Measuring Intangibles:

Suggested Indicators

with cases from

professional service organisations

and

high tech firms

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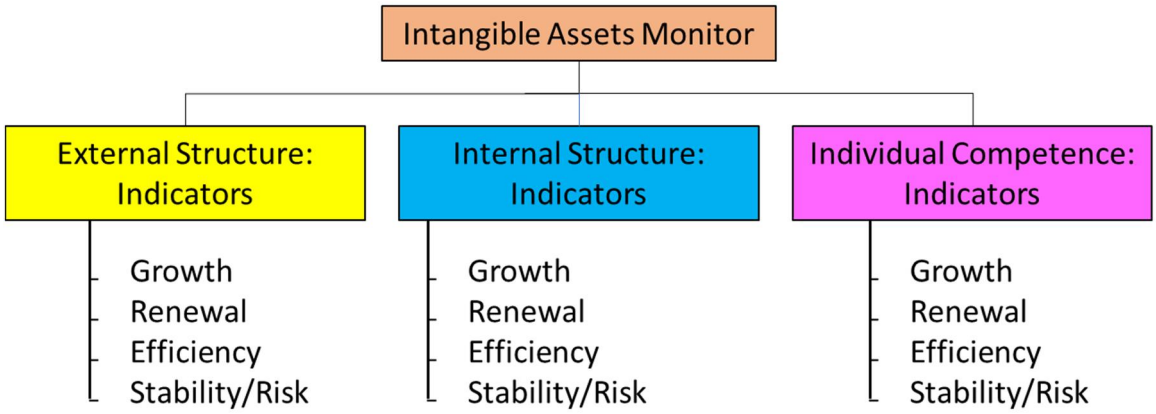
Foreword

This paper is a consolidation of several papers on measuring intangibles, previously published on my website as separate html-files. The consolidated paper is aimed at knowledge managers and other managers with an interest in learning by measuring.



The structure of the paper follows the layout of the Intangible Assets Monitor in the order Measuring Competence, Measuring External Structure, Measuring Internal Structure. The tangible assets indicators are excluded.

The last section contains five cases featuring firms from my consulting practice that rely heavily on professional expertise: The Swedish learning/educational consulting firm Celemi; the Swedish ICT consulting firms WM-data; The Danish management consulting firm PLS Rambøll Management; the South African Mobile Telephone Network (MTN) operator; The Indian ICT-firm Infosys. For ethical reasons, the cases include data older than ten years. For learning about measuring intangibles, old data are as good as new.

Briefly About the theory of the IAM

The IAM is a scorecard type of measurement model built on the concept of stock and flow, much used in accounting theory and system dynamics theory. The **stocks** are three intangible resources, **Individual Competence**, **Internal Structure**, **External Structure**, which generate value (based on the Resource Based View of the firm).

In system dynamics, **flow** equals change and analogous with accounting, **flow** is in the IAM seen as value-related over time (the profit/loss is equal to the increase/decrease in equity). The most valuable indicators are hence, those that monitor flows between two points in time and **Growth**, **Renewal**, **Efficiency** and **Stability/Risk** have been chosen, since that are the most relevant for managers.

Why? Whereas financial indicators, such as profit or return on equity are lag indicators, intangible flow indicators are (or can be) lead indicators, hinting at issues that may later turn up in the financial accounts as profits or losses. I argue that the only true agent and value creator in an organisation is the human being. This perspective is pertinent in knowledge organisations that are heavily dependent on the competence of the employees. The cases bring home the point that every organisation must customise the indicators according to its context.

More about the IAM and A knowledge-based theory of the firm.

Measuring Competence

Professionals: The Most Important Component of Competence

The term "professional" refers to the people who plan, produce, process or present the products or solutions client demand. The term includes all those directly involved in client work, whether they are professionals in the field of competence that constitutes the company´s business idea. The "blue collar" workers in the manufacturing company are also included in this category.

The term excludes 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 heading. The problem of "grey areas" where employees perform a variety of duties, can be solved by including only that part of their time which is spent working for clients and charging the rest to internal structure.

Is not the financial controller a "professional" in his, or her field? Yes indeed, but the work of many employees (like financial controllers) consists largely of preserving, maintaining and developing the internal rather than the external structure. The work is absolutely essential to the long-term viability of the organization, but it is not involved directly with customers.

Outside experts, and suppliers are also involved in projects. These "Freelancers" constitute an essential production factor in many companies. However, as they are not formally employed by the company, they should not be counted as employees. The distinction between employed, and freelance personnel is, in some ways, arbitrary but it is consistent with labour laws and statistics in most countries, so it makes comparisons easier. Freelancers are an important element in the external networks that a knowledge company builds up, to support the process of knowledge conversion, and are therefore part of the company´s external structure. The importance of freelancers may become so great that the organization becomes "virtual", and it ceases to be possible to see where the competence of the organization ends and that of its suppliers begins.

Keep Time Records

Time is such an important variable in knowledge organizations, that it must be recorded. The time used can be classified into the categories suggested:

- **Knowledge Conversion**. Professionals convert knowledge into new knowledge, generally in an explicit form. Most knowledge conversion occurs in projects undertaken for existing customers. Time spent on projects for existing customers (= those who have previously commissioned at least one project) can be regarded as maintenance of the external structure. All activities relating to established customers, including quotations, lunches, telephone calls, letters and other contact maintenance activities, should be classed under this head, even if such time is booked under a separate account code.
- **Grow/Renew External Structure**: Activities designed to expand or renew the external structure are those that are otherwise known as marketing as well as those that increase the staff of Professionals. Recruitment activities are so crucial, that the costs including time spent are well worth monitoring. Marketing consists primarily in activities aimed at winning new customers. It naturally includes traditional activities like brochures and personal selling, but in knowledge organizations other extroverted activities are probably more important, such as drafting quotations for new customers, speaking at seminars, writing books, joining clubs and eating publicity lunches. The time spent on the first project for a new customer can also be included here. Customer categories worthy of separate classifications in the time recording are for example: customers who enhance the company´s image, customers who can give introductions to other desirable customers.
- **Maintain Internal Structure.** Most of the time recorded by the support staff belongs to this category. Plus, most of the time of management and top management, unless in customer projects.

- **R&D and Renewal of Internal Structure**. Time spent on R&D projects, including those that are paid for by customers.
- **Competence enhancement.** Time spent on training and education.

Classification by Degree of Responsibility

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. In an advertising agency, for example, we can distinguish three levels:

- Those who work on only part of a project;
- Those with overall responsibility for a project (often called project managers);
- Those with overall responsibility for a given customer (like "account managers" in adman´s jargon).

The company often strives to develop and retain as many people as possible with overall customer responsibility, because they are important key people. Other skills besides expert skills may also be important enough to be worth keeping track of. Examples are what are jokingly called Finders, Minders and Grinders. The Finders are the ones who are good at making contacts and bringing in new customers, the Minders are the senior consultants, and the Grinders are the poor unfortunate juniors who do all the hard work.

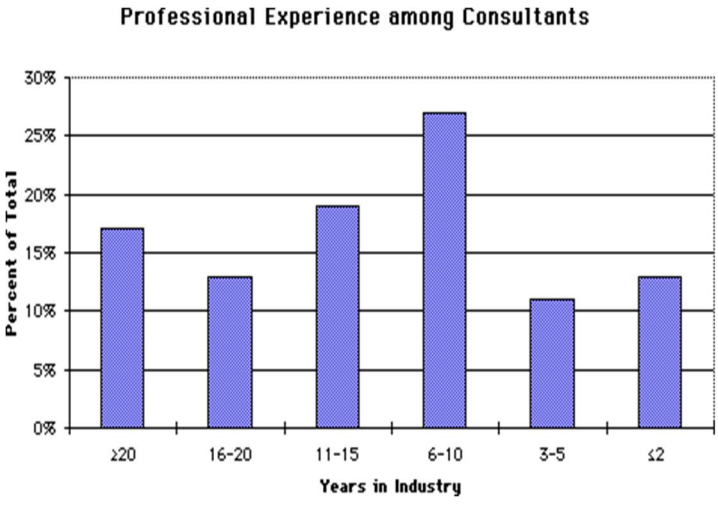
The Danish consultancy firm PLS-Consult classifies its staff in a somewhat similar manner (see example below) into: Generators (customer managers who can generate new customers); Leaders (competent of managing major projects); Teachers (who are skilled at passing on their competence to others).

