index by comparing how many of their quotations were successful with how many that they lost. Compared over time this yields a good indication of how their customers regard them. The index can also be used for comparisons when testing different pricing strategies.

### **SALES PER CUSTOMER**

Sales per customer are defined as total sales divided by the total number of customers. Since selling more to the same customer is usually easier and less costly than finding a new customer, this ratio tells how efficient your company's existing network of customers is. An effort to expand the sales per customers should, therefore, be more profitable (for an example, see section on Our Customers, External Structure).

## **STABILITY**

### **PROPORTION OF BIG CUSTOMERS**

The proportion of big customers tells you how dependent your company is on the favour of a few major customers. If the degree of dependence is great, your position is weak and so is your structure. Two possible key indicators can be used here: Percentage of billings attributable to the five biggest customers, or number of customers accounting for 50% of billings (for an example, see section on Our Customers, External Structure).

## AGE STRUCTURE

*Age structure* can also provide interesting information. The longer time customers have been with you, the better your relations will probably be and hence the easier it ought to be to retain them as customers. The age structure usually only changes slowly.

## DEVOTED CUSTOMER RATIO

How much of the sales come from persons who have been customers for more than 5 years? This is an indication of how devoted the customers are and, therefore, a sign of stability. Naturally, a recently started company will have a low ratio.

## FREQUENCY OF REPEAT ORDERS

Another measure of customer satisfaction is the frequency of repeat orders. A high frequency indicates that customers are satisfied with the company, and since old customers, as a rule, are more profitable than new ones, this key indicator also tells you something about your profitability potential. The willingness of customers to place repeat orders is a further indication of customer-perceived quality and whether or not the company has found the right customers. Stable, loyal customers are profitable customers in the long term; customer utility is high and so are earnings.

The frequency of repeat orders can be measured as the proportion of total billings attributable to old customers. The meaning of "old" naturally varies according to the type of business (for an example, see section on Our Customers, External Structure).

## **WM-DATA: MONITORING INTANGIBLE ASSETS FOR FINANCIAL SUCCESS**

After a decade of unprecedented growth, WM-data is today the biggest of the Swedish listed independent computer software and consulting companies. The main reason for the success is a very deliberate strategic policy of focusing on corporate knowledge build up, customer relations and competence development.

The section entitled "How our Capital is Managed" in WM-data's 1995 Annual Report<sup>2</sup> occupies five pages with graphs and explanatory text.

WM-data divides its intangible assets into the three categories that are recommended in this article, Structural Capital (internal structure + external structure) and Individual capital (what is referred to in this article as competence). WM-data sees the relation between internal and external structure as a key issue and maintains that stability on the personnel side contributes to stability in customer relations.

Top management keeps a tight control of their subsidiaries supported by a management information system. WM-data considers (1996, p.28) "traditional ratios such as return on shareholder's equity and the equity/assets ratio... of no use for control," and has designed a system of nonfinancial indicators, which top management uses to follow up their operation on a weekly, monthly and annual basis.

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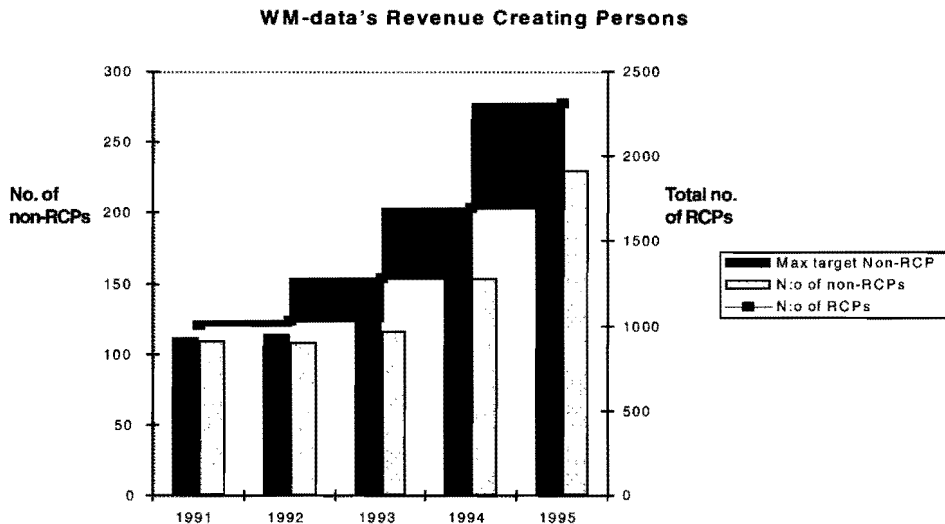
<sup>2</sup>WM-data's Annual Report can be accessed via <http://www.wmdata.com/WM-data>

