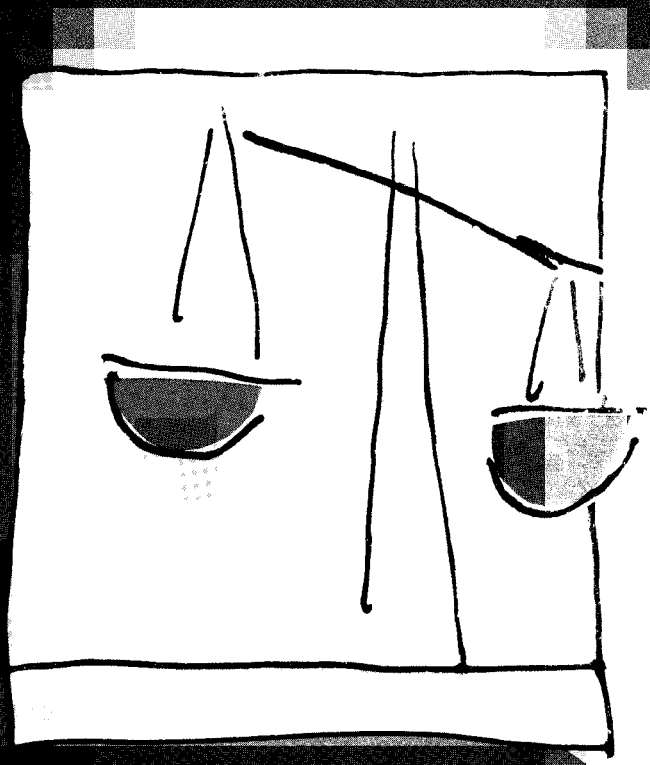


THE INVISIBLE BALANCE SHEET

Key indicators for accounting, control and valuation of know-how companies

THE INVISIBLE BALANCE SHEET

Key indicators for accounting, control and valuation of know-how companies

Contents

Forword

"The Invisible Balance Sheet" is an attempt to show the management of know-how companies practical methods and procedures for presenting their company's most important resource, its personnel, in a more informative way than through pretty colour photographs. The book defines and describes more than 35 key indicators and puts them into a theoretical context. They have been developed by a group of seven people:

Elisabet Annell, head of the T nnervik Group,
Siv Axelsson, of the Affa rsv ärlden Group,
Per-Magnus Emilsson, Managing Director of the KREAB Group,
Hans Karlsson, an authorised public accountant at Bohlins Revisionsbyrå ,
Karl Erik Sveiby, editor of the management magazine Ledarskap (and also editor of this book),
Carl Johan Wangerud, of Semco Management Consultants, and
Stig Vikströ m, authorised public accountant at Revisionsgruppen Lindeberg & co.

We call ourselves the Konrad Group because we met for the first time on November 121987, and November 12 is "Konrad" day in the Swedish calendar. We presented the results of our first year's work in January 1988 in a consultancy study called "The New Annual Report".

The response we received exceeded all expectations and many know-how companies soon started to use the key indicators in their 1988 annual reports. We also presented the study at an international research symposium on know-how companies at the University of Ume

in June 1989.

As always when new methods are introduced, questions arise. We have therefore collected all the experience and viewpoints we received, including other research in this field, and written this book. We have had great help from Sven-Enk Johansson, an authorised public accountant who wrote the chapter on the value of know-how companies, and Monica Nicou, a management consultant

who contributed to the chapter on customer capital. We should also like to thank Marie-Louise S derlund, Ulrica Pettersson and Magdalena Lidhall, who studied how the key indicators are being used by quoted know-how companies.

Above all, we are practical men and women who need key figures such as these ourselves in our own companies. We hope that we have succeeded in writing a book of practical use to financial analysts, investors, employees and managements.

But this book does not mean our work is at an end and we welcome your comments and opinions, at this address:

The Konrad Group
C/o K E Sveiby
Aff ärsvä rlden/Ledarskap
Box 70497 S-107 26 STOCKHOLM
Sweden

CHAPTER I

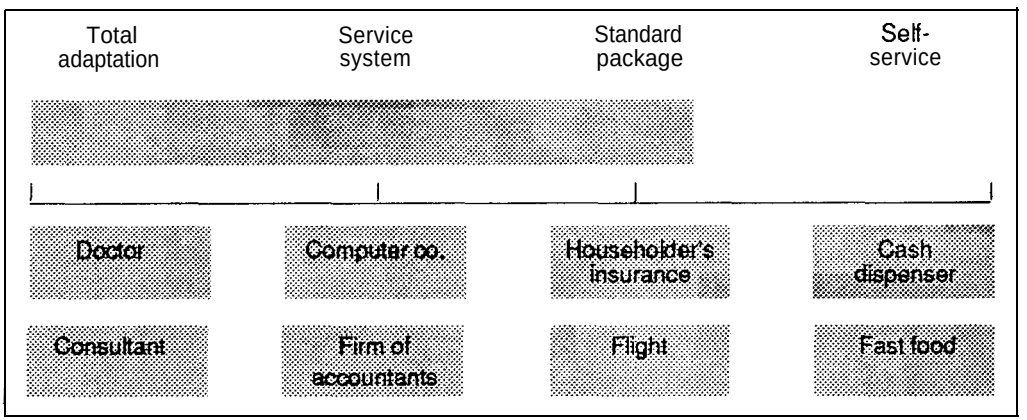
The know-how company and its annual report

The know-how company - a definition

A know-how company lives by selling its know-how. In that respect it is like most other non-manufacturing companies, i.e. those commonly called service companies.

As a group, service companies are very heterogeneous. What is a know-how company or service company is partly a semantic question. The person who sells his know-how can also be said to provide someone with a service. The know-how company is thus a special type of service company.

Degree of Adaptation to the Customer



The diagram shows how different types of non-manufacturing companies create a distinctive image on the market. Small companies market tailor-made products, large companies sell standardised packages and use self-service. The "industrialised" service companies are on the right and know-how companies on the left.

"Clients" or "customers"

In the service companies furthest to the right in the diagram on the preceding page, the service has become an industry and profitability depends on how efficiently the company manages to conduct pre-programmed operations aimed at a mass market. McDonald's hamburger chain is the prototype of the highly efficient service- producing company that has succeeded in making itself almost completely independent of the individual.

The further left you go in the diagram, the greater the degree of complex, non-standardised problem-solving. In the organisations on the left, the customers are called clients, are given tailor-made solutions and dealt with individually.

Standardised or individual

Know-how companies often have highly educated personnel and solve complex problems which vary from case to case. Their output is:

a Non-standardised
b) Creative
c) Highly dependent on the individual
d Complex problem-solving.

The most typical know-how company is the consultancy organisation, advertising agency, firm of lawyers or accountants. But the R&D department of a large company can be said to constitute a know-how company, or rather a know-how organisation.

Other know-how organisations could be the surgical unit at a hospital, or a state authority. (That the management of these organisations often choose to try to eliminate creativity and individual problem-solving ability, is another matter.)

Problem-solving ability

The know-how company thus primarily sells its know-how. The clients are interested in its problem-solving ability.

But what about high-technology companies like ASEA or Ericsson? Are they not know-how companies? Their employees possess a high level of know-how. The answer is no, not according to our definition. On the other hand, they are know-how intensive. But by far the greater part of their know-how is not in the form of competence tied to the individual, but in financial strength, a long history, experience, established networks and relations with customers and suppliers. Moreover, these companies manufacture products that can be seen and identified with.

The competence of a know-how company is dependent to a very much higher degree on the employees as individuals. Therefore it is important for the company's reports to reflect the personnel in a more complete manner than in other companies.

The annual report needs more information

A person thinking of buying shares in a know-how company has reason to stop and think and ask the management the right questions. The risks involved in owning know-how companies have already been illustrated by far too many examples.

They need not be greater than those in owning shares in ordinary industrial companies, however, if investors can receive answers to their questions from the annual report.

The problem is that know-how companies do not really know how to report their operations so that external shareholders with little insight into the company can get their answers. The annual reports usually contain many standard remarks such as, "The staff are our most important resource," and show colour photographs of pleasant-looking people. Apart from that, the reader is left in the dark. Shareholder simply get no relevant information about the know-how company's most important resource - its personnel!

But what information should they have? For industrial companies there is an accounting tradition, using

key ratios and working out profitability etc. Comparisons can be made between companies, and investors and other interested parties know from practice what reasonable profitability and efficiency are.

The industrial company's accounting is based on the assumption that financial capital is the bottleneck in the business and that the return on capital employed or shareholders' equity is a yardstick of central importance. The management's control models and the shareholders' need for information, coincide.

But what if the return on financial capital is not an important yardstick of success in the market? Perhaps it is a question of the return on "know-how capital" instead. Or the sales abilit y of the individual consultants. So what is the point of measuring the return on financial capital? The management run the risk

"The annual reports of know-how companies usually contain a lot of standard remarks like, "The staff are our most important resource," and show colour photographs of pleasant-looking people. Apart from that, the reader is left in the dark. Shareholders simply get no relevant information about the company's most important resource - its personnel."

of leading the company completely astray.

The fact is that most know-how companies do not use the key financial ratios that the shareholder see in the annual report, in their internal control. An external analyst may well suspect that the management see these key figures for the first time in their own annual report!

Problems for the management and stock market

A growing number of know-how companies are quoted on the stock exchange and OTC market. They follow established practice in reporting profit, but it is a standard they cannot use in their own internal control and which is alien to them.

At the same time, there is a large group of shareholders who do not get relevant information from the annual report, with the result that they are uncertain.

It is frustrating for an external shareholder to find that a company he has invested in suddenly changes character. Key people who leave and take customers and profits with them, are only one of the problems.

What should shareholders say about a consultancy company that grows so quickly that half of its consultants have been employed less than two years? Is it as good a company as it was two years ago? Is the know-how capital the same? Is it certain that it has become a better consultancy company? What do the customers think?

How does the management handle the important know-how capital? It is considerably more important to know what is invested in it in the form of education, research etc., than what is invested in office furniture. Nevertheless it is the latter that figures in the annual accounts.

These are important questions for the external shareholder. The answers determine what risk he is taking and what future profit potential he can expect.

They are also important to those working in the know-how company, or are perhaps thinking of taking up employment there.

For these reasons, a new annual reporting standard is necessary for such companies. A standard which includes key indicators giving answers to these important questions, as well as the normal financial information and ratios.