Classification by Area

You can survey the competence that the company possesses in different areas. An engineering consultancy, for example, might divide its competence between the power sector, physical communications, industrial construction, housing construction, etc. A software consultancy could set its categories according to how many are familiar with different types of system. This can be presented in diagrams. Again, we are mostly interested in changes. Is the company gaining or losing competence in its core areas, for instance?

Competence Growth

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 individual Professionals are not strictly speaking addable, 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 professional experience per Professional is a measure of the average skill and experience of each of them. If you divide the total by the average number of Professionals in the company, you get a control figure for competence per Professional.

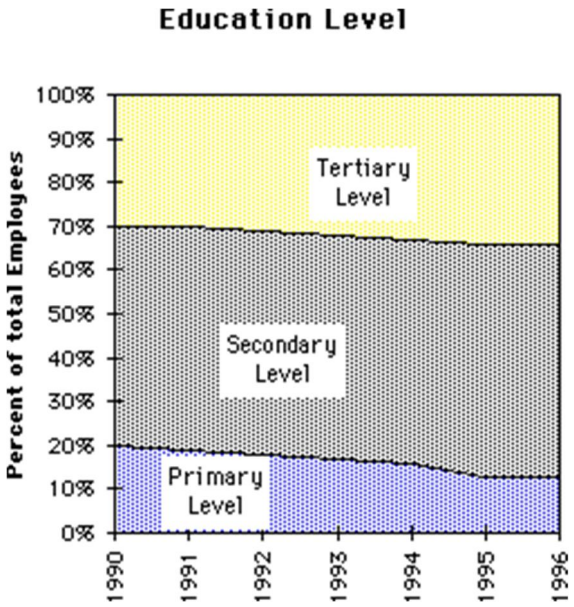
These control figures can be displayed on a graph with 3-5 classes. By calculating the change in the indicator between two years we can also indicate how much the average competence is growing. Best is a chart covering several years but a table will do fine. (Example see chapter 1.9.5 and Figure 10 below).

Level of Education

The level of education of Professionals affects the assessment of the quality of their competence and thus the knowledge company´s ability to achieve future success.

It is interesting to keep 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 because the main competence gained by students at academic levels is how to process vast amounts of information.

Three general classes can be distinguished: Primary, Secondary and Tertiary. In organizations relying on a particular profession, like auditors, it is useful to distinguish how many are chartered. An average can be calculated and the change in the average indicates whether the company improves its average level.



Competence Index

The "Big Four" pigeon-hole their consultants on five to seven-point scales and assess their performance against criteria. Quite a few companies, especially large multinationals, make annual performance assessments of their managers and support staff. Such assessments may form the foundation of a Competence Index. An index can be calculated as:

Level * Performance = Competence Index.

A simple Competence Index entirely based on demographics (of course not as good as a Competence Index based on assessments) can be calculated as:

Years in the Profession * Seniority * Level of Education.

You can then use statistical methods for analysing the Index. You can trace how the competence index develops in various fields, how it changes with time, affects personnel turnover, etc.

Competence Turnover

By comparing the competence of people who have left the company with those of new recruits, you can derive a quotient showing how personnel turnover affects the company´s competence as a whole. The control figure can be calculated as the competencies of those who have joined the company divided by the competencies of those who have left it. "Competence" may be any indicator, like education, marks or years of experience. Table 3 shows how competence turnover can be calculated in a company that employs 1500 people. The change in years of experience is divided into three components: how much has been gained by new expansion recruitment (as opposed to replacement), how much has been lost by departures, and how much has been gained or lost by replacing people who have left. The table shows how competence turnover can be calculated.

Competence Turnover (assuming total staff = 15 000 experience years)		
Experience Years	**1995**	**% of Total**
Years of experience gained with growth	+150	+ 1 %
Years of experience lost with leavers	- 132	- 1 %
Years of experience gained with replacements	+ 330	+ 2 %
Net increase in Competence	**+ 348**	**+ 2 %**

Competence Renewal/Innovation

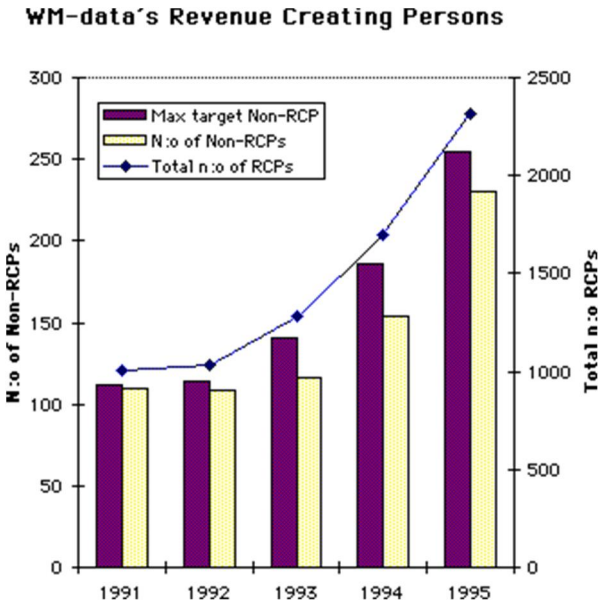
Competence-Enhancing Customers

Since Professionals spend most of their time working for customers, and since customers are the most important source of competence development, you get valuable information by measuring the proportion of customer assignments that contribute to competence development. It is usually surprisingly easy to compile a list by asking your own people what projects they feel they learned something from, which ones were of R&D type, and so on. (Example see Celemi below).

Diversity

Gender and demographic diversity has been shown to enhance innovation. For example, WM-data has found that with women systems and programming teams with a proportion of women tend to be more innovative. The South African mobile network operator MTN, uses racial diversity as an indicator of innovation. The indicator can be calculated (as by WM-data) percentage of women (or percentage of men in female dominated industries) of the total workforce.

Competence Efficiency/Utilisation



Proportion of Professionals in the Company

A key indicator of efficiency is the proportion of professionals in the firm; the number of professionals, divided 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.

Note that 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. (Examples see chapter 1.9.5 below and Figure 2 above). This quotient also enables the leverage effect of the professionals to be calculated, see below.

Training and Education Costs

In knowledge companies, which depend so heavily on the knowledge and competence of their employees, competence development ought to be a heavy investment item. And so, it is, but this fact is not normally apparent from the company´s financial statements, for most acquisition of knowledge takes place not in formal courses but through regular work on assignments for customers and R&D projects.

Although the visible cost of training is not always so high, it is still worth recording. A couple of possible control figures 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.

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:

$$\text{Profit per Professional} = \underbrace{\frac{Profit}{Revenue}}_{\text{General efficiency Indicator}} * \underbrace{\frac{Revenue}{No.employees + freelancers}}_{\text{Sales efficiency Indicator}} * \underbrace{\frac{No.employees + freelancers}{No.professionals}}_{\text{Personnel efficiency Indicator}}$$

Leverage Indicator

Note that this control figure takes account of all the people engaged on projects, whether formally employed or not. This tells you how much of your earning power is attributable to your 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.

Value Added Statement		**Traditional Profit & Loss statement**	
Income	100	Income	100
Goods purchased from outside suppliers	-5	Goods purchased from outside suppliers	-5
Rental on premises	-3	Rental on premises	-3
Leases on equipment	-1	Leases on equipment	-1
Total value added	**91**	Pay and employer's contributions	-65
		Other personnel emoluments	-5
Applied to:		**Operating profit**	**21**
Pay and employer's contributions	-65	Depreciation	-10
Other personnel emoluments	-5	**Profit after depreciation**	**11**
Depreciation	-10	Net interest	-5
Net interest	-5	**Profit before tax**	**6**
Profit before tax	**6**		
Number of employees	70		
Number of Experts	60	Operating margin	21%
Profit as % of value added	7%	Net profit margin	6%
Value added per employee	1.3	Profit per employee	0.09
Value added per Expert	1.52		
Profit per Expert	0.10		

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 to profit per employee which seldom exceeds $30,000-$60,000.