**Table 2.** WM-data's financial performance from 1985-1995.

<b>WM-data's Financial Performance 1985 - 1995</b>			
	<b>1985</b>	<b>1995</b>	<b>Average increase 1985-1995</b>
No. of employees	273	3040	27%
Turnover MSEK	148	3260	36%
Net Profit MSEK	31	316	26%
Market Value MSEK	155	4300	39%
	<b>1991</b>	<b>1995</b>	
Return on Capital Employed	38.5%	395%	
Return on Equity	37.8%	32.7%	

WM-data uses traditional indicators such as return on equity and return on investment only at the group level.

Although WM-data does not use traditional financial indicators to control operations, there is nothing "wrong" with WM-data's financial performance. On the contrary, it is one of the most profitable computer consulting firms in Europe.



**Figure 1.** The number of non-revenue creating persons may never exceed 10% in WM-data (Source: Annual Report, 1995).

The core "control element" in WM-data's information system is the "Revenue Creating Person" (RCP). The notion corresponds to the word "professional" used in this article. The proportion of non-RCPs must never exceed 10%.

Another target figure is personnel turnover, which WM-data endeavours to keep within a range of 7-10%. WM-data's operations require some turnover of skills, but it must not be too high. Whereas the company has to make a strenuous effort to keep the personnel turnover rate below 10% in the boom years, during the 1990-93 depression it increased its personnel turnover encouraging internal job rotation. Considerable resources are allocated to social activities to foster loyalty; for instance, by engaging the families as "members" in the extended "WM-data family."

WM-data recruits actively from universities to prevent the median age from creeping upwards (the median age of WM-data employees is 34 years). A balance in age and experience is considered crucial, in the fast moving world of computer consulting.

For WM-data, a balance in gender is a strategic issue, not "political correctness." The company wants to recruit more women because the company feels that this would create a more creative atmosphere. However, it complains that young Swedish women shun the computer professions, so their female ratio is down to 29%.

Weekly capacity utilisation is the superior short-term profit "thermometer" in WM-data; management knows that a one hour decrease or increase in number of hours billed during a week for the group as a whole translates into a 60 MSEK effect on the bottom line. If the indicator drops by more than 10%, managers know that WM-data operates in the red.

On the other hand, if it increases by 10% WM-data doubles its profit, which makes it tempting to push capacity utilisation upwards. WM-data, however, considers 80% capacity utilisation over a 3-year period a target and sets prices and recruitment targets accordingly. The founding tandem couple Wilkne-Mellström knows that a higher utilisation will burn out their experts (the key professionals), many of whom have to work 100% to pull the others with them at a 80% rate. The 80% target gives flexibility for peak years and for handling life cycle plateaux.

Efficiency in the subsidiaries is measured as profit per RCP (up from TSEK 101 to TSEK 137 in 1995) and value added per RCP (increased by a fraction of a percent to TSEK 648 in 1995).