"The know-how company's annual report must give the reader a true appreciation of the staff's production capability, stability, know-how and profit potential."

The purpose of the annual report

Traditionally, the report is the Board's annual review to the shareholders of how it has managed the capital they have invested. The year's results must be stated along with the events most important to the shareholders, so that they can decide whether to renew their trust in the directors.

On the basis of the report, the shareholders must also decide whether to sell their shares and perhaps invest their money in some other company which will manage their capital better.

In the industrial company, financial risk capital is historically the most important scarce resource. It is this risk capital that the shareholders have contributed. The employees contribute their work, for which they receive a wage or salary. In addition, the industrial company requires a third factor of production - raw materials. As the know-how company does not use traditional raw materials and its financial capital is often not an important investment resource, there remains the personnel. It is the staff, both as individuals and as a "structure" (see chapter 4, Structural Capital), who are the foremost factor of production and revenue generator in a know-how company.

Must reflect the personnel

The know-how company's annual report must therefore give the readera true idea of the staffs production capability, stability, know- how and profit potential.

For external shareholders, it is important to be able to judge the profit potential. What is the profit today and how big can it be in future? They are also interested in knowing how stable the organisation is.

For lenders, it is important to judge the credit risk, i.e. the company's stability. How big is the financial risk? How big is the business risk?

For the employees, it is important for their company to do well in comparison with other companies and for their jobs to be

For the management, which has means of control other than the annual report, the report is an information medium rather than anything else.

Theannualreport must reflect the personnel in every respect. It is no impossible to get such data from today's financial reporting. A new form of personnel accounting must therefore be developed.

The purpose of external analysis

The purpose of external analysis is to make a close study of the company and its annual report, for the benefit of the various groups of interested parties.

More often than not, these studies are made by financial analysts. They concentrate solely on judging the company's financial result and its financial position. They look at the company primarily from the point of view of the shareholders, but that does not prevent their analysis from being of benefit to other interested parties as well.

The internal management of a small know-how company usually have a fairly

"Both the management and investors in a large know- how company need the normal key financial indicators to steer and value the company, but they also need indicators which shed light on its know-how capital and stability."

clear picture of the situation and do not need so much information in the form of various key indicators. As the company grows, however, the management become further and further removed from daily operations and the need for more indirect methods of control increases.

Industrial companies have developed sophisticated control systems for this. They are based on middle-level management and key financial indicators. Profit margins, the return on capital and cash flow are important indications of how different parts of a large group of companies are developing.

Investors and financial analysts, who have to judge the industrial company's risk and profit potential, study the same key figures as the management, but at a

CHAPTER II

Capital and the Business Concept

Every organisation needs capital to solve its customers' problems. We consider that there are two different types of capital in an organisation:

1. Traditional financial capital.
2. Know-how capital.

Know-how capital can be divided into several different parts. But from the point of view of an external analyst, it is really only of interest to distinguish between two types:

2a. That tied to the individual.
2b. That tied to the organisation.

Individual capital - the individual's professional competence

By individual capital we mean the individual, personal and social abilities, experience, schooling and other skills of the employees, oriented outwards towards the company's customers. This know-how constitutes a person's professional competence and is linked to his or her ability to solve the customers' problems.

Throughout this book we call those who possess this know-how "pros" or "revenue people". Their primary task is to create the organisation's revenue.

Of course, other members of the staff also have professional competence essential to the organisation, e.g. those in the accounts department, whose individual ability is important if the department is to be able to function. However, we regard this individual ability as part of the structural capital,

because it is primarily concerned with holding the organisation together, rather than bringing in new revenue.

Structural capital - the organisation's competence

All organisations have experience and a history of their own, documented in handbooks, computer programs and toolboxes; with concepts worked out for

Know-How Capital

Towards Structural capital the organisation

* Personal administrative ability
* Administrative routines
* Knowledge and education of admin. staff
* Network with authorities
* The management's network
* Computerised admin. systems
* The management's personal ability
* Handbooks

Orientation of know-how Individual capital

* Education
* Professional experience
* Personal reputation
* Personal relations with customers and professional colleagues

* Handbooks
* Concept models
* Computerised systems supporting the business network
* Customer net work
* The org anisation's image

Towards the profession

The individual Know-how tied to... The organisation

Know-how capital is divided into individual Capital and Structural Capital. Individual Capital is know-how that is professionally oriented and tied to the individual. Structural Capital is all other competence in the organisation. The term "profession" in the left-hand margin refers to know-how pertaining to the company's business concept.

solving the customers' problems. This experience is the organisation's and not the individual's (even if the concepts are developed by individuals who know them). There are established channels of communication with suppliers, customers and other sources of know-how, which are not dependent on any individual, but on the company's position in the market, or its history. This competence is a part of what we call structural capital.

The organisation also has an aggregate experience and history of its own in respect of administration, e.g. for salary payment routines and internal organisation. We regard this administrative ability too, as part of the structural capital.

In the main, structural capital is tied to the organisation, it is part of the office furniture, but we also include the individual ability of the administrative staff. Structural capital thus includes both some professional competence which is oriented outwards towards the customer and some organisational ability oriented inwards.

The difference between "tied and "oriented" is illustrated in the diagram, where the three fields enclosed by solid lines are what we mean by structural capital.

Expert or manager

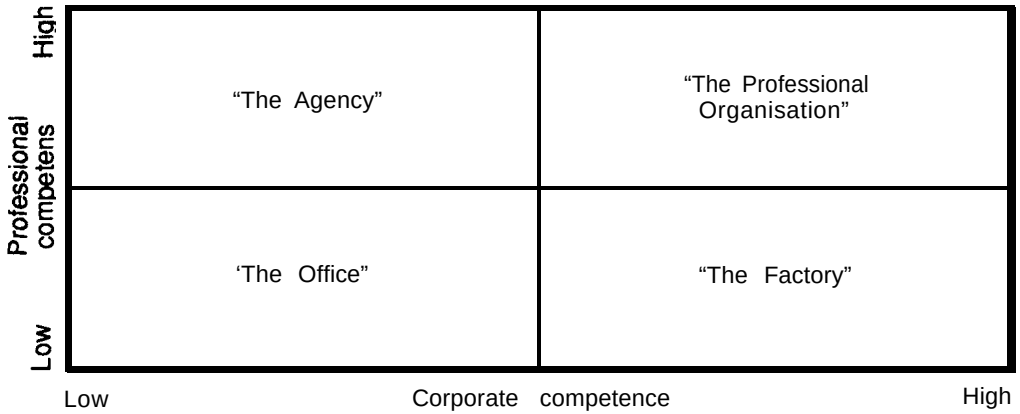
A classification of the kind shown in the diagram is of interest because there appears to be a dividing line between those people primarily concerned with their profession and those primarily concerned with developing the organisation, or who are tied to it. The difference between the role of the expert and that of the manager occurs at every level. It generally seems to be difficult to find people who are both skilled professionals and good managers, either for the company as a whole or parts of it.

The different stages of the know-how company

If you put the two different types of know-how, that of the expert and that of the manager (seldom found in the same individuals), into a diagram, you get a figure like that on the next page. An organisation which exploits its know-how without really building up a company, can be called a "bureau". Typical examples are firms of lawyers and small consultancy companies at an early stage of development. Usually, these completely lack any organisational competence.

Increasing success brings growth, which properly handled gives further success and growth. Those leading the firm are soon faced with the need to develop it, otherwise it will stay at the agency level and probably cease to exist after a time, when the founder dies if not before.

Four Types of KnowHow Company



The diagram shows the four main types of know-how company, the agency, office, factory and *professional organisation. The "agency" is a pleasant workplace for the professionals, but they cannot survive in the long run. The "office" has both low professional and general competence. The "factory" has no individuals with a high problem-solving ability. The "professions organisation" is an ideal state with a combination of long-term survival and enduring, creative, problem-solving.*

Companies which succeed in building up a working organisation (which survives the founder), develop towards the "professional organisation", a kind of ideal condition for a know-how company. Such companies have built up a structural capital aside from the employees' individual capital.

Finally, in the "factory", organisational know-how has gained the upper hand over professional know-how and the organisation has lost the best of its professionally skilled staff and thus much of its problem-solving ability. On the other hand, the administrative competence and the organisation's formal structure, are intact.

This type of organisation cannot survive in the long term either, not even under public ownership, as the customers desert as soon as they discover that they are not getting the quality they require. Criticism of the public sector in recent years has grown because the customers (Sweden's citizens) have begun to realise they are not getting the quality of service they are paying for.

Financial capital

Pure know-how companies are seldom dependent on financial capital to fulfill an undertaking to the customer with full satisfaction. Financial capital is thus

normally of subordinate importance compared to the other two types of capital in a know-how company, individual and structural capital.

The value added by the organisation is usually created without any major investment of financial capital. One indication of this is that value added per employee is higher in the know-how company than in manufacturing industry. On the other hand, capital per employee is lower in the know-how company.

Financial capital is far from being without interest, however. Many exciting business ideas are to be found in the combination of finance and know-how / structural capital.

The focus varies

Even if both the industrial company and the know-how company are dependent on structural capital, it is relatively more important in the service enterprise. The most profitable and successful service companies have learnt to standardise their output so that they can provide a mass market with an identical service. It is this organisational ability that is the service company's structural capital.

Structural capital has an important function in the know-how company too, especially when it grows large. One of the most important tasks of the management in a growing know-how company is to create and increase structural capital.

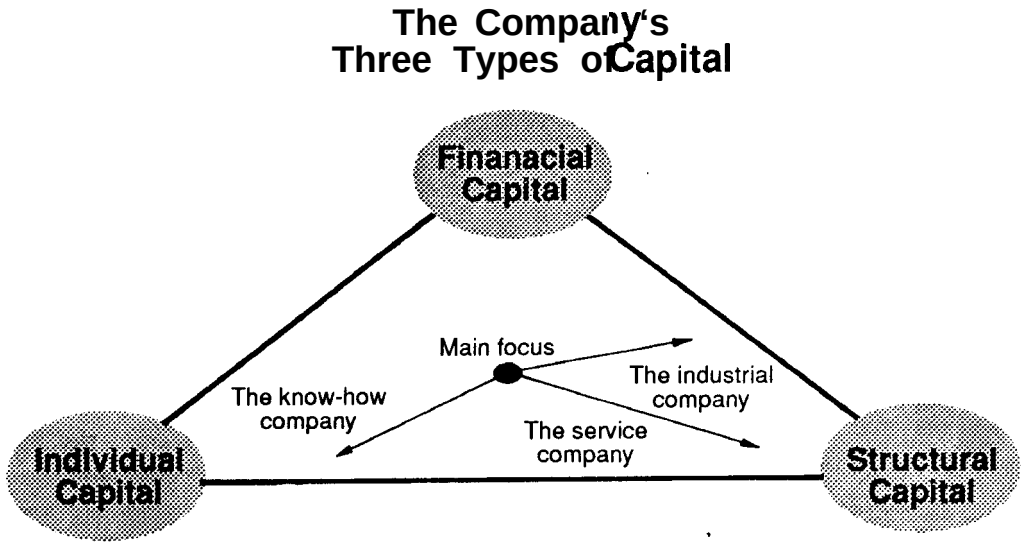
With this in mind, it can be seen how different companies place their focus at different points in the triangle on the next page.