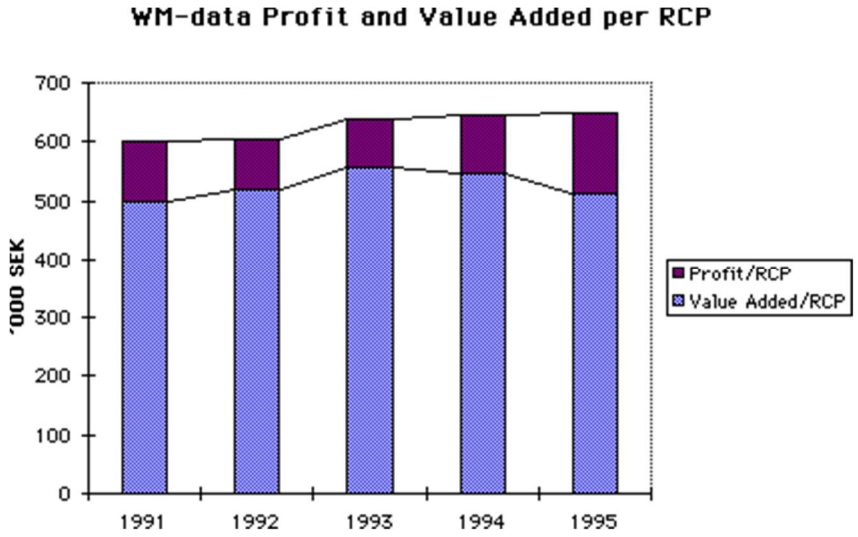
Ability to add value varies between types of business and between individuals, but in large groups the individual variations tend to even out so that the average for the group does not differ so much from other groups in the same market. So, if one analyses several companies in the same line of business, 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 managements run their respective businesses.

By measuring value added per employee and comparing the result with previous years and other companies in the same industry you can get a good appreciation of how your company´s ability to produce and generate profits develops.

Value Added per Professional

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).



WM-data uses the indicator as an efficiency target.

What is left over 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. Since the proportion of professionals to the total number of employees may vary, the two measurements (value added per employee and per professional) can give rise to interesting comparisons between companies.

Profit per Professional or per Employee

Profit per employee is a useful term if you can correct for excess salaries, etc. It can be used to make comparisons between stock market-quoted knowledge companies because they are required to report their profits more honestly. The advantage is that the figures are easily available. In the long term, it is first and foremost the ability of the professionals to generate profits that determines the market value of a knowledge company. Profit per Professional may thus be a more interesting indicator to note, especially for outsiders who do not have access to the internal management information.

The profit-generating ability of professionals depends on the state of the market, on how efficiently the company is managed, and on how much of the value added is paid out direct to employees as salaries and benefits. The state of the market of their customersôcustomers is a very important factor for many knowledge organizations.

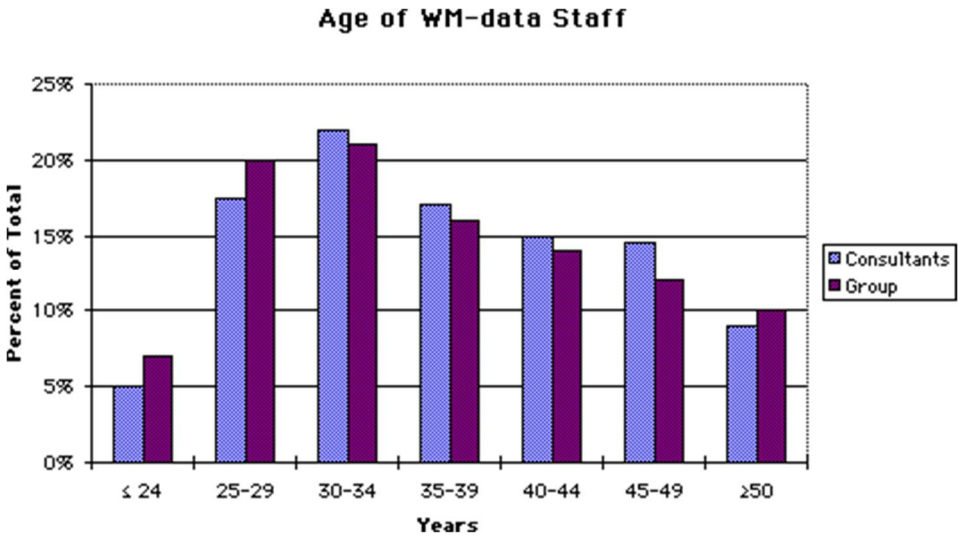
Architects, for example, get a very tough time when the construction and housing markets turn down. As a result, the profit (and value added) per architect in architectural firms goes down too. In boom times they regain all they lost and more, only to sink again into the depression. Advertising agencies and software consultancies seem to have found it easier to keep up their levels of pay through fluctuations in the market.

Since professionalsôsalaries are normally the biggest single cost item in a knowledge company´s budget, profits are very largely influenced by salary policies. In partnerships salaries of the partners are often used as profit regulators, especially in businesses like law firms and small consultancies, so this yardstick is valuable only if the profit figures can be purged of such items.

Competence Stability

Average Age

Older people are often more "stable" than younger, that is they tend to stay and not leave the company.



For this reason, 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. With the aid of a deliberate recruitment policy, it is possible to maintain a stable age structure, but keeping the age and the experience of the staff in balance is not easy.

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 also Rookie Ratio).

Relative Pay Position

Most industries and professional bodies keep good statistics of levels of pay and the relative positions of individual companies. Relative pay position is usually expressed in terms like 97% or 103%; this has high information value because it measures relative cost levels compared to competition. It can also be assumed to influence the attitudes of professionals on the payroll. Relative pay position is also interesting because it gives an indication of whether employees are likely to look for work elsewhere.

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 is 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, (see example WM-data). 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 beginning of the year. The turnover rate for professionals is an indicator of stability in the important group of revenue creating people.

Measuring External Structure

All the time the 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% - in a very intense co-operation with the customers, others in more back stage positions. So, the choice of customers is crucial.

Intangible Revenues

Most customers contribute much more than money. They provide training for employees, they can be used as references, they talk to each other and so spread the word and the image, and their feedback is a source for developing new products and services. These flows can be called Intangible Revenues because they increase the value of the intangible assets. Intangible Revenues can be divided into Image enhancing, Organisation enhancing and Competence enhancing. Read more about intangible revenues here.

The importance of customers is especially evident in knowledge organizations. The big auditing firms, for example, use their large customers, to train new recruits, by assigning them the routine parts of the audit.

Traditional financial statements can be supplemented with a statement showing how customers contribute Intangible Revenues grouped by categories as PLS-Consult illustrates. Information about changes in customer structure can provide very useful input for an assessment of the company's potential for development.

External Structure 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 because of corporate acquisitions, is not necessarily a sign of success. It may be such a sign if for example the acquisition a disguised mass recruitment of a group of Professionals was, but if a knowledge company grows by buying companies in other lines of business, that may equally well be a sign that its original business concept is no longer generating enough growth.

External Structure Renewal/Innovation

Image enhancing customers

Fortune-500 companies and leaders in their industry are valuable customers because their image "rubs off" on their suppliers and partners. Customers that endorse products are a much more effective sales force than our own and gives more image than any advertising campaign. It is like having a sales force out there at no cost! Customers are even better, because their intangible contribution is likely to bring new customers, previously unknown to us and are thus an indicator of innovation in the customer base. The proportion of sales to high-image customers thus describes indirectly an intangible flow to us, which should be measured.

Sales to new customers

The proportion of sales to customers younger than a year tells how good we are at penetrating new segments. An alternative is sales to new markets.