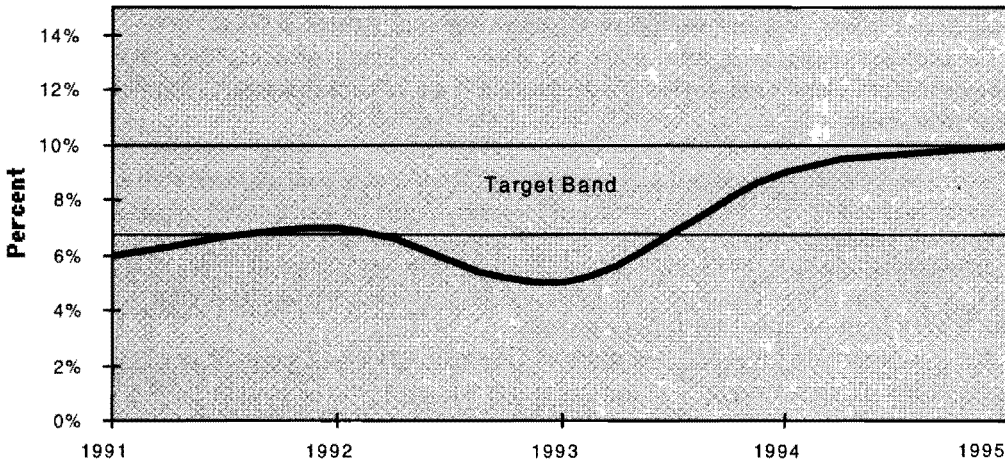
## **A KNOWLEDGE AUDIT OF CELEMI**

This section includes an "Intangible Assets Audit" of Celemi, a Swedish company developing and selling training tools on a global basis. Celemi used the format of an "Audit" in their Annual Report to present their Intangible Assets for 1995. In an "Audit" the company opens the articles for an outside expert who makes an assessment of the performance in intangible assets based on the data that the company provides. The text below is an extract from the Annual Report 1995 and it is mine.

### **CELEMI'S INTANGIBLE ASSETS**

"Celemi's 'Invisible' Balance Sheet contains intangible assets that can be classified under three main headings:

## WM-data's Personnel Turnover



**Figure 2.** WM-data's Personnel Turnover is to be kept within a range of 7-10% (Source: Annual Report, 1995).

*Our Customers* is an external structure of relationships with customers and suppliers, brand names, trademarks, contracts and reputation or image. Celemi's employees are constantly creating this structure. The value of customer relations is primarily influenced by how well Celemi solves customers' problems.

*Our Organization* is an internal corporate structure consisting of patents, concepts, vendor contracts models and computer and support systems, including general management. Also, this structure is a creation by Celemi's employees and its components are generally owned by Celemi.

*Our People* is the combined competence of Celemi's employees, such as their ability to act in a wide variety of situations.

What is of great interest to know for Celemi's stakeholders is whether the intangible assets are increasing in value and whether they are utilised efficiently. This is the aim of Celemi's Intangible Assets Monitor.

## INVISIBLE REVENUES

Just as visible revenues improve the tangible equity, invisible revenues improve the efficiency and the value of Celemi's intangible assets. By canvassing such customers, rather than those that merely contribute money, Celemi is able to actively improve its intangible assets. One way to capture the impact of customers is to calculate the proportion of revenues that come from three categories of customers:

*Image enhancing customers* are those who improve Celemi's potential to find new customers or reduce the marketing costs involved. Such customers are well regarded in their industry and references or testimonials from them are very valuable. They improve Celemi's external structure.

*Organization enhancing customers* are those who demand state-of-the art solutions, which are new to Celemi and thus contribute to Celemi's R&D, or who have very large projects that involve many Celemi professionals and thus enable transfer of tacit professional competence. Such customers improve Celemi's internal structure.

*Competence enhancing customers* are those who bring projects that challenge the competence of Celemi's employees. These customers are valuable because Celemi's employees learn from them.

### OUR CUSTOMERS (EXTERNAL STRUCTURE)

Image enhancing customers contributed 40% of Celemi's revenues in 1995, which is a very good proportion. These customers are large and very well known multinational corporations, with a very high potential for further growth.