Conscious investment has made the large industrial companies less and less dependent on the individual know-how of their personnel. Instead, know-how and competence are built into the production equipment, in which large quantities of financial capital are tied up.

On the other hand, financial capital is of relatively smaller significance in companies such as Unilever or IBM. Instead, they have gone in for developing competence in marketing and selling their products, increasing their kno wledge of how to influence the consumer, how to organise sales and how to build up relations in the market.

This know-how and competence has been built into the organisation and constitutes the company's structural capital. A large organisation is needed if it is to come into its own. And so an individual employee cannot take this know-how with him and sell it as a consultant.

Universities and other educational institutions can serve as examples of organisations where the competence of the individual constitutes the very core of the production process. Relatively little financial capital and competence tied



All companies have a combination of *three types* of *capital financial, individual and structural, The main* focus in *this combination depends on how important the different types are. In a pure know-how company with no major dependence on finance, the main* focus *is* closer *to individual capital, while the industrial undertaking* is considerably *more dependent on financial capital and lesson individual capital. In a service company, building up a large structural capital is of primary importance.*

to the organisation are required. Quality and success are determined by the know-how each individual has developed. The driving force behind developing competence tied to the individual comes from the organisation that wants skilled teachers, but also, and to just the same extent, from teachers seeking to develop their professional competence.

The business concept

Know-how does not become business until it meets the customer. There must be a market for the know-how, otherwise there is no business concept. It may sound obvious, but in many know-how companies there is no clearly expressed business idea, while in others it is so vaguely defined that it continually changes.

The same know-how can meet the customers in different ways, i.e. the company does not perhaps need to change at all in order to change its business idea completely. The know-how company can change its concept much more easily than the industrial company with its fixed capital structure, its machines and buildings.

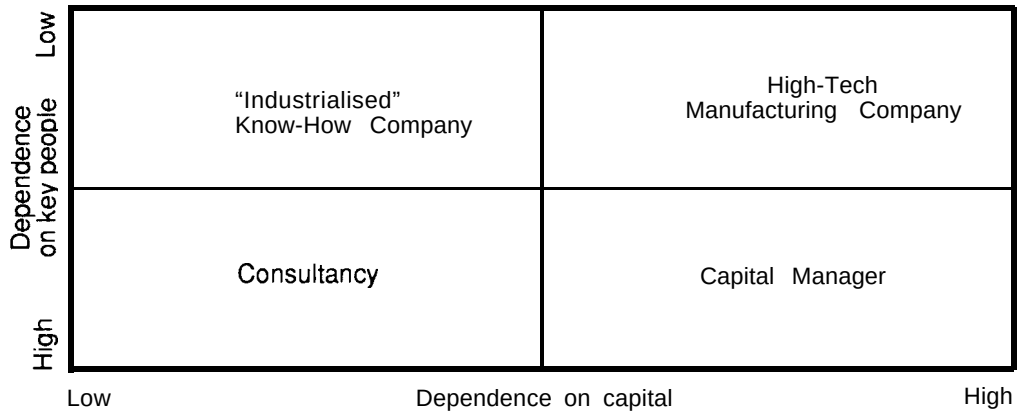
This flexibility makes it important for the readers of a know-how company's annual report to be clear about what the business concept is. Who are the customers and what are their requirements? How is the know-how "packaged" to make it saleable?

There is a big difference between a know-how company working in accordance with a well thought out concept and one that has no direction, but allows itself to be guided by chance.

The description of the business concept gives the reader a chance to judge whether the management are staying on course and where the company is heading. The description is essential in a know-how company as the choice of concepts is so important to interested parties outside the company.

This diagram illustrates one way of describing the business concept of a know-how company:

Four General Business Concepts



The business concepts of know-how companies can be more or less dependent on key persons or capital. The "consultancy" concept, bottom left, makes the company very dependent on its key people and less dependent on capital, while a "capital manager" uses its staff's competence to manage capital (property companies, stockbrokers, investment companies etc.) and is less dependent on key people.

Know-how industrialised

When a know-how company has reached a certain level of maturity, it is common for its special know-how to be "industrialised" in the form of systems, agreements, handbooks, customer contacts etc. A number of less knowledgeable professionals have also been employed, younger people to do the donkey work, or not so well-educated ones to do some of the routine jobs.

The consultant accountant who becomes an accountancy firm is a typical example of the "industrialised know-how company". Another is the trade or professional journal that allows the know-how of its staff to be reproduced in printed form, or the computer consultants who sell many copies of their programs.

The most skilful know-how companies allow their key persons to transfer their know-how to the others in systematised form, to further reduce dependence on individuals.

A consultancy company can also develop in the other direction and become a "capital manager" by linking its know-how to financial capital. The financial analyst who becomes a stockbroker is one example, the building consultant who invests in property, or the management consultant who invests in his clients companies, are others.

The link with capital reduces dependence on key people and in addition, the value added by the consultants' know-how is much higher.

The fourth typical case is the high-tech manufacturer. This was the classical way of starting companies in the early days of capitalism. The inventor linked his know-how to a financier and started manufacturing. Most of the large Swedish export companies started that way. Not so many of them do so today, but Gambro and Inter Innovation are two examples.

CHAPTER III

Individual Capital

Individual capital - man's own competence

Individual capital, which always accompanies every human being, consists of his or her formal education, acquired experience and skills, social competence and ability to turn it all into action.

The employees of a know-how company area multifaceted group of individuals each of whom possesses valuable individual capital. Therefore it is important for the company to show these people in its annual report in such a manner that they become more than just colour photographs.

The annual report must describe the personnel (individual capital) belonging to the profession and who help in problem- solving for the customer.

The most important component of individual capital is the professional competence of the revenue people, i.e. those who are active in the company's principal business concept and know-how area.

Examples of revenue people are architects in an architectural office, lawyers in a firm of lawyers, copywriters and art directors in an advertising agency and computer consultants and project leaders in the computer company. These people are called experts, pros, specialists, and in the public administration, the person or official handling or in charge of a matter. Their combined know-how, development and ability to realise the business concept, is of decisive importance in assessing the total size of the individual capital and, what is of greatest interest, the changes in it.

Change in the revenue people's individual capital from one year to another, should be evident from the annual report. As it is, however, the accounting principles used today very often give interested parties wrong signals. For example, investment in education, recruitment or personnel development, which can very quickly have a major positive effect on the growth of individual capital, is entered as a cost in the profit and loss account instead of an asset in the balance sheet.

"Those with interests in a know-how company often get wrong signals from traditional accounting principles. To take an example, investment in education or recruitment appears only as a cost in the profit and loss account, not as an asset in the balance sheet. At the same time, staff departures are seen as a positive item in the profit and loss account when in fact, the know-how capital may have diminished."

At the same time, factors which make inroads into individual capital, such as the departure of staff or disruptions which have a negative effect on motivation e.g. a cancelled conference trip, appear as a positive item in the profit and loss account when in fact the capital may have been diminished. Other changes in the value of individual capital, like greater breadth and experience among the employees, or the fact that part of the professional competence is becoming outdated, are not shown at all in the accounts.

Revenue people - the most important component of individual capital

By "revenue people", we mean those who are directly active in the know-how company's production, people who plan, produce, process or present the product in demand by the customer.

Staff directly involved in working with customers should be included, even if they are not professionals within the main know- how field.

But staff in the company's support functions, e.g. those in the accounts department, administration and at the reception desk, should not be included. They are part of the structural capital and should be reported as such.

The problem of reporting the grey area that exists in several know-how companies, where employees have several different tasks to perform, can be solved by showing time set aside for customer work as such, while the remaining time is counted as internal.

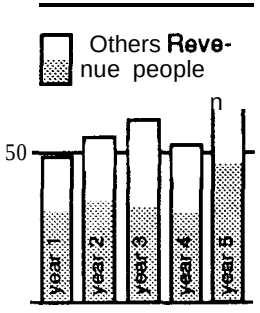
Some people may perhaps be offended by the term "revenue person" as many employees may regard it as disparaging to be identified as a non-revenue person. Surely all the staff creates revenue. Indeed they do, but some of them carry out their revenue-creating activity mainly in the form of holding the organisation together and maintaining and developing its structure. These efforts, however, which may be crucial to the ability of the organisation to survive in the long term, fall within our definition of structural capital and not individual capital. It is an educational task for the management to explain the difference.

Revenue people may sometimes also be referred to as "chargeable" or "billable" staff, "consultants", or "creative" personnel. As it is their individual competence that constitutes individual capital, it is important to follow this up regardless of the terminology used. It has nothing to do with whether certain people are more or less valuable than others.

That is also why many know-how companies base internal key indicators on that particular category of personnel. (See Chapter 6, The Return on Know-How Capital.)

Know-how companies often use outside pros or sub-contractors in their

Proportion of revenue people

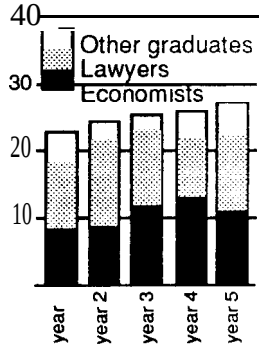


This example shows the relationship between the number of revenue *people* **(RP)** *and other employees in the company. The change in year 4 requires an explanation in the annual report. The proportion of RP* fell sharply. *Was that because of defections?*

assignments. These "freelances" may constitute a substantial factor of production. As they are not formally employed, they should not be counted as employees or part of the operative staff. We have chosen to delimit the personnel in this way as it is in keeping with Swedish legislation and makes comparisons easier.