External Structure Efficiency

Profitability per Customer

Companies that try to find out the profitability of their customer base, often find to their dismay, that up to 80% of their customer sales are not profitable. There is generally surprisingly little information in 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 categorize costs and revenues to enable you to calculate the control figure profitability per customer. This is a much more valuable criterion than profitability per product or market segment.

Win/Loss Index

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

Sales per Customer

Sales per customer is 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. (Example see the Celemi Annual Report below).

External Structure Stability

Satisfied Customers Index

Measuring the degree of customer satisfaction is perhaps the best way to get an early indication of whether results are about to improve or deteriorate. Many companies nowadays make a systematic effort to acquire information about their customers" perceptions of quality and other attitudes to the company. The results of these polls are used primarily in marketing, and hardly at all in financial forecasting, but 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 for attempting to measure customer satisfaction. An index of this type need not be sophisticated to provide valuable information. Simple attitude polls can usually tell you a lot. The main requirement is that they should be repeated at regular intervals, always with the same procedure and the same definitions, so that you can make comparisons and estimate trends. Results from polls should be cross analysed with profitability data or efficiency indicators as in the example from PLS Consult.

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. (Example see Celemi Annual Report).

Age Structure

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

Devoted Customers Ratio

How much of the sales come from customers older than five years? This is an indication of how devoted the customers are and therefore a sign of stability. Naturally, a young recently started company will have a low ratio, which is an indicator of instability.

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 further an indication of customer-perceived quality and whether 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, but normally a customer who has given you at least one previous assignment can be regarded as an old customer. (See example from Celemi's Annual Report).

Measuring Internal Structure

The main activity of employees who work in general management administration, accounting, personnel, reception, filing, etc. is to maintain the internal structure. They are referred to here as "support staff". Activities like routine maintenance of computer systems and databases should also be classed under this head, unless they refer to a specific customer or group of customers.

Internal Structure Growth

Investments 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 Celemi).

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. An airline with a sophisticated ticket booking system may enjoy a competitive advantage over other airlines. 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 a control figure.

Internal Structure Renewal/Innovation

Customers that Contribute to Internal Structure

The proportion of assignments devoted to customers that improve the internal structure of the company is an important variable, because it adds to the growth of the asset. Examples of projects that improve the internal structure are large projects where competence is passed on by tradition to several professionals at once. Innovative projects involving new materials, new methods of calculation, new software, etc. come under the heading of R&D and should be classed as such. Customers must be classified for this indicator. Two companies that do this kind of classification are PLS Consult and Celemi (See cases below).

Sales of New Products and Services

The proportion of sales from new products/services is one of the most common indicators in high-tech industries. Often cited is proportion of sales from products younger than 3 years. Note that the indicators are placed under "Internal Structure" renewal because the processes for developing products and services are parts of the internal structure, so the indicator tells how good the organisation is at innovation.

New Processes Implemented

A way of capturing "everyday" innovation in the workplace is to calculate and publish the number of new processes implemented regardless of how "grand" they are. It is a simple, yet effective way to encourage continuous improvement.

Internal Structure 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. Example, see the WM-data case.

Sales per Support Person

Sales per person employed in can be used as an indicator of how large volume the organization´s internal structure can cope with. A change in the proportion indicates whether the efficiency is improving or not. Example, see WM-data and Celemi.

Internal Structure Stability

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. This is a concept often referred to as corporate culture or esprit de corps. Just as you can measure the attitude of the market to the company, you can get a picture of employees" attitudes to their place of work. If those attitudes are favourable, they contribute consciously or unconsciously to enhancing the company´s image among its customers. But if the employees take a dim view of the company, this attitude will unconsciously rub off on customers and can nullify the arguments in the most elaborate advertising campaign.

How much of marketing costs are neutralized by your company´s own staff? Many companies, especially big ones, run regular polls to detect changes in employees" attitudes. The results of such polls are an indication of how the internal structure is developing. The results from attitude polls should be summarized in a few indices, which are then followed up on a yearly basis. It is imperative that the statistical methods used are consistent form one year to another, because we are more interested in the change, than in the absolute level. The indicator is placed in the Risk/Stability cell because a deteriorating attitude measures are early warning signals for organisational trouble ahead.

Age of the Organization

An old organization is generally more stable than a new one. Signs like "Est. 1887" are often used by retailers to indicate to foreigners that the shop can be trusted. The age is easy to compare with 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, and a low turnover rate indicates this. The turnover should be kept in a band, just like the turnover rate for professionals. Because the objective of support staff is to maintain the internal structure a lower turnover than for professionals is preferable. The band is probably between 3 - 7%. Example of staff turnover chart see WM-data.

"Rookie Ratio" and Seniority

Rookie Ratio is defined as number of people with less than 2 years employment. Recently employed people are less stable than old. They are also less efficient, because they have not yet socialized 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 two 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 other´s complements. Both indicators can be used. Examples see WM-data and Celemi.

Cases

Evaluating Customers: PLS Consult

Most customers are sources of value in forms other than hard cash. They provide training for employees; they can be used as references; they talk to each other and so spread the word and the image, and; their demands encourage the development of competence. The importance of customers is especially evident in knowledge organizations.

The big auditing firms, for example, use their large customers to train new recruits by assigning them the routine parts of the audit. That such customers are valuable is recognized by the senior auditors and the large customers. Indeed, the latter are asking with increasing frequency these days, what they get in return for teaching their auditors' "rookies" their business.

Other customers contribute their image. Having IBM or General Motors as a customer is a valuable reference, and it is quite remarkable how many big-name companies appear as existing, or former clients, on consultants' CVs.

However, the size of the customer has little to do with how interesting or challenging the projects are. The most challenging and therefore the most educational work is often done for less well-known customers. A knowledge perspective on strategy therefore involves getting to know one's customers really well. When armed with an intimate understanding of its customers, a knowledge company can be more selective in its marketing and can concentrate the company's most valuable (scarcest) skills on projects where they fit in best and will do the most good both for the customer, and the knowledge company itself.

The PLS-Consult Case

The Danish management consultancy firm PLS-Consult, follows a deliberate knowledge strategy, and has begun to measure the competencies, and development of its own staff, as well as the ways in which its customers contribute invisible revenues.

Customers are divided into:

- Customers who contribute to image, references, and/or new assignments (very much/average/not much);
- Customers with challenging and widely educational projects that contribute to the firm's internal structure (very much/average/not much);
- Customers who improve individual competence (very much/ average/not much).

About 15% of all their customers belong to the most valuable, "very much" class, which PLS-consult wants to expand.

PLS-Consult divides consultants into three categories of experience: less than three years, between three and seven years and over seven years. The basic qualification is a bachelorôs degree in engineering or business administration.

Over half the firm's consultants have over seven years' experience and PLS is anxious to develop three more strategic competencies in its consultants, and therefore seeks to identify:

- Leaders competent at managing major projects;
- Teachers competent at transferring skills to others working on a project (and so contributing to internal structure);
- Generators competent at bringing in new customers.

About half PLS-Consult employees possess one or more of these abilities, which is a high figure. Most of these findings are based on subjective assessments made by the senior executives at PLS. Internal attitude surveys, and customer satisfaction polls have also been run, and will be repeated systematically in future.

These kinds of data enable PLS-Consult to keep strategy under constant review. How much of its revenue, for example, comes from "image", and how much from "educational" customers? What proportion of its most valuable skills is being assigned to customers that can enhance the firm's image? How much of the revenue comes from very satisfied customers? Who are the most and the least satisfied customers? Which customers are most profitable in cash terms? How much revenue comes from "bread-and-butter customers", who contribute 'financial' profit, but nothing else?

The management has, for example, identified the need for more "teachers" to enable PLS to grow faster. This begs questions like "How can actual and potential teachers, be developed and recruited?", and "What kind of customer projects should such people be assigned to?". By measuring the growth of volume in projects in which teachers are involved, the company can tell whether it is on the right track.