The customers are loyal and buy more of Celemi's services. One indicator is the level of repeat orders. No less than 66% of the customers was also with Celemi in 1994. Considering the rapid growth in revenues, this is a very high proportion. A high level of repeat orders also indicates that canvassing costs can be kept low. The most cost efficient way to grow is, therefore, to improve the sales per customer. In 1995 it grew by only 4%, which is too low. The five largest customers account for 41% of the revenues, which is a large proportion. Celemi does not want to become too dependent on a few key customers, so the indicator should not be allowed to be much higher.

In summary, Celemi's external structure is probably the most valuable part of the intangible assets. It seems stable and with a large potential to generate invisible revenues in the future.

### OUR ORGANIZATION (INTERNAL STRUCTURE)

Celemi is changing from a small firm, depending on a few highly skilled and very efficient senior individuals, to a larger corporation with an internal structure that can support a larger number of professionals and that can take on large projects on a global basis. To achieve this goal, Celemi invested no less than 33% of the value added in new products, IT and new subsidiaries in 1995. It is an ambitious goal and one that marks 1995 as the first year of transition for Celemi.

Customers contributed to this transition by trusting Celemi with some very large projects and support for new products. Management estimates that 44% of the revenues in 1995 came from customers enhancing the structure of the organization, which is a very high proportion.

One effect of rapid growth is low seniority of support<sup>3</sup> staff, at present only 3 years. Another is the Rookie ratio (proportion of all people employed less than 2 years), which is a very high 64%. Both numbers indicate instability and high costs for recruiting and developing new people in 1995. If the new people stay with the company, the figures will improve in the coming years, reflecting improved stability.

Celemi's support staff handles fairly large volumes. In 1995 the volume was 7.6 MSEK per person which, however, was a decrease by 20% compared with 1994. The proportion

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<sup>3</sup>Celemi uses the term "administrative staff" in the same sense that we use "support staff" in this article.

of sales to administrative staff increased only 4%. Both of these figures reflect investment in new staff and indicate that Celemi now has support capacity for future growth.

In summarising, Celemi's new organization seems not yet stable and is not yet up to full efficiency. However, it has a high potential for volume growth and efficiency improvement in the coming years.

### OUR PEOPLE (COMPETENCE)

The people indicators in the Intangible Balance Sheet is a further indication that 1995 is a year of transition. Celemi had 50 employees on December 31 1995; a growth of no less than 92% compared with 1994. The total competence of all the experts<sup>4</sup>, measured as years of professional experience, increased by 43%, which is very much. Celemi has primarily been recruiting younger people (the median age is now a healthy 34 years, down from 39 years in 1994).

The average professional experience of the experts, therefore, went down by 25%, which normally would indicate problems in serving the customers. However, the average professional experience is still high (7.8 years). Celemi has retained all the senior experts and the turnover among experts was a healthy 10%. This indicates that Celemi's competence is still in good overall shape despite the changes.

Celemi's people are well educated. Two thirds of the experts have a university degree. The average for all employees is between secondary (2) and tertiary (3) levels, the average is 2.3 for all employees, unchanged compared with last year, which is too low considering management's ambition to improve the educational level through recruiting.

The output of Celemi's people is quite high. The value added per expert was TSEK 867 in 1995, which is high in this particular industry, although this is a drop by 13% compared with 1994, and the value added per employee also decreased by 13%. Again, this is a reflection of the organizational changes. The efficiency should once again improve in 1996. About 43% of total revenues in 1995 comes from competence enhancing customers which is very good and valuable, particularly for the many new recruits.

In summary, Celemi's rapid growth in people compared with previous years is a management accomplishment that will profoundly change and revitalise the company. The newcomers are well educated and on a steep learning curve.

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<sup>4</sup>Celemi uses the term "expert" in the sense that we use "professional" in this article.