Freelances are an important part of the network built up by a know-ho w firm to be able to offer its product for sale and are thus part of the company's structural capital. In many cases it maybe essential to illustrate this network in the annual report to give the reader a picture of the total resources. (See also Chapter 4, Structural Capital.)

Educational level, number



The diagram shows how the number of graduates in different fields changes between years 1 and 5.

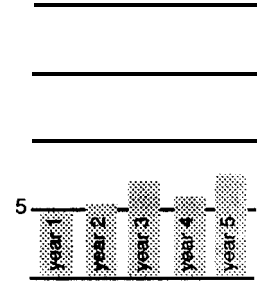
Educational level

The revenue people's educational level affects an assessment of the quality of individual capital and with it, the company's ability to enjoy continued success. The level should be described as accurately as possible in the annual report and different types of educational background shown diagrammatically. This information is interesting to follow over time, partly in judging the individual company, partly to be able to compare different companies in the same field.

Average number of years in the profession

Total individual capital is a yardstick of how knowledgeable (= experienced) a company's revenue people are as a whole, while individual capital per revenue person is a yardstick of know-how (= experience) in each professional. Total individual capital is obtained by adding together the number of years all the revenue people have spent in the profession. When this total is related to the average number of such people in the company, you get the key indicator: individual capital per revenue person. This can also be illustrated diagrammatically, showing 3-5 categories.

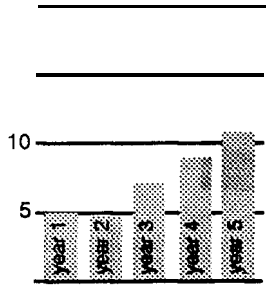
Average number of years in profession



The diagram shows the average experience of the company's revenue people.

Proportion of revenue people in the company

Another key figure is the proportion of revenue persons in the company, i.e. all revenue people in relation to the number of employees. This yardstick measures the importance of the revenue staff to the company. It can be used in comparing different firms in the same line of business, provided the number of revenue people is calculated in the same way in all the companies concerned. This indicator should also be illustrated diagrammatically, showing the trend over the past five years. Note that the proportion of revenue people varies from one sector to another and comparison can only be made between companies in the same field.



The example shows the number of *days' education per revenue person in five years. Education can also be shown as cost per revenue person, or as a percentage* of sales.

Education = investment in know-how capital

Education should be a substantial investment item in know-how companies, which are so dependent on the knowledge and competence of their employees. It is too, but normally the whole cost of education cannot be seen in the company's accounts. Not all know- how is acquired through formal courses, a large part of the growth arising through normal work, customer assignments and R&D projects. (See Chapter 5, Customer Capital.)

This type of training is not shown separately in the accounts, but becomes part of the structural capital.

Even if direct investment in education is not always so high, it is of value to the reader to see educational costs in the most recent years diagrammatically illustrated in the annual report, preferably as a percentage of turnover, or as the number of training days per revenue person.

Apart from the outlay on course fees and the like, time spent should also be counted as an educational cost. It should be booked at cost price, on analogy with accounting practice in other areas, e.g. in calculating the value of inventory.

Educational costs will rise in a growing know-how company. With an increasing number of employees, it is not so easy to maintain an automatic supply of competence as in a small firm. A need arises simply to maintain the level of know-how and this education should not be counted under the heading of investment.

The company that has well thought-out programs linked to the main thrust of its future operations, inspires confidence. A brief description of the company's educational policy is therefore of interest to the reader.

Classification by competence

Some other form of classification may be desirable apart from the level of education, which is a general way of describing the company's revenue people, e.g. what competence the company has in different fields. For instance, total competence in a firm of technical consultants can be divided up into power technology, transport, industrial construction, housing, or the like. A firm of computer consultants could show how many have competence in different types of systems. The description can be made more or less detailed depending on what the company is like and what it wants to describe.

Classification by degree of customer responsibility

Many know-how companies have an internal hierarchy based on the level of responsibility employees have for clients. Three levels can be distinguished in an advertising agency, for example:

1. Employees who only carry out parts of an assignment.
2. Employees with responsibility for a complete project.
3. Employees with total responsibility for a particular client.

Often the company tries to develop and retain as many people as possible with total client responsibility.

This kind of classification helps in assessing the company. The information should be illustrated diagrammatically, showing the trend over the past five years.

CHAPTER IV

Structural Capital

Five examples of structural capital

A special kind of know-how investment can be identified in most know-how companies, investment in the organisation's structure. Its aim is to create systems, routines, networks and an image to make it possible for the company to handle a larger volume of business in a structured manner and be less vulnerable to loss of staff and customers.

For investors and lenders, information about its structural capital is an important factor in assessing the company.

Here are some examples of what we mean by structural capital.

Example 1

Indevo is Sweden's largest management consultancy group. One of its subsidiaries, Indevo Trim has built up special competence in corporate cost-cutting. A few years after it started operations, however, the employees left and formed a company of their own with the same idea. But after rapid recruitment from among many applicants, Indevo soon managed to buildup a new Trim with by and large the same volume of business and the same clients as before.

Why was Indevo not hit harder? The staff took their capital and departed.

Obviously, there was something more than just the individuals' know-how capital in the company; a reputable name, well established marketing organisation etc., in short, structural capital that belongs to the company.

Example 2

In 1989, a Swedish economist could expect to earn about SEK 11,000-12,000 a month soon after graduation. Include 50% social security charges and the cost was about SEK 120 and hour. If he or she started a company and began to offer consultancy services straight after graduation, it would have been difficult to

charge more than perhaps SEK 175 an hour. This would have had to cover not only salary, but also office and other costs.

If the young economist went to work for Enator, Indevo or some other established firm of consultants, he or she would suddenly have been worth at least twice as much. These companies were charging over SEK 300 an hour for newly qualified consultants. They take additional payment for the structural capital the new consultant is equipped with; toolboxes in the form of analytical methods, concepts and problem-solving routines that it has taken the company years to develop.

Example 3

Sweden's five wage-earner investment funds have been a much- discussed phenomenon in every political camp. They are continually watched by the media. Several of them have had considerable difficulty in finding professional candidates for the post of Managing Director. They have a lot of financial capital, but how big is their structural capital?

Example 4

In many sectors there is normally one company which is nearly always approached when purchases are being planned, or which is so well-known that it is always remembered even by laymen. Every Swede knows what a SIFO poll is, for example. In the market survey business, SIFO is a name almost synonymous with opinion polls. When new computer installations are being made, IBM is generally among those asked to tender and suggest how a system should be designed.

Example 5

Every now and again surveys are made about which companies are most popular among new economics and engineering graduates. These ranking lists vary greatly from one year to another and clearly express the students' preferences not only for a sector, but also a specific company.

These five examples describe different expressions of structural capital, a concept that is difficult to define.

Analysis of the five examples

Let us look a little closer at the examples and see what they describe in terms of structural capital.

The first one indicates a conflict commonly found in know-how companies,

"It is the consultancy company's structural capital that enables it to make the inexperienced person productive as a researcher or assistant, relatively quickly. The company has succeeded in standardising and packaging the consultants' know-how so that it can be sold by others than those who created it. The added value that arises is an expression of that structural capital."

between the management's demand for structure and the employee's demand for his or her own individual freedom. This conflict is really a necessary condition for the development of new know-how and new products. In this example, Indevo won the battle for the clients, which can be ascribed to the structural capital it had built up. It is Indevo's and not the individual's know-how that is in demand. Among other things, it means that the clients believe in the company's ability to recruit new consultants and continue to supply a high-quality service.

In the second example, the difference in hourly rate can be said to be the value of the structural capital. It is structural capital that makes it possible for the inexperienced person to become productive as a researcher or assistant, relatively quickly. The consultancy company has an ability to use the undeveloped productive power of new consultants, and has managed to standardise and package the know-how so that it can be sold by people other than those who created it. The company has made "products" out of know-how. The added value that arises is an expression of structural capital..

The example of the wage-earner funds shows an organisation that more or less lacks structural capital in the form of confidence in it from the outside world. The funds had a negative image among the public right from the start, which led to difficulties in recruiting qualified staff in the initial phase. Changing attitudes is a lengthy process requiring great patience. If the funds had been dependent on clients' attitudes and values in the same way as a company, their situation would have been very difficult.

IBM is in the reverse situation. It has such a well-established image on the market that no one dares exclude it at the preliminary stage. Instead, IBM's position is so strong that it acts as a standard in the industry, against which others can be evaluated.

In the fifth example, the students' employer preferences provide a yardstick of a company's recruitment potential through the image it has among potential applicants. At the same time, it gives the analyst valuable information. Good recruitment potential guarantees that a company can take on the best of each year's graduates and should therefore be able to rely on continued good quality in the services it offers its clients.

From "agency" to "professional organisation"

Of the three types of capital in a company, financial structural and individual, structural capital is the most difficult to describe in the annual report and is thus also difficult to value.

But structural capital is at least as important to the company's long-term

development and profitability, as the other two types.

It is not something that can be bought just like that, or captured. Building it up is a long-term process requiring patience, sensitivity and an ability to make the right choice from many alternatives.

We can call a know-how company in which a small number of pros exploit their professional skill without really building up any organisational know-how, an "agency". (See the diagram in Chapter 2.) The agency has no real structural capital. Typical examples are firms of la wyers and accountants at an early stage of their development.

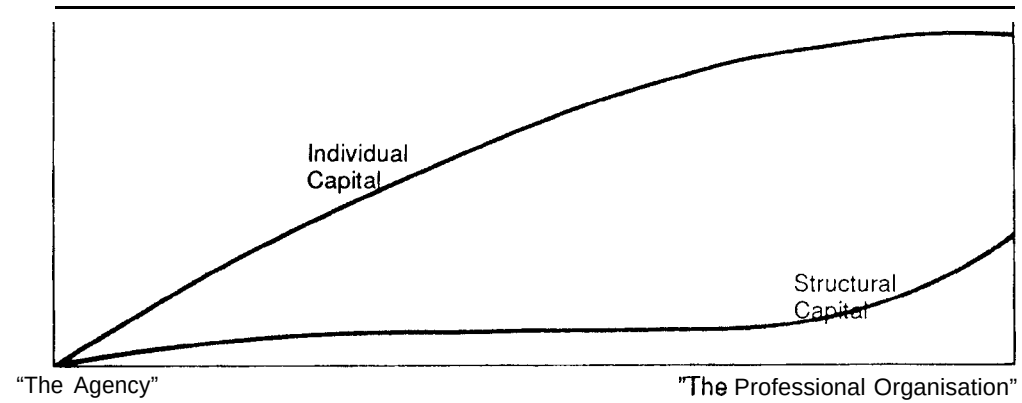
Increasing success brings growth, which properly handled results in further success and growth. Eventually the leading members of the firm are faced with the need to develop it, otherwise it will remain at the agency level and die with its founders. The fortunate ones develop into "professional organisations", which can be seen as a kind of ideal stage.