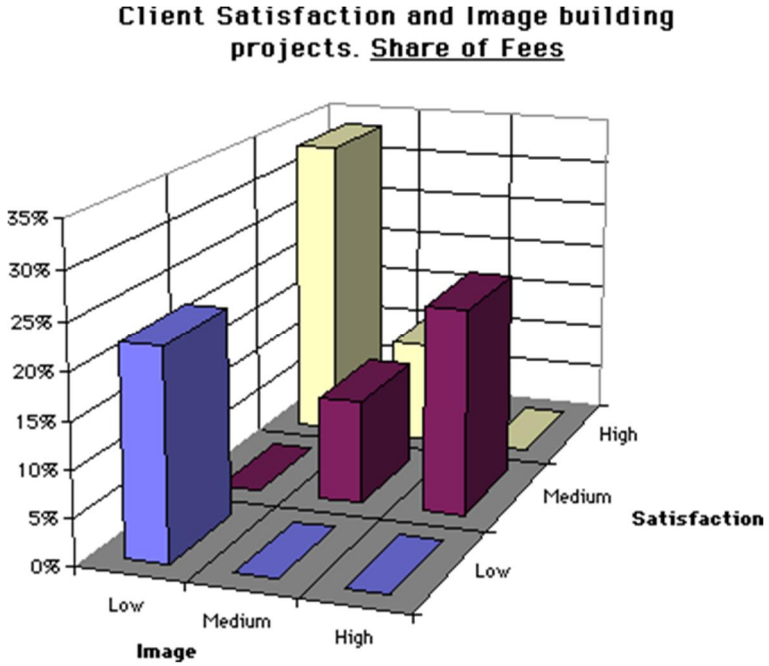
PLS would also like to win more image-enhancing customers. By measuring the volume of that segment, they can see the extent to which that goal is being achieved. Customer polls can thus be used for strategic purposes.

An issue of concern: *The share of fees coming from highly satisfied are the same as last year, whereas the share of least satisfied customers has increased. (not PLS data)*

Satisfied customers are all important so the key to sustained profitability is the ability to establish and maintain stable customer relationships. Regular customer surveys paint moving pictures of customer

satisfaction. A summary of responses to such a survey is shown in the chart. The share of fees coming from customers who regard the service as very satisfactory, is the same as last year, whereas the share accounted for by the least satisfied customers has increased. A chart of this kind should raise some questions from the Board.

The value of a customer base can also be assessed in terms of market development, because customers likely to generate a flow of new projects, rather than the occasional one-off, are clearly more valuable.



Large efforts are put into low image projects while the share of fees coming from high quality project, which give high image is low. (data are not from PLS Consult)

One of the most important means of competition is thus the ability to choose the right customers. One might distinguish the following categories:

a) Customers who are profitable.
b) Customers who increase the competence of the engineers.
c) Customers who support the build-up of internal structure.
d) Customers who build up the image and provide contacts with other customers.

Thus, a key strategic aim should be to attract customers whose projects will improve image, internal structure or individual competence, as well as being of high quality, and profitable. The graph in the Figure above shows a not-too-favourable picture (the data in the example do not come from PLS-consult). High image projects are both the best and the worst: the best if the customer is impressed by the high quality of the work, and the worst if the customer is dissatisfied.

In the chart above, no revenue is being earned from satisfied high-image customers. If the firm is to gain image, something must be done about a situation like this. Projects that make it possible to develop new concepts and methods, or which are big enough to be educational for many employees, are more valuable than other projects. Customers who provide opportunities for such projects help to reinforce the company's internal structure.

The Celemi Case – Intangible Assets Monitor

Celemi is a Swedish company specialised in learning tools. Although privately held the company has published information about its intangible assets since 1995. The Celemi Intangible Monitor below is from 1999. Its unique feature is a colour coded comparison with strategic targets.

Also available on-line is an article in KM World by the Celemi CEO on how measuring Intangibles supports the strategy. *(Comment 2018: Celemi published its IAM until 2005 when it was acquired by Mercuri International.)*

Below an excerpt from the Celemi Annual Report 1999. Minor changes in calculation principles for value added and categorisation of staff have been made. Earlier years have been adjusted accordingly.

The Celemi Case

Analysis of our Intangible Assets

- Looking at our monitor for 1999 (see pages 26-27), our financial picture, based on our traditional financial statement, is disappointing. Several key areas are off target due in part to significant investments made during the year to acquire our partner company and to develop the competence of our learning consultants. Yet, Celemi is a company with a very high profit potential, as supported by the lead indicators in our monitor. Some highlights:
- *Efficiency*
  Many efficiency indicators are in line with our target goals, which shows we are getting better at managing our intangible assets.
- Under "Our People," both the Value-Added Margin (now at 49%) and Value-Added per Expert 890 (from 802) TSEK are well above our strategic targets. These figures, on an upward trend, reveal growing competence of our professionals.
- We are selling more to each customer 367 (from 306) TSEK on average (under "Our Customers"), and investments made in 1997-98 to develop new tools and processes are now pulling our organizational efficiency out of the "red" (see "Our Organization"). While Revenues per Administrative Staff are slightly below target, we expect to reach this strategic goal soon.

  Stability

  The values highlighted in red under the stability section of "Our Organization" indicate that our company is not yet stable, but we are steadily moving toward our goals as the trends are moving in the right direction in two categories. The 33% rate of administrative staff turnover is not worrisome, as this is a very small group in Celemi, and the other indicators are improving.

  All stability indicators under "Our Customers" are on track reflecting the high priority we give to this most valued asset. Repeat orders are up and customers indicate they are satisfied. In addition, Our People Satisfaction Index under "Our People" is also high and improving.

  Although turnover is off target for professional staff, it is still low compared to industry standards. Expert Turnover could give rise to concern if it continues its upward trend. The higher rate of 14% in 1999 (13% in '98) may reflect recent strategic decisions to create a flatter organization.

Growth/Renewal

"Our Customers" continues to be one of our strongest intangible asset categories. Although we did not reach our strategic target for revenue growth in 1999, the trend is positive, 22% (compare 8%) and all other categories are on or above target.

"Our Organization" has been directly influenced by the acquisition of our long-term partner company. During 1999 we invested no less than 15% of our revenues in intellectual property, thereof 7% in the acquisition. We are now in a much stronger position, since we own all intellectual property rights to a range of high-potential tools. We expect this strategic advantage to help us boost the introduction of new products, which has been dropping since 1997. Just 17% of our revenues come from products introduced in the last 5 years, well below our strategic target.

Our restructuring impacted the values under "Our People." The drop from 59% (in '98) to 27% (in '99) in Competence Enhancing Customers (those with challenging projects), and the rate of Growth in Professional Competence which is in the red, reflect changes in our measurement criteria. However, it is important to note that Growth in Professional Competence, 39% (from 8%), indicates that our people's competence is growing considerably, and we are much closer than last year to our strategic goal in this area.

Celemi's Color Coding System

At Celemi, it's our job to help people see the big picture- quickly. That's why we have made some noticeable changes in our Monitor this year.

- In order to improve our reporting of intangible assets, we introduce strategic comparisons for 1999. The cells in the Monitor are coloured green if the indicator is equal to or greater than Celemi's strategic plan target. Red cells indicate values less than 80% of target. Yellow cells indicate values in between.
- In cases where lower values are considered better, as for staff turnover, for instance, cells are coloured green if the value is equal to or less than the strategic plan target, and red if the value is 20% higher. Staff turnover lower or equal to 10% is green, above 12% is red and values 10.1%-12% are yellow.
- The overall rating is achieved by generating an index from each indicator and computing an unweighted average.

Margareta Barchan President

Minor changes in calculation principles for value added and categorisation of staff have been made. Earlier years have been adjusted accordingly.