DEFINITIONS OF INDICATORS IN CELEMI INTANGIBLE ASSETS MONITOR

1. *Administrative staff*: all other than experts.
2. *Customers*: categorised under three headings. The indicator is %-share of revenues.
3. *Education level*: Employees at year end with Primary education ("Grundskola", calculated as =1), Secondary ("Gymnasium" =2) and Tertiary ("Universitet" = 3).
4. *Experts*: Employees working directly with customers in projects. Top management is regarded as experts since they work actively with customers.
5. *Five largest customers*: Share of revenues from 5 largest customers.
6. *Number of staff*: Two definitions are used: Average number employed during year for efficiency indicators, year end numbers for growth/renewal and stability indicators.
7. *Professional competence*: Number of years in current profession.
8. *Proportion of admin. staff*: Number of admin. staff divided by number of total staff at year end.
9. *Repeat orders*: Customers existing also in 1994 (those corresponding to 2/3 of revenues).
10. *Rookie ratio*: Number of employees with less than 2 years seniority.
11. *Sales per admin. staff*: Total revenues divided by average number of admin. staff.
12. *Sales per customer*: Total revenues divided by average number of customers.
13. *Seniority*: Number of years as Celemi employees.
14. *Staff turnover*: Number of leavers divided by number of staff at beginning of year.
15. *Value Added*: The value produced by Celemi's employees after payment to all outside vendors.

## THE CELEMI INTANGIBLE ASSETS MONITOR

<b>Celemi</b>					
<b>Intangible Assets Monitor</b>					
<b>1994 - 1995</b>					
<b>Our Customers</b> (External Structure)		<b>Our Organization</b> (Internal Structure)		<b>Our People</b> (Competence)	
<b>Growth/Renewal</b>		<b>Growth/Renewal</b>		<b>Growth/Renewal</b>	
Revenue growth	44%	IT investment %	11%	Aver. Professional experience (7), years	7.8 - 25%
Image enhancing customers (2)	40%	Value add. (15)		Competence enhancing customers (2)	43%
		Organization enhancing customers (2)	44%	Total competence experts (4,7), years	298 43%
		Product R&D % value added	18%	Average education level (3)	2.3 0%
		Total investment in org %VA	33%		
<b>Efficiency</b>		<b>Efficiency</b>		<b>Efficiency</b>	
Change Sales/customer (12)	4%	Change Proportion of Admin staff.(1,8)	4%	Value Added per Expert (4,15), TSEK	867 - 13%
		Sales per admin. staff. growth (11)	- 20%	Value Added per employee (15), TSEK	665 - 13%
<b>Stability</b>		<b>Stability</b>		<b>Stability</b>	
Repeat orders (9)	66%	Admin. staff turnover (1,14)	0%	Expert turnover (4,14)	10%
5 largest customers % (5)	41%	Admin staff seniority, years (1,13)	3	Expert seniority (4,13), years	2.3 79%
		Rookie ratio (10)	64%	Median age all employees, years	34.0 - 12%

Figure 3. The Intangible Assets Monitor of Celemi, Sweden (Source: Celemi Annual Report, 1995).

## INTANGIBLE ASSETS IN SWEDISH ANNUAL REPORTS

Why should companies publish information about their intangible assets in their Annual Report? The main reason is, that by displaying their hidden assets, companies will reduce the risk involved in investing in them and thereby they will reduce the rate of return required by stakeholders. This is particularly true in the service industries.

In 1993 the Swedish Council for Service Industries issued a recommendation for its member companies to describe their human capital in their annual reports. The design they recommend is based on the Konrad model with additional input from some of their members, most notably Skandia. The recommendation has been one of the inputs into the 1995 OECD and EU initiatives to issue recommendations for reporting on human capital.

In 1994 some 43 Swedish knowledge companies (Öhman, 1996) measured and reported at least some of their intangible assets according to the Konrad model, including WM-data, Skandia AFS, KREAB, Jacobson & Widmark, Ångpanneföreningen, FFNS, Awapatent, Komrev and Lindebergs.

Some companies also started using the Konrad indicators internally. Two Swedish firms, WM-data and Skandia AFS, have become international leaders in the field. They have approached the subject in two different ways.

WM-data was already using some nonfinancial indicators internally when the Konrad report in 1988 inspired them to design a coherent management information system with both an internal and external purpose. The company now has the longest experience of all companies in using these indicators and is a world pioneer in the field. WM-data has included a comprehensive section on the subject in its annual reports since 1989. The indicators have been used with considerable success internally to monitor WM-data's strategy, but the company has maintained a low profile in theory development.