The invisible structural capital usually grows over time. Development from agency to professional organisation can be illustrated as in the diagram below.

Goodwill and structural capital

Investors sometimes hear business executives say, "Our company is so special that it should be valued higher than other companies in the same business." What they are referring to is its market image, the staff's loyalty, or some unique sales or manufacturing competence, traits that allow the company to charge higher prices, or be more efficient, than its competitors.

The Development of Know-How Capital



Structural capital is built up step by step when the agency develops into a professional organisation. At the same time, the personal, individual capital of the employees often grows too.

"There are three cornerstones to structural capital: the personnel, problem-solving capability and customer capital. The management should be able to describe this structural capital in the annual report, at least verbally."

The investor may conclude that such is the case. He is therefore willing to pay a sum for the company in excess of the booked, financial capital. He enters that extra price as goodwill in his own accounts if he has to consolidate the acquired company with his own.

In some cases goodwill can be likened to a monetary valuation of the company's structural capital. As a rule, the purchaser has not made a thorough analysis of what that structural capital consists of, his valuation being based on expected future profit.

Three basic elements of structural capital

How then should structural capital be more accurately defined? The management should be able to describe their company's structural capital and its importance or long-term development, at least verbally, in the annual report. A description could follow the pattern below.

We see three basic elements or cornerstones in structural capital:

1. The personnel are the know-how company's foremost factor of production and possess the know-how and competence that are vital to its existence. Around the personnel is important structural capital, consisting not of the individual's know-how, but his or her attitude to the company. A further dimension is how it has been decided to organise the personnel, and above all what steps have been taken to recruit and retain revenue people.
2. Problem-solving ability, the product or service sold to the client. Much structural capital is built into it. This applies not only to the individual product or solution, but also to the company's ability to create, package and refine its "products".
3. Customer capital, i.e. the company's customers and their readiness to buy the company's products. Much energy and expense goes into building up relations with customers and influencing their attitudes to the company.

The personnel

The structural capital associated with the personnel is the same as the ability to recruit, develop and motivate them so that their competence is exploited profitably. Many companies have devoted much energy to developing methods and understanding the ways of doing this. Knowledge and experience is built up gradually as the company develops and grows, and it is vitally important to the company's success.

The invisible contract

Around the staff is important structural capital consisting of the attitude of the individual members to the company. This is often called corporate culture or spirit, or as Hans Zetterberg, the former head of SIFO, put it, "the invisible contract".

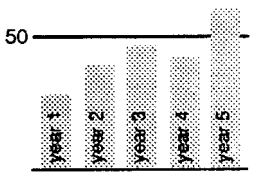
In the same way that the market view of the company can be gauged, a picture can be obtained of the employees' attitudes to their workplace. If they are positive, they help consciously or subconsciously to strengthen the company's image among the customers. If the employees have a negative attitude towards their company, it immediately infects the customers and can undermine arguments in the most costly advertising campaign. Many companies, especially larger ones, carry out regular attitude studies to keep abreast of changes among the staff. The results of such studies could well be reported as part of the structural capital.

Number of years in the profession

A measure of the staff's share of the company's structural capital is the total number of years the revenue people have spent in the profession. Each year's experience adds further competence and importance to the company. Of course, not all revenue people are equally valuable, they do not represent the same know-how capital, but in large groups the differences should cancel themselves out. The contribution made by older revenue persons to the experience capital naturally declines the older they are may even diminish among the very oldest.

Thus the annual report should state the total number of years in the profession for all revenue persons. This can be done in a diagram showing figures for each of the past five years.

Total number of years in profession



The diagram shows how the aggregate number of years *in* the profession rose *from twenty-two in the first year to forty- seven in year 3, and then fell back in year 4, presumably because of defections. There was a sharp rise in year 5 that could be*

The recruitment potential

Recruitment work is one of the most important tasks in a know- how company. Successful recruitment makes possible further development of both business concept and new revenue people, thereby laying the foundation for continued stable growth.

Recruitment potential is thus central to a description of structural capital. It is dependent on the level of salaries, the work situation, the image of the profession, the attitude of employees and also of the ability of existing revenue people to transfer their know-how to younger colleagues, which is closely connected with how great a part of the assignments from customers can be considered to develop competence.

Taken together, the number of challenging assignments, the relative salary level and the level of research and development costs, should provide a basis for an external assessment of the company's recruitment potential. In addition to these figures, there should be a verbal description of that potential and the company's recruitment policy.

The proportion of challenging assignments

An important variable in assessing recruitment potential is how great a proportion of the assignments are challenging. Of course, the term "challenging" is difficult to define, but it is at any rate the opposite of "routine".

Examples can be unusual projects, such as when VBB moved giant statues in Egypt prior to construction of the Assuan Dam, very large projects such as building abridge over the Sound between Sweden and Denmark, projects that attract attention in the mass media, such as building the Globe Arena in Stockholm, or projects that break new ground, involving for example new materials, new methods of calculation, or new computer software.

Relative salary level

Most sectors and occupational groups have good statistics of salary levels and the relative position in each company. It is usually expressed as a percentage, such as 103% or 97%, showing the relationship to the average level, and has great informative value.

The internal organisation

The way in which the company is organised internally is also of great importance. Firstly, individuals have to be combined in such a way that they function well, which is a question of both leadership style and group affiliation.

Secondly, it is necessary to handle the internal administration efficiently and securely. This may concern accounting systems, salary systems, or environmental questions.

Finally, it is necessary to ensure good quality and make it possible to reproduce the company's production many times over. This may concern handbooks or manuals, but can also be routines and methods of work.

Special agreements with key people

As in other enterprises, know-how companies have key people who are of special importance for the future.

In many know-how sectors, the cost of establishing a new firm is low and there is always a risk that key people will leave, take colleagues and some of the

customers with them, and start up on their own. This can be devastating, particularly in small know- how companies. And, of course, it is just as sensitive a question if key members of the staff go to customers or competitors.

Thus many companies and sectors try to find forms of tying key people to them contractually so that they don't need to consider alternative offers. For example, there are agreements under which they undertake not to work for any of the company's customers for six months after leaving the job. For really key people, the period can be extended to twelve months.

It has also become common to link such agreements to a stipulated penalty or fee, e.g. the income which would have been paid during the six or twelve months in which the clause applies. It is similar to a transfer fee in the sporting world.

However, Swedish legislation and labour law practice limits the significance of such agreements at present. There are several cases in which key people have departed despite an agreement containing a penalty clause. One explanation is that, especially in small firms, the parties have neither the time nor interest to argue over it. In addition, the greater part of the burden of proof is placed on the company hit by the defection, and it is not easy to prove breach of trust.

And so agreements regulating employment conditions are far more important that defection contracts. The company may, for instance, give employees the opportunity to develop special interests, guarantee them a certain amount of freedom, or allow them to divide up their income over a given period. It is fairly simple to do so in a small know-how company where a few people can sit down together and discuss how to divide up the salary pool. The administration involved in meeting individual desires increases, however, with growing size.

It is of great interest to the external analyst for the existence of special agreements with key persons to be described in the annual report, preferably showing the principles involved. Types of stimulation and payment offered are important in judging the company's future. But in some cases this can be part of the business concept itself and neither can nor should be revealed in detail.

At the same time, it is important to point out that neither cleverly formulated divorce clauses nor financially advantageous inducements can replace a lack of involvement and motivation in a know-how company. The strength of the "invisible contract" is important in all companies and absolutely vital in recruiting and retaining key employees.

"Agreements regulating conditions of employment are far more important than defection agreements. They may contain an offer of part-ownership, the opportunity to develop special interests etc. At the same time, it is important to point out that neither cleverly-formulated divorce clauses nor financially advantageous incentives can replace a lack of involvement and motivation in a know-how company."

The personnel as part-owners

A common way of tying key persons to the company is part- ownership. There are know-how companies such as firms of accountants, which have developed

efficient forms of both entering and leaving a partnership and have refrained from making a valuation in line with market expectations.

There are two sides to the coin, however. Companies that do not have clear and simple rules for entering and leaving, have found that partnership risks reduce growth and creates problems when one of the partners wants to leave.

With know-how companies that are sufficiently large and have a structure which permits listing on the stock exchange, issuing convertibles and shares is a way of holding on to key people. In smaller companies and ones not of such a nature that they can go to the stock market, convertibles and share issues may lead to problems if there are no rules for valuing entrance and departure.

Some companies have provided for the interests of key people by investing surplus capital in assets with a hidden growth value, e.g. property. The risk is that the company's original business concept will disappear because the priorities of the employees changes with growth in the net worth of the property or equity portfolio.

An example is Pronator's sale of its subsidiaries Enator and Skandiakonsult in 1989. Pronator developed as a know-how company in the 1980's primarily by buying up other firms. The main contribution to profits came from its financial capital. To some extent, its combined know-how acted as a lever for the financial capital. In the end, however, conflicts between staff representing the financial capital and those representing the ordinary consultants, grew too great. Demands from the pure know- how companies, Enator and Skandiakonsult, for room of their own in which to develop and grow, were so strong that Pronator had to be dismembered.