Celemi Monitor 1999

Tangible Assets

Our Financial Capital

	1999	1998	1997
(overall rating year)			
Growth/Renewal			
Equity Growth	-3%	-3%	26%
Net Investment Ratio (13,15)	19%	35%	45%
Efficiency			
Profit Margin (19)	1%	0%	4%
Net Return on Equity (16)	8%	1%	25%
Profit Capacity % Sales (22)	8%	12%	11%
Stability			
Solidity (29)	20%	29%	34%
Liquid Reserves N:o Days (14)	32	11	41

Intangible Assets

Our Customers
(External Structure)

	1999	1998	1997
(overall rating year)			
Growth/Renewal			
Revenue Growth	22%	8%	22%
Image Enhancing Customers (5,12)	54%	59%	70%
Efficiency			
Revenues per Customer (5,26)	367	306	269
Stability			
Customer Satisfaction Index (32)	5.00	5.18	
Repeat Orders (23)	68%	66%	54%
5 Largest Customers (5,10)	29%	33%	40%

Our Organization
(Internal Structure)

	1999	1998	1997
(overall rating year)			
Growth/Renewal			
Organization Enhancing Customers (5,18)	21%	51%	49%
Revenues from New Products (24)	17%	49%	71%
R&D / Revenues	14%	12%	7%
Intang. Investments % Value Added (13)	22%	42%	42%
Efficiency			
Proportion of Admin Staff (2,21)	20%	25%	25%
Revenues per Admin Staff SEK '000 (25)	9205	6774	8478
Stability			
Admin Staff Turnover (1,2)	33%	13%	0%
Admin Staff Seniority, Years (2,28)	3.8	2.6	2.0
Rookie Ratio (17,27)	36%	41%	53%

Our People
(Competence)

	1999	1998	1997
(overall rating year)			
Growth/Renewal			
Average Professional Experience (3,9)	9.2	8.3	8.2
Competence Enhancing Customers (4,5)	27%	59%	65%
Professional Competence grwth (11)	38%	8%	49%
Experts with Tertiary Degree (6,8)	80%	67%	68%
Efficiency			
Value Added per Expert SEK '000 (33)	892	802	759
Value Added margin (20)	49%	47%	42%
Stability			
People Satisfaction Index (31)	5.00	4.62	
Expert Turnover (7,9)	14%	13%	6%
Expert Seniority, years (9,28)	4.0	3.3	2.8
Median Age all Employees, Years (17)	37	37	36

Definitions

1 Administrative Staff turnover: Number of admin staff leaving divided by number of admin staff at beginning of year.
2 Administrative staff: Employees other than experts.
3 Average professional experience: Experts' average professional experience in number of years.
4 Competence enhancing customers: Share of revenues from customers with projects that Celemi's experts learn from.
5 Customers: categorized under three headings. Number excludes book customers.
6 Education level: Employees at year end with Primary education (ñGrundskolaò, calculated as =1), Secondary (ñGymnasiumò=2) and Tertiary (ñUniversitetò=3).
7 Expert turnover: Number of experts leaving divided by number of experts at beginning of year.
8 Experts with tertiary degree: Number of experts with a tertiary degree divided by total number of experts.
9 Experts: Employees working directly with customer projects. Top management are regarded as experts.
10 Five largest customers: Share of revenues from 5 largest customers.
11 Growth in professional competence: Growth over last year in total number of years of professional competence.
12 Image enhancing customers: Share of revenues from customers that improve Celemi's image or gives referrals.
13 Intangible Investments % Value Added: Investments in R&D, Marketing and IT charged as cost in normal P&L, divided by Value Added.
14 Liquid reserves: Cash reserves in number of days, assuming normal business.
15 Net investment Ratio: Investment in tangible fixed assets as % of fixed assets.

16 Net Return on Equity: Profit after 28% tax divided by average equity.
17 Number of employees: Two definitions are used: Average number employed during year for efficiency indicators, year-end numbers for growth/renewal and stability indicators.
18 Organization enhancing customers: Share of revenues from customers that improve Celemi's organization, brings R&D or projects that can be leveraged.
19 Profit Margin: Profit before tax divided by total Revenues
20 Profit/Value added: "Real" Profit divided by Value Added.
21 Proportion of admin. Staff: Number of admin. Staff divided by number of total staff at year-end.
22 Profit Capacity: Profit adjusted for R&D charged as cost in normal P&L.
23 Repeat orders: Share of revenues from customers buying from us also last year.
24 Revenues from new products: Share of revenues from products and concepts launched less than 5 years ago.
25 Revenues per admin. Staff: Total revenues divided by average number of admin. Staff.
26 Revenues per customer: Total revenues divided by total number of customers.
27 Rookie ratio: Number of employees with less than 2 years seniority.
28 Seniority: Number of years as Celemi employees.
29 Solidity: Equity divided by Total Assets.
30 Value Added: The value produced by Celemi's employees after payment to all outside vendors.
31 People Satisfaction Index. Scale 1-6 (highest)
32 Customer Satisfaction Index. Scale 1 - 6 (highest)

The WM-data Case

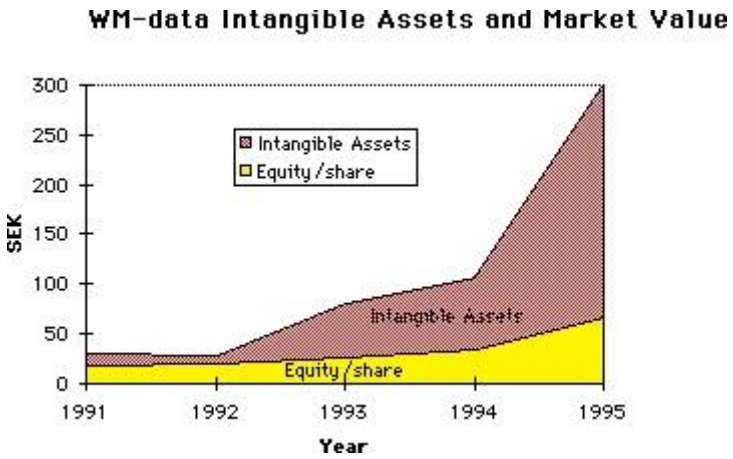
WM-data is 1996 the biggest of the Swedish listed independent computer software and consulting companies, after a decade of unprecedented growth. The main reason for the success is a deliberate strategic policy of focusing on corporate knowledge build up, customer relations and competence development. 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, based on the indicators in the Intangible Assets Monitor, 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.

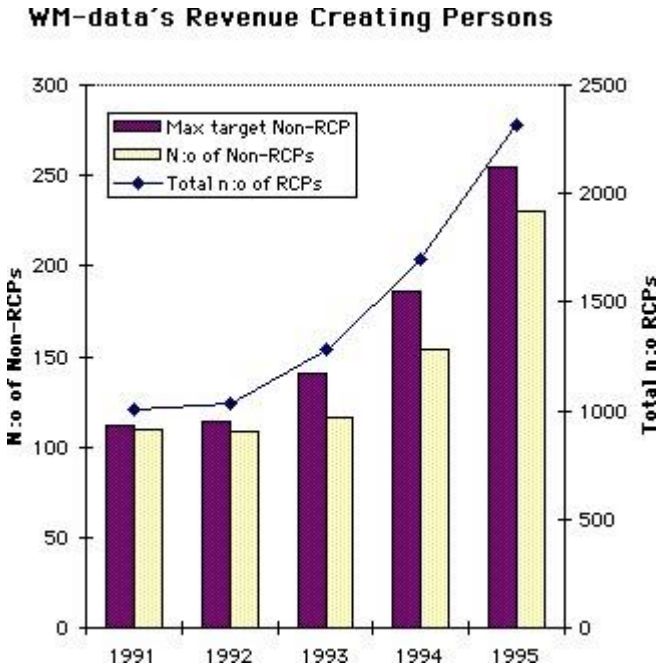
WM-data´s Financial Performance 1985 - 1995			
	1985	**1995**	**Average increase 1985-1995**
N:o of employees	273	3040	+27%
Turnover MSEK	148	3260	+36%
Net Profit MSEK	31	316	+26%
Market Value MSEK	155	4300	+39%
	1991	**1995**	
Return on Capital Employed	38.5%	39.5%	
Return on Equity	37.8%	32.7%	

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. The market value of WM-data´s intangible assets can be calculated as the difference between the market value of the shares and the net book value (or equity).