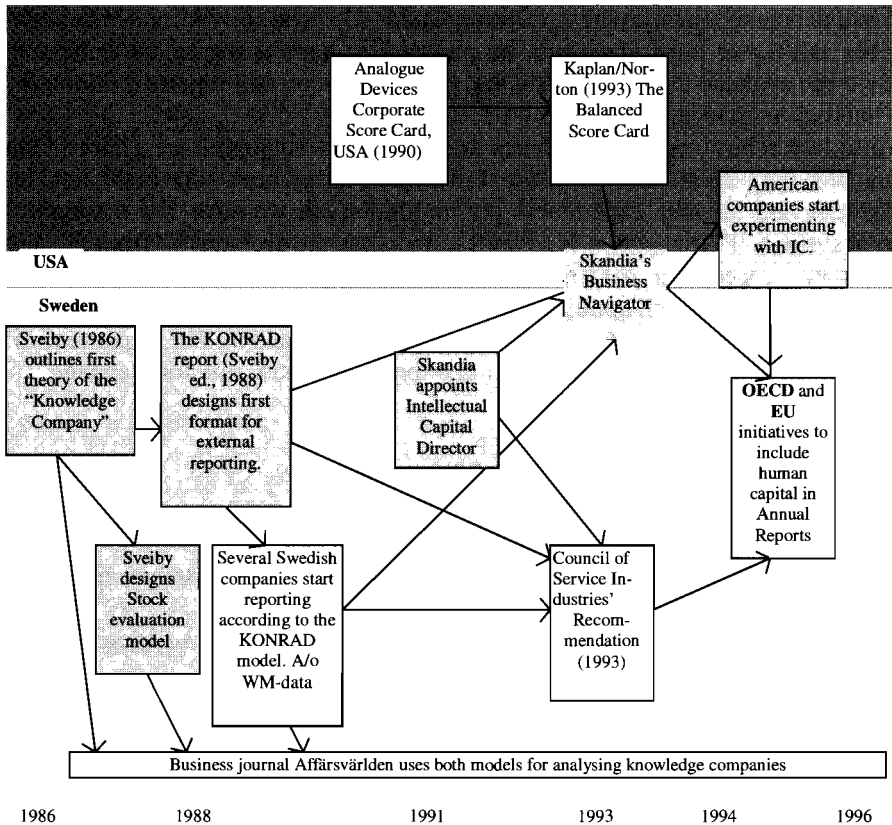
Skandia AFS (a subsidiary of the Skandia insurance group) has chosen to make their measurement system for intangible assets a differentiation device. Skandia AFS appointed Leif Edvinsson "Director of Intellectual Capital" in 1991, with the brief to devise a way to measure the value creating processes. Edvinsson developed the theory of "Intellectual Capital," which incorporates elements of both Konrad and The Balanced Score Card (Norton & Kaplan, 1993). Skandia now has 3 years of reporting experience. The company actively and publicly promotes its Navigator and is one of the driving forces in the "Intellectual Capital Movement" that is now growing in momentum world-wide.

### ONLY THE BEGINNING...

Although Sweden has 10 years of experience in the field, and despite that both Skandia and WM-data report tangible benefits from their programs, the country has still a very long way to go.

Too few service companies follow the recommendations of The Council for Service Industries. Only a handful of companies measure their intangible assets according to a theoretically coherent model and none is publishing anything close to the ideal. There are several reasons for their coyness and for the lack of momentum that has existed to date.

One is that many managers regard such reporting as *pointless*. The only response they get to their annual reports comes from financial analysts, who usually leaf quickly past those



**Figure 4.** The development in nonfinancial management information systems (Source: the present author and Nilsson & Strand, 1966).

pages because they do not know how to read the figures and have no time to learn how. Nor are managers aware of their internal uses. There are very few corporate managers, such as those of WM-data and Skandia AFS who are willing to set aside resources to develop their understanding of how such calculations can be used to follow-up their strategy.