Problem-solving ability

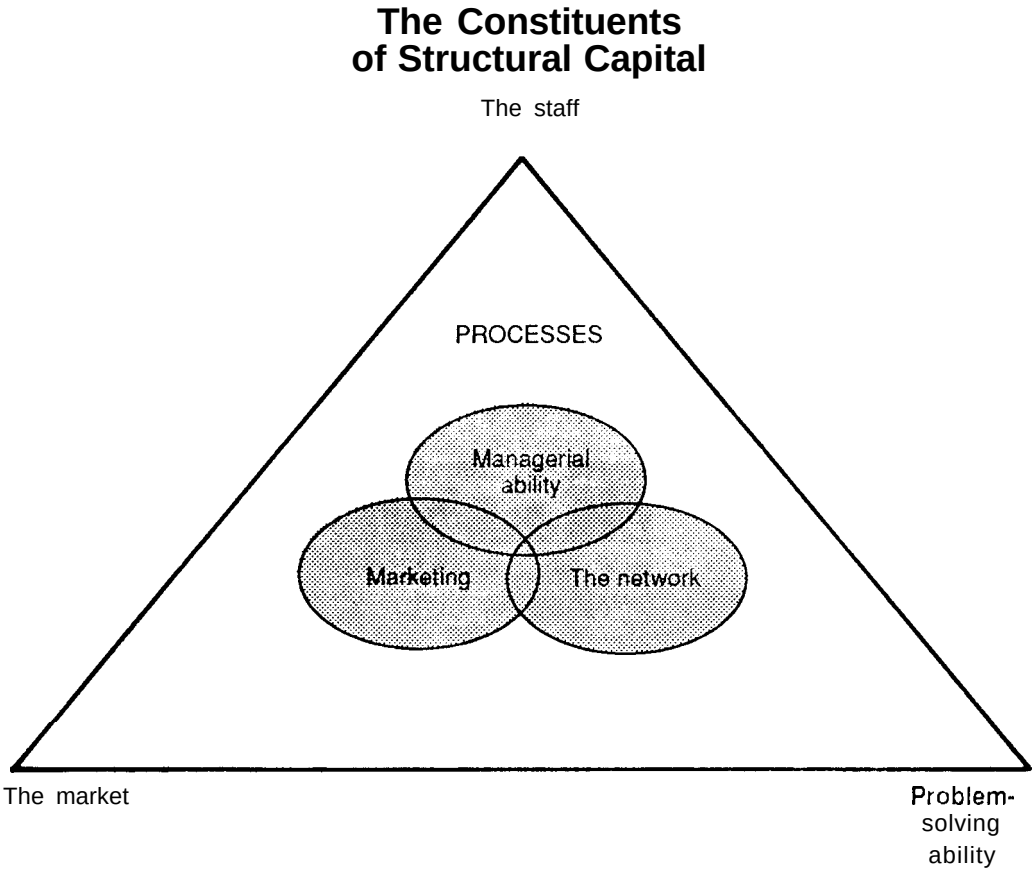
There is continual creation in a know-how company. The only form in which the "product" is visible is through better results for the client. The product is a creative process of problem- solving.

To gear know-how capital, it is necessary to standardise problem-solving in the form of a product and package it. In that way, the same know-how can be used again and again. It can be handled by less competent and thus less costly personnel. Put simply, it means producing the product in a rational manner.

It is important to keep a continual check on the reliability of deliveries, the level of service and of quality, and the customers' views.

The market and customer capital

We call the company's combined position in the market and with its customers "customer capital". It is an essential part of structural capital and an entire chapter has therefore been devoted to it. (See Chapter 5.)



Structural capital consists of three basic elements, personnel, problem-solving ability and the market (customer capital), together with three processes that make these elements work, marketing, managerial ability and the company's network.

Three important processes

To give a complete picture of structural capital, it is also necessary to describe the connections between personnel, market and product. They are not static by nature but can be likened to those in a number of processes, all of which affect the company's value. 1. Managerial ability is one of the most important processes. It affects every part of the company. The ability to change is of particular importance in a know-how company as the management handles continually innovative, creative and changeable production. 2. The network describes communication and relations with the company's various points of contact, whether they are customers, personnel, or professional contacts. 3. Marketing is the process that develops the company's image in the market. It aims at defining the market and target group and inducing the customer to buy. In a broader sense, marketing also influences the view of the company taken by the world outside.

Process 1: managerial ability

The pace of change in society and practically every market is very high today. The company's long-term profitability is intimately connected with its ability to handle and adapt to change. Really successful companies not only adapt to change that has already taken place, but help shape and create the market, develop new means of production and very importantly, develop and change the staff's behaviour and attitudes.

The banks are an example. Change in the world about them has been revolutionary in the past decade. But Swedish banks have very successfully made the adjustment from distributing a scarce resource, money, to selling it, and are in the process of developing into investment advisers.

It is naturally of interest to investors to know how a company picks up internal and external signals, how it has adapted itself to them and what its attitude is to change. Research, education and development are the means available to the management themselves to exert influence and bring about change.

Process 2: the network

An important part of structural capital is the network that every company has

to a greater or smaller extent. The network consists of both professional contacts and parts of a circle of friends. They maybe sub-contractors, outside associates, customers, trade reference groups, professional, sporting, or old school friends. In many places, business associations of different types play an essential part.

Staff who have left the company often have an important ambassadorial role to fill and should naturally be fostered in the same way as other parts of the network.

Signals indicating changes in the market can be picked up through the network. The network also gives access to other people's experience of similar problems. The number of companies which exchange experience with each other, is steadily growing. It is also possible to undertake larger and more complex assignments by making use of different types of specialist competence in the network.

The network can also suggest new business opportunities and help develop new business ideas. People with a high level of professional competence in different fields have the opportunity to cross-fertilize their know-how with others through informal contacts.

Networks are mobile. Fruitful contacts perhaps start at the periphery and end as part of the legal entity itself. In other cases, it can be seen how a small disruption in the network e.g. a personal discord, can bring down whole constellations of companies.

Industrial companies are also dependent on their networks. Studies have shown that they are very stable in character and that very large disturbances are needed to influence existing relations, e.g. to change a sub-contractor.

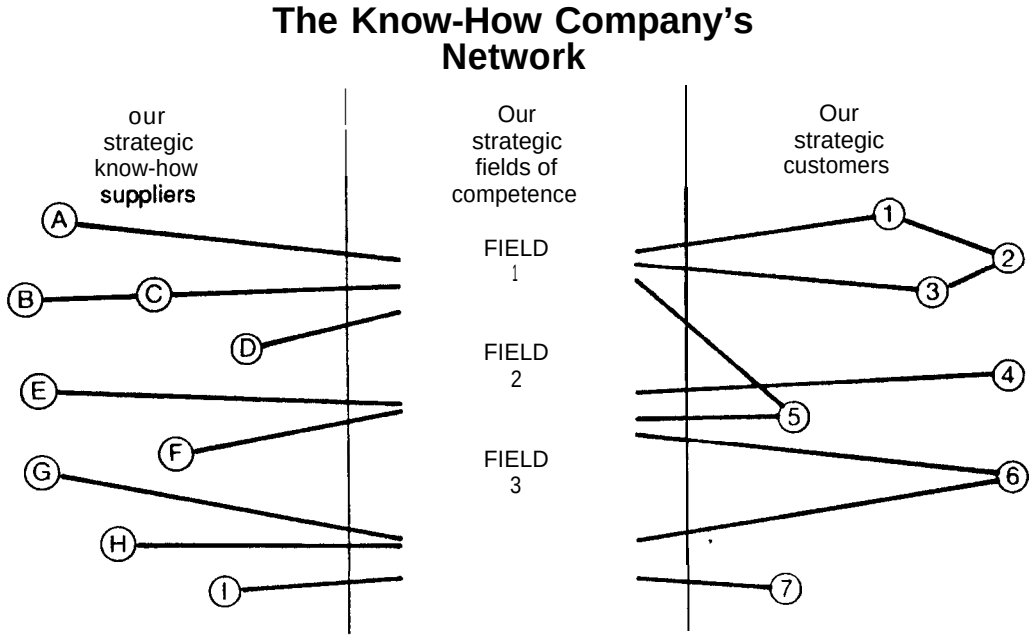
Length of relations

It is important for the network to be included in the description of the company. In an extreme case, a one-man company, using his network as a lever, could have a much larger field of operations and higher value added than a five-person company with a less developed network.

In a know-how company, the network is so mobile that it can quickly influence profitability and business orientation. There should therefore be a comment on thenetworkin the annual report, e.g. by stating the number of years relations have existed.

The network can also be illustrated graphically, e.g. in the form of a sociogram as in the example on the next page.

Process 3: marketing



This example of a company's net work illust rates the connect ions bet ween its most important customers, most important business fields and most important suppliers of know-how.

Marketing is the process that makes it possible to influence the market's view of the company. As a rule, it is not as standardised in a know-how company as, for example, for consumer goods.

The know-how firm takes its starting point from the customer and the relations that have been built up between them. The product is created in a two-way process with the purchaser. There is nevertheless a need for marketing designed to make the company and its competence known to potential customers.

R&D = investment in new structural capital

All know-how companies must invest in research and development to survive. Projects designed to create "new" knowledge, which can give new business opportunities, are of the greatest importance to the company's profit potential in the long term and must therefore be described in the annual report.

The annual report should contain a section on the company's investments in R&D, both what the costs have been and a description of the business opportunities that development projects are expected to result in. It is also interesting to

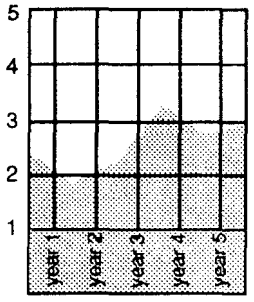
know what has been happening in the recent past, to be able to see the investment level from one year to another.

Investment in structural capital is normally treated as a cost. To be correctly understood, the historical profit trend must thus be supplemented by information on investment in "soft" assets booked as a cost.

It may not always be easy to say what is meant by R&D in a know- how company. In some, it is an integrated part of their business operations, commissioned by the customers and paid for directly by them. In others, R&D is investment in future business opportunities. A third group may take on an assignment without covering the costs and see it as an investment in know-how.

In all three cases, the company's competence can be maintained. For the reader of an annual report, it is therefore interesting to know what R&D the company undertakes, regardless of whether it is as a result of assignments from customers or the company's own investment projects.

R&D costs as percentage of sales



The diagram shows internal and external R&D costs in relation to sales. The way of working out the value of internal time should be stated, e.g. if it is at the same value as to an external client or at salary cost only. The cost of education should be included in the figure.

CHAPTER V

Customer Capital

An important part of structural capital

Inmost companies, the key to profitability is the ability to establish and maintain stable customer relations.

This is obviously so in the know-how company. Its services are often so complex that know-how is required not only to sell them and carry them out, but also to buy and profit from them. The know-how company must invest both time and money in "educating" its potential customers prior to a purchasing decision and providing the service.

Most know-how companies are aware that a first-time customer is an expensive customer and that profitability lies in creating faithful customer relations.

The market

The be-all and end-all for the company is how it is viewed in the market. Firstly, it is necessary to be known in order to be approached when a purchase is being made. The next step is for the purchaser to choose that particular company's services or products, and thirdly, to come back for more.

It may also be a matter of being able to influence pricing in the market.