WM-data´s Intangible Assets are valued at 250 SEK per share, compared to an equity (or net book value) of only 50 SEK per share. With such huge intangible assets, WM-data has chosen to focus its management information system on monitoring the intangible assets, using the non-monetary indicators outlined in the Intangible Assets Monitor.

The core "control element" in WM-data´s information system is the "**Revenue Creating Person**" (RCP). They are the consultants and all other staff that work directly with customers. Non-RCPs are administrative staff. The proportion of non-RCPs must never exceed 10%.

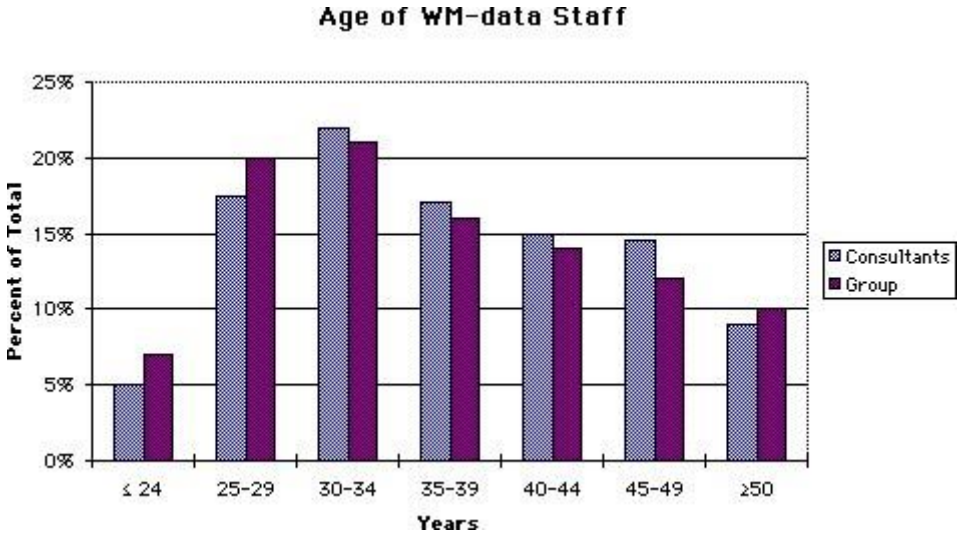


Source: Annual Report 1995

Another target figure is **staff turnover**, which WM-data endeavours to keep within a band of 7-10%. WM-data´s operations require some turnover of skills, but it must not be too quick. Whereas the company has to make a strenuous effort to keep staff turnover below 10% in the boom years, during the 1990-93 depression in Sweden 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".

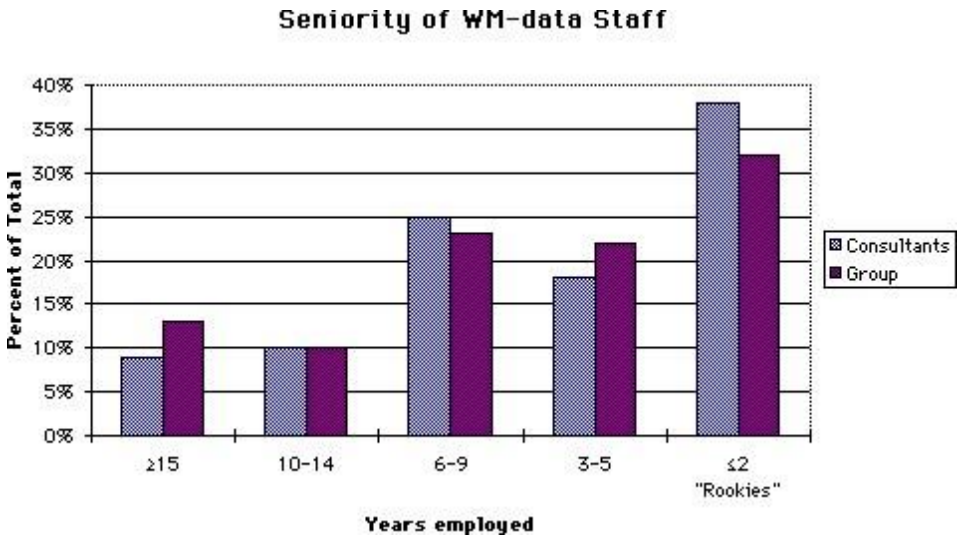
Source: Annual Report 1995.

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



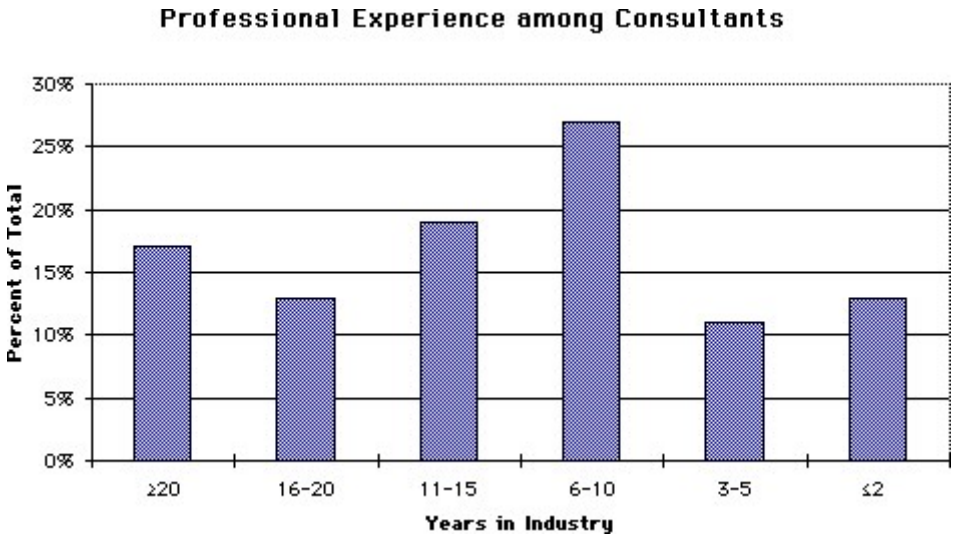
Source: Annual Report 1995.

WM-data has recruited a a large number of new employees in the last two years, so the **seniority** of the staff has decreased and the proportion of "**rookies**" is quite high. Rookies are generally less efficient, because they do not know their way around in the organization. They are also more likely to leave, so a high proportion of rookies is likely to increase the staff turnover.



Source: Annual Report 1995.

Rookies are however also valuable in that bring new competencies to the company, so particularly in computer industry, they are the means to keep up with the changes. Depending on the nature of the industry a low level of professional experience is therefore not necessarily a drawback.