The second reason is the opposite; i.e. the fear that such indicators might *give too much away*. Very few companies dare to publish information about their external structures, who their customers are and what they think of the company, who their competitors are or information about their internal and external image. They may publish some “good” figures, but the interesting figures, those that can be freely interpreted by independent commentators or might reveal some competitive advantage, are not willingly disclosed.

A third reason is one that has been previously mentioned, namely that there exists no *rigorous theoretical model* for this type of report. Accounting systems are not designed for this particular purpose. This makes the key indicators difficult and expensive to determine and impossible to compare.

A main problem is the lack of *practical experience*. As in all measurement systems, a number is meaningless; it tells us nothing, unless we can compare it with a yardstick of some kind, another company, with a previous year or with a budget. When we start measuring intangible assets, we must, therefore, be prepared to keep doing so for quite some time before we can evaluate the results. Skandia, in its third year, still reports (Nilsson & Strand, 1996) internal resistance.

We also lack robust *empirical evidence* that the metrics suggested are useful and that they measure what they are set out to measure. Little research has been done in the field and, until the WM-data and Skandia experiences are multiplied, all we have is a theory with some anecdotal support. That is why it is so hard to mobilise the pressure — from the authorities and investors — needed to make managers publish figures that might even place them at a disadvantage. Legal rules and public opinion are very important when it comes to reporting. Today's legal requirements are the results of past stakeholder action. The response to Skandia's recent Intellectual Capital report suggests that the time is now ripe for a change.

## REFERENCES

- Celemi AB, 1996, *Annual Report 1995*, Malmö, Sweden.
- Eliason et al., 1986, *Kunskap, Information och tjänster* (Knowledge, Information and Services). Industriens Utrednings Institut, Stockholm.
- Gröjer, J.-E. & Johanson, U., 1996, *Human Resource Costing & Accounting*, Joint Industrial Safety Council, Stockholm.
- Johanson, U. & Nilson, M., 1990:1, *Personalekonomi - en litteraturstudie* (Human Resource costing and accounting--a literature survey) Personnel Economics Institute, School of Business, Stockholm University.
- Johanson, U. & Nilson, M., 1996, The Usefulness of Human Resource Costing & Accounting, *Journal of Human Resource Costing and Accounting*, Vol. 1, No. 1, 117-138.
- Kaplan, R.S. & Norton, 1996, *The Balanced Score Card*, HBS Press, Boston.
- McLuhan M., 1967, *Media*, Pan Nordstedts, Stockholm.
- Stewart T., 1994, "Your Company's most Valuable Asset: Intellectual Capital", *Fortune* Oct 3 1994.
- Sveiby K.E. & Risling, A., 1986, *Kunskapsföretaget*, (The Knowhow Company), Liber, Malmö, Sweden.
- Sveiby K.E. & Lloyd T., 1987, *Managing Knowhow*, Bloomsbury, London.
- Sveiby K.E. (ed.), 1988, *Den Nya Årsredovisningen* (The New Annual Report), Workgroup "Konrad," Ledarskap Förlag, Stockholm.
- Sveiby K.E. (ed.), 1989, *Den osynliga balansräkningen* (The Invisible Balance Sheet), Ledarskap Förlag, Stockholm.
- Sveiby K.E., 1990, *Kunskapsledning*. (Knowledge Management), Affärsvärlden Förlag, Stockholm.
- Sveiby K.E., 1994, *Towards a Knowledge Perspective on Organization*, Ph.D. dissertation, Personnel Economics Institute, School of Business, Stockholm University.
- Telia AB, 1996, "Statement of human resources 1994", *Journal of Human Resource Costing and Accounting*, Vol. 1, 99-116.

Tjänsteförbundet, 1993, *Rekommendation. Styrtalet i tjänsteföretag*, Stockholm  
Weick K., 1979, *The Social Psychology of Organizing*, 2nd ed. McGraw Hill.  
WM-data, 1996, *Annual Report 1995*, Stockholm.