Being able to find information in the annual report about the company's relative market position in different respects, is of great interest to an investor. A problem, of course, is whether the company can publish such figures in view of the competition it faces. Another difficulty can be that there is a clear time difference between the market's recorded perception of it and the company's current situation.

It is also often extremely difficult to define the market and market position in know-how companies, especially smaller ones. All know-how firms who sell tailor-made products or solve highly specialised problems, prefer to speak about the clients and their special requirements than about the market.

Some important key indicators the company should always be able to give are the structure of its customers, their size, how faithful they are and whether they purchase more or less of the same service.

"The customers are a know-how company's life-blood. The first step to profitability is through analysis and development of the existing customer structure. What do the existing customers look like? How profitable are they?"

The value of customer capital

It is from the customers that companies get their revenue. Know- how companies also acquire crucial development of service and competence from their customers. It is primarily through assignments that the employees develop the competence and service ideas the firm will live off in future. In the long run, a know-how company that does not take on the right challenges, will drain itself of competitive strength.

Customer capital can thus also be valued on the extent to which assignments develop competence. The year's "challenges" should be of the right extent and go in the right direction.

It is also the customers who must give the company the reputation or image on which its long-term competitive power will be based. By working with customers judged to have the best prospects of profiting from the services provided, the company is investing in its future image.

The know-how company cannot simply take a short-term financial view of its customers and assignments. Customer benefit must be a criterion of selection and a watchword. It gives lasting profitability and thus puts a high value on the customer capital.

The value of customer capital can also be assessed from the point of view of market development. Customers who generate new assignments are in themselves more valuable than others, e.g. customers in a group of companies where there is an additional sales potential.

One of the most important means of competition for the know-how company is thus the ability to choose the right customers:

a) Customers who are profitable.
b) Customers who increase the firm's competence.
c) Customers who build up its image.
d) Customers who provide contacts with other desirable customers.

Choosing the right customers and the ability to retain them by taking active measures, give a high level of customer capital.

Reporting customer capital

We will get more forward-looking reporting if information about customer capital is given in addition to traditional financial accounting. The development

of customer capital precedes the earnings trend and it should be possible to predict the movement of profits by analysing changes in customer capital.

The following four questions should be dealt with:

1. Have we got the right customers?
2. Have we got stable and faithful customers?
3. Have we got satisfied customers?
4. Are we investing in the right marketing?

Have we got the right customers?

Has the customer structure been improved during the year? The answer can be found from a diagram like the one below.

The Compar y's Customer Stru cture

Type of customer	year	1 year	2 year '	3 year	4 year
Total of which	Invoiced sales Prof if No. of customers				
profit-able	Invoiced sales Profit No. of customers				
develop competence	Invoiced sales Prof if No. of customers				
create image	Invoiced sales Profit No. of customers				
generate new business	Invoiced sales Profit No. of customers				

The company's customer structure is one of *the* key *indicators* of *value to the reader of a know-how company's annual report. Using the form above, you can* easily *see if the proportion of "right" customers is increasing or decreasing.*

If all its customers were what the company meant by profitable, and at the same time developed competence, were image-creating and generated new assignments, the company would be highly successful.

Information about changes in the customer structure provides a basis for

assessing the company's future profit potential.

Have we got stable and faithful customers?

Customer turnover is an important yardstick. The readiness of customers to make repeat purchases says something about how they rate the quality they get and also whether or not the company has found the right customers. Stable and faithful customers make long- term profitable customers. The customer benefit is high and with it also the revenue to the company. In addition, sales and marketing costs can be kept down.

Customer turnover can be measured as the proportion of total sales going to new customers. The figures should preferably cover two years.

The age structure of customers can also be interesting information. It is reasonable to expect that the longer a company has had its customers, the better the financial result will be.

The Customers' Age Structure

Length of relations		year 1	year 2	year 3	year 4
< 1 year	Invoiced sales Profit No. of customers				
1-2 years	Invoiced sales Profit No. of customers				
2-5 years	Invoiced sales Profit No. of customers				
> 5 years	Invoiced sales Profit No. of customers				

Lasting customer relations are profitable customer relations. A high turnover, i.e. many customers in the top row, is costly. It takes time and money to acquire new customers.

Have we got satisfied customers?

Measuring the level of satisfaction among customers is perhaps the earliest way of detecting signs of whether profit is on the way up or down. It is truly an early

warning.

Many firms systematically attempt to find out how customers rate quality and what other attitudes they have towards the company. The results of these enquiries are used primarily in marketing and scarcely in making financial forecasts of the type mentioned above. But it will undoubtedly be possible in due course to include customer quality-rating and attitude indices in financial reporting.

Reliable measurements of customer attitudes would forma valuable basis for assessing a company's profit potential.

Customer Barometer

There are several methods on the market which attempt in one way or another, to measure variables connected with the concept of "customer care". One is to gauge the image a company has, another how satisfied and loyal its customers are.

Of particular interest is the Customer Barometer, a research project backed by the Swedish Post Office, which intends to launch it commercially. The project is led by a professor from the United States, Claes Fornel, whose method is used already in commercial use there.

The Barometer gives each company a Satisfied-Customer Index on a scale of 0-100, measuring the strength of the relationship between company and customer. The system will cover 25-30 business sectors, with one barometer per sector, making it possible to compare different companies. There will also be a national Satisfied- Customer Index and a national sector barometer making it possible to compare different sectors. In addition, it will provide data on the customers' readiness to place repeat orders.

Low figures

A company with low figures in the Barometer is generally struggling with some or all of the following problems:

a) High customer turnover.
b) High price sensitivity.
c) High marketing costs per customer.
d) Low margins.

High figures

Companies with high figures on the other hand, enjoy some or all of the following advantages:

a) Low marketing costs per customer.
b) High customer loyalty.
c) Low price sensitivity.
d).....
e) Few lost customers to replace. f) Low sensitivity to competition. g) High margins.

The Post Office is interested in persuading companies to invest more in what it calls "defensive customer-care marketing", which means sending more letters and therefore more business.

A "Customer-Care Index" of this kind can provide valuable information in the annual report of a know-how company. It could be presented as in the diagram below, where the company's position can be compared with the sector figures. In comparing the sector index trend with that for the company, it is possible to get an idea of whether there is unused marketdevelopment potential, or not.

Customer Attitudes

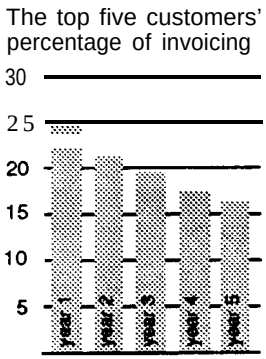
Satisfied-Customer Index	year 1	year 2	year 3	year 4
The company				
The sector				

Market investment	year 1	year 2	year 3	year 4
New customers				
Old customers (customer care)				

The attitude of customers and the market to the company and its products provides useful information. **We have** *taken the "Satisfied- Customer Index" research project as an example. By comparing the sector figures with those for the company you can see* if tkre is *unused* market *development potential. The reformation on market investment is also valuable.*

The proportion of repeat purchases and organic growth

Other yardsticks for gauging customer satisfaction are "the proportion of repeat purchases" and "organic growth". The proportion of repeat purchases is a key indicator obtained by putting invoicing to old clients in relation to total invoicing. A high proportion indicates that customers are satisfied. Organic growth,



The diagram shows that the top five customers accounted for around 50% of sales throughout the five years.

i.e. increase in turnover adjusted for takeovers, measures how well the company's business concept is being received in the market.

Note that bought growth, i.e. growth arising from acquisition, is not a sign of success. It could be, e.g. if the purchase was a way of recruiting an important group of revenue people, but if the know-how company grows by buying into other sectors, it is more a sign that the original business idea no longer generates sufficient growth. It may indeed be a sign of stagnation.

The proportion of big customers

The annual report should contain information about the customers / clients. Two key indicators can be given: the proportion of invoicing going to the largest five customers, or the number of customers who together account for 50 percent of total invoicing.

Have we invested in the right marketing?

An appraisal of market investment is also part of the picture, both investment already made and that which is planned.

What is meant by marketing is changing with the rapid growth of the service and know-how society. For those selling know-how and services, the focus is moving from mass communication and chasing new market shares, to more qualitative marketing where the aim is to retain established customers and strengthen relations with them. Terms such as "customer base management" and "relationship marketing", i.e. marketing to old customers, express this new view.

An important indicator of the potential in customer capital is how the company has decided to allocate its market investment between a) Looking for new customers (offensive marketing). b) Looking after old customers (defensive marketing).

A company with a high customer turnover should also be able to show that it is concentrating its marketing effort on developing a customer database, customer dialogue, surveys and quality.

A newly established company with an insufficient number of customers, or a company that needs to change its customer structure, should be able to show investment in more offensive marketing, e.g. building up networks and opinion-forming contacts, developing the employees' ability to create business, displaying the employees' competence and measures creating a distinct image.

CHAPTER VI

The Return on Know-How Capital

Efficiency and productivity

Efficiency and productivity are two terms often used synonymously, but which really measure different things. Productivity is based solely on input variables, while efficiency is based on both input and output variables.

Productivity yardsticks show how well an organisation uses its resources, regardless of what it produces. An example of such a yardstick often used in consultancy companies is the debit level, i.e. time charged for in relation to maximum available time. It measures how much time the consultants have billed clients for regardless of what they produced during that time.

Efficiency yardsticks show how well the organisation is meeting the desires of the various interest groups. Different interests can naturally have different desires. The shareholders are interested in the return on their capital, the customers in the level of service and quality. An organisation should therefore use different measures of efficiency, depending on who they are for.

One **commonly used** in connection with the stock market is profitability, i.e. profit in relation to capital invested. Profitability measures the return on capital in a company or project and is thus a very important yardstick for both lenders and the owners of the capital invested.

The most important thing for the shareholders, of course, is how much they receive after tax as the yield on the capital they have put into the company, i.e. they are most interested in profitability on equity capital after tax.

Therefore the management also need to measure the return on capital employed, or the yield on a particular investment project, so that they can see at all times how the capital is being used.

"Productivity is based solely on input variables while efficiency is based on both input and output variables. The productivity yardsticks show how well an organisation uses its resources, regardless of what it produces. Efficiency yardsticks show how well the organisation fulfills the desires of the various groups with an interest in it: the shareholders, customers etc."