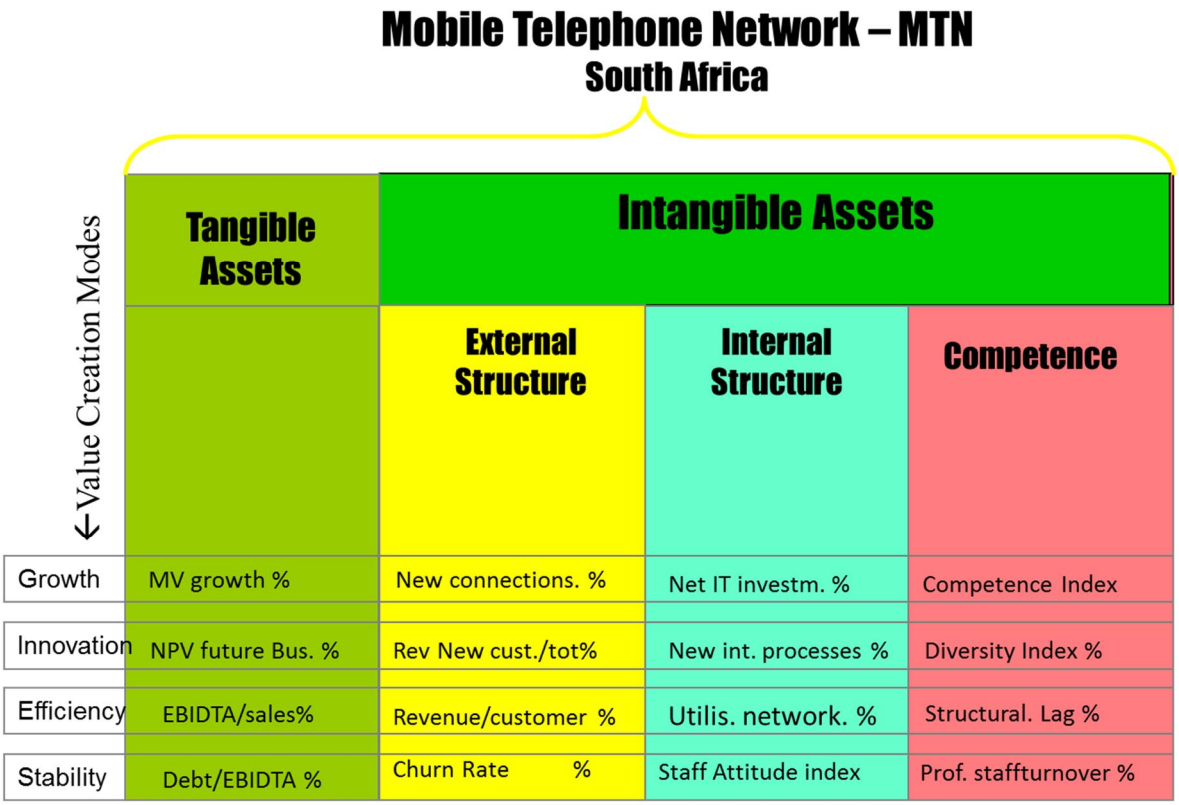
Source: Annual Report 1995.

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). The chart below shows the development in the value added per RCP.

Case – Mobile Telephone Network MTN

The HR-director of MTN, Paul Normanôs discussion about **Intangible Revenues**. Note in particular, how he was instrumental in **changing the MTN Call Centre from a cost centre to a revenue source**.

ñStructural Lagò is the difference between the óidealô competence mix and the actual state.



Paul Norman: ñGenerally, we distinguish between three types of revenues: those that:

Å**improve customer relations** ï in other words, that are related to the relationship of the organisation with the external environment, which also include other stakeholders such as suppliers, society in general, the natural environment, etc. The choice of customers becomes of strategic significance, so that it is important to know customers and their needs well (customer interfaces can literally be regarded as knowledge gateways);

Å**improve internal structure** ï that is, all the systems, flows, cultures and spaces that make up the organisation internally. At MTN, they specifically also refer to the creation of a high-performance ecology, the broadening of bandwidth through cultural and systemic changes, and branding as a strategy for differentiating the organisation to gain competitive advantage; and

Å**improve the competence** of everyone involved in the organisation ï employees, suppliers, etc. At MTN this was done through a deliberate talent branding strategy to attract and retain the most suitable talent in the first place, and through specific induction and training programmes in the organisation to make sure that external brand-based expectations are met inside MTN.

At MTN specific attention to these areas have yielded competitive edge results in terms of:

Å**Staff retention:** Employees prove to be a crucial factor in the knowledge organisation. Since it is all but impossible to manage such employees (who own the ñmeans of productionò in a way that was not the case in

the industrial era where the bosses owned the means of production), it becomes necessary to rather manage an ecology in such a way that knowledge workers are not only attracted to the environment, but are also prepared to give their best. Companies nowadays have to negotiate for the attention of employees.

Å**Rapid response to innovation**: delivery in a connected organisation is much better, and the organisation is much more nimble. Staff members are measured in terms of innovation.

Å**Information about customer wants: the MTN call centre** receives tens of thousands of calls per day, which, if MTN listens, can lead to new services being implemented; also, getting information from customers means that trends are spotted in real time and response can be much more rapid than through customer surveys. The KM pilot project at the call centre connected the call centre to the rest of the business, thereby becoming a sensitive skin connecting the rest of the business to the customers.**ò**

The Infosys Case

Infosys is an Indian publicly listed ICT firm one of India's best- known corporations globally. It has been quite inventive in its Annual Reports experimenting with various models over the years. In the 2007-2008 Annual Report Infosys publishes **Human Resources valuation** for valuing their professionals in $-terms (p. 132 based on the Lev & Schwartz model, **Brand valuation** of the Infosys brand (p.133), **Economic Value Added EVA**, (p.134), and the **Intangible Assets Score Sheet,** based on the Intangible Assets Monitor (p. 135-136).

Infosys Score Sheet includes the Intangible Assets triad of IAM and three groups of flow indicators: Growth/Renewal, Efficiency and Stability. The full AR can be downloaded from their website.

Intangible assets score sheet

External structure – our clients	2008	2007
Revenue growth (%)		
In US Dollar terms	35	44
In Rupee terms	20	46
Exports / total revenue (%)	99	98
Clients		
Total	538	500
Added during the year	170	160
Marqué clients		
Total	113	114
Added during the year	24	26
Revenue contribution (%)	46	44
Revenue Derived – No. of countries	58	54
Efficiency		
Sales / Client		
US $ million	7.76	6.18
Rs. crore	31.03	27.79
Sales & marketing expenses / revenue (%)	5.49	6.69
DSO (days)	72	64
Provision for debts / revenues (%)	0.26	0.19
Stability		
Repeat business (%)	97.0	95.3
No. of clients accounting > 5% of revenue	1	1
Client concentration		
Top client (%)	9.1	7.0
Top 5 clients (%)	20.9	19.4
Top 10 clients (%)	31.4	31.4
Client distribution		
1 million dollar+	310	275
5 million dollar+	141	107
10 million dollar+	89	71
20 million dollar+	47	36
30 million dollar+	32	25
40 million dollar+	22	16
50 million dollar+	18	12
60 million dollar+	13	11
70 million dollar+	12	9
80 million dollar+	10	4
90 million dollar+	6	4
100 million dollar+	6	3
200 million dollar+	1	1
300 million dollar+	1	–

Internal structure – our organization	2008	2007
Growth / renewal		
R&D		
R&D / total revenue (%)	1.20	1.20
R&D / value-added (%)	1.36	1.40
Technology investment		
Investment / revenue (%)	2.67	3.44
Investment / value-added (%)	3.00	4.01
Total investment		
Total investment / total revenue (%)	8.95	10.87
Total investment / value-added (%)	10.08	12.71
Efficiency		
Sales per support staff		
US $ million	1.08	0.92
Rs. crore	4.32	4.14
General & admin expenses / revenue (%)	7.97	8.03
Average proportion of support staff (%)	4.71	5.18
Stability		
Average age of support staff (years)	29.4	30.9

Competence – our people	2008	2007
Total employees	91,187	72,241
Added during the year		
Gross	33,177	30,946
Net	18,946	19,526
Laterals added	8,523	8,023
Staff education index	2,51,970	2,03,270
Employees – No. of nationalities	70	65
Gender classification (%)		
Male	67.5	69.1
Female	32.5	30.9
No. of non-Indian national employees	3,678	2,028
Efficiency		
Value-added / employee (Rs. crore)		
Software professionals	0.19	0.19
Total employees	0.18	0.18
Value-added / employee ($ million)		
Software professionals	0.05	0.04
Total employees	0.05	0.04
Stability		
Average age of employees (years)	26	26
Attrition %		
Excluding subsidiaries	13.4	13.7
Excluding involuntary separation	12.1	12.2

The above figures are based on Indian GAAP consolidated financial statement

Figure. Screen capture of Infosys Intangible Assets Score Sheet for 2007-2008.

Notable features are presentations of value added per employee and per professional and their distinction "Marqué" clients that is, image enhancing reference clients. Their share of revenues has increased from 44% to 46%. Infosys also calculates a staff education index with primary education calculated as 1, secondary education as 2 and tertiary education as 3. The index is the total.