Traditional yardsticks are not sufficient

The top management, who are elected by the shareholders, must naturally make sure the capital in their charge produces a good return, otherwise the shareholders may decide to replace them at the next annual general meeting. As we have seen, financial capital is not as important in know-how companies as in industry. Know-how capital is of greater importance in achieving success in the market.

Thus the management get little help from traditional capital- related efficiency yardsticks. Instead, they need to measure the return on know-how capital. It is this which should be reported, alongside the traditional financial measures of efficiency.

Many attempts have been made to tackle the problem in the past. One was "social accounting", which did not gain acceptance, however, because it was regarded as too complicated.

What should be done then? Unfortunately, we have not yet got a fully adequate theoretical answer, one that can also be used in practice.

The biggest problem is developing a workable method of calculating know-how capital. Without it, you can get neither numerator nor denominator in a profitability formula. The method does not yet exist, but much will probably happen in this field during the 1990's. (For a fuller discussion, see Chapter 11, The Value of the Know-How Company.)

Use profit-and-loss yardsticks

In the meantime, we suggest that know-how companies use measures based not on the traditional balance sheet, but only on the profit and loss account. At all events, it gives a picture of the return on know-how capital.

Our view is that different types of efficiency yardsticks based on the profit and loss account, can give the external reader a good idea of the "inner life" of a know-how company. At least better than at present.

Value added as a yardstick

Value added is a term regularly used in economics, but completely neglected in business analysis. It expresses the additional value created in a company by using its factors of production.

Value added is the value created by the employees after deduction of all purchases from external suppliers. The usual method of calculation is to work backwards and add profit before depreciation and net interest payments to the wage bill plus social security costs. It should include fringe benefits, such as company cars, free telephones etc., i.e. items usually stipulated on the payslip.

The total is the value added.

By working this out, you can put a figure on how much the company's employees produce.

"Value added is the additional value created by the employees after deduction of all purchases from external suppliers. Value added per employee is a better measure of production capability than e.g. turnover or profit per employee."

Value added per employee

Value added per employee is a better yardstick of production capability than turnover or profit per employee, for instance. It is better because turnover can be greatly affected by commission, or goods and services that simply pass straight through the company, and profit figures can be manipulated fairly easily, at least in non-quoted know-how companies. (Profit is withdrawn as salary, fringe benefits, pensions etc).

Value added per employee is naturally also sensitive to manipulated profit figures or hidden wage benefits booked as costs. It is less sensitive, however, as the total of salaries, open wage benefits, social security costs and profit is a relatively large sum, perhaps in the SEK 300,000-500,000 range, compared to profit per employee which is seldom more than SEK 100,000.

Björn Borg as opposed to Henry Kissinger

The ability of an individual to add value is limited. Moreover, it vanes between different types of business concepts, sectors and professions, as well as with age. Take Bj m Borg as an example. The value he added on the tennis court as a professional player was roughly as shown in the diagram below.

The figure rose rapidly each year for about ten years, and then fell sharply. Before he had turned 30, his annual prize money from tennis was practically down to nil.

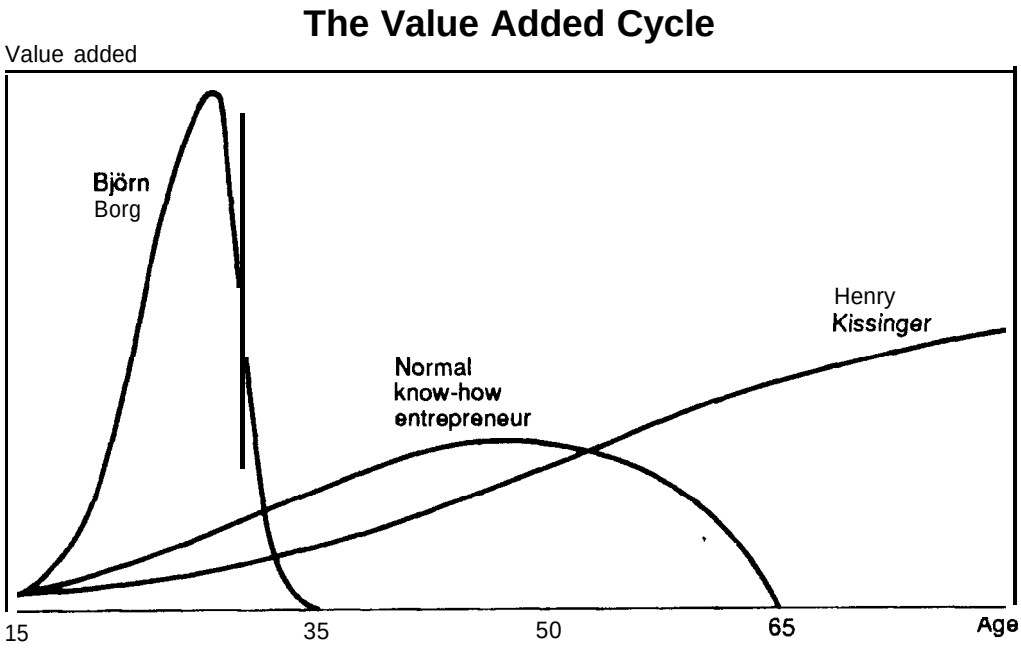
During this short period, Bj m Borg saved enough to be able to retire from tennis and start an alternative career. Most successful, professional sports and pop stars have similar value- added curves.

The opposite pole is a statesman like Henry Kissinger or Arrnand Hammer (of Occidental Petroleum). Their value added increases with age, as their experience and network of contacts grow. Eventually their curve falls too, but it is much longer and flatter than that of the pop or tennis star. Ordinary mortals fall somewhere between these extremes, with a curve rather like that in the diagram.

Differences iron themselves out

The height of the value-added curve depends on the market and the business concept and the curve is different for each individual.

But, and it is an important but, these differences tend to iron themselves out



The value added by Björn Borg on the tennis court rose sharply every year for about ten years, and then fell steeply. The opposite to the top sportsman or popstar is a statesman like Henry Kissinger. His value added rises with age as his wisdom and network of contacts grows. A more normal curve lies between these extremes.

in large groups so that the average for the whole group does not deviate so much from other groups in the same market.

Thus if you analyse a number of know-how companies in the same sector, you find that value added per individual is roughly the same. The differences are no greater **than that they can be explained by different degrees of managerial skill. Measuring and comparing the value added per employee both over time and with other know-how companies, you can get a very good indication of a company's production and profit capability.** The magazines Aff rsv rlden and Ledarskap have worked out the value added per employee in certain sectors, given in the table below. The figures are averages for the 15-20 largest companies in each sector.

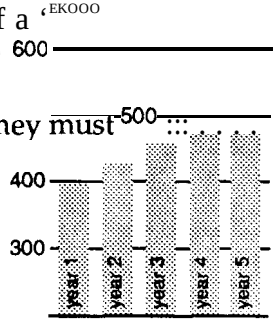
Advertising agencies		SEK 315,000
Computer consultants		SEK 349,000
Management consultants		SEK 527,000
Recruitment consultants	about	SEK 500,000
Executive search	about	SEK 900,000

Value added per revenue person

Value added per revenue person can be called the "purest" measure of a know-how company's production capability. By definition, it is the revenue people who bring in all the revenue. This must then cover all costs they involve (travel, office, secretary, management and administrative staff) and they must also be paid a market price in the form of salary, pension and other benefits.

What is over must be sufficient to cover the financing of equipment and depreciation, as well as maintenance of the know-how capital (education). The amount left is profit to be distributed to the shareholders, or used to consolidate the company, or for investment.

Value added per revenue person shows the importance of revenue people to the company and can be used for the same type of comparison as made above. As the proportion of revenue people in the total number of employees can vary, the two yardsticks (value added per employee and value added per revenue person) can lead to differences in comparing companies.



The diagram shows how value added per revenue person *rises* from *SEK 400,000 in year 1 to about SEK500,000 in year 4, and then falls back in year 5. Is* it *because* of *defections? There should be a comment about it in the annual report.*

Profit as a yardstick

As stated above, profit is normally not a good yardstick with which to compare know-how companies. Apart from the problem of dra wing a line between profit and salaries, there are also problems in reporting work in progress, where hidden changes can have a great effect on reported earnings.

However, profit per employee is a usable concept if it can be corrected for excessive salaries and the like. It can be used to compare quoted know-how companies, as they must openly report more correct figures.

Different profit measures are of interest because they show how much is over for the shareholders after other interests have received their due. Very low disclosed profit margins are common in consultancy companies where the employees are shareholders and the interest in showing a successful organisation on paper is lower than the fear of paying corporation tax. The profit margin is an important indication of how interesting it may be to invest in a know-how company, but it normally says nothing about the employees' real production capability, or their efficiency.

Profit per revenue person

It is the profit-generating ability of the revenue people - the consultancy company's consultants, the advertising agency's creative staff, the architectural office's architects - which determines the know-how company's value.

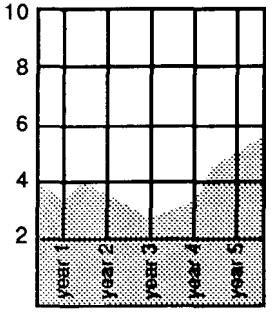
This ability depends on the market, how efficiently the company is run, how

much structural capital the company has built up, and on how much of the value added that goes straight to the employees in the form of salaries and benefits. Naturally, the market is of great significance. For several years in succession, for example, the market for architects in Sweden was very difficult. This meant that profit per architect (and value added per architect) has been very low. It seems to have been better for advertising people and computer consultants in the first half of the 1980's.

Profit is affected to a high degree by efficiency. For instance, it is common in a number of older know-how companies for each senior employee to have a secretary providing ever possible kind of ground service. It is convenient, but perhaps not always so efficient. A secretary must be used properly if she (and it is always a she!) is to raise the production capability of a revenue person by more than her own salary plus attendant costs. Otherwise she is a wage benefit and should be regarded as such.

As the salaries of revenue poeple are normally the largest single cost item in a know-how company, profit is particularly affected by pay policy. Partners' salaries are usually used as a profit regulator, especially among law firms, small consultancies and the like, so the indicator can only be used if profit can be adjusted accordingly.

Profit margin/value added, "/o



The diagram shows how profit often financial items changes over time in relation to the value-added. Profit/value added is a better measure of profitability in a know-how company than return on equity.

Profit margin

Profit margin is a key indicator describing the profit- generating capability of a know-how company. It is generally a better measure of efficiency than the return on equity, for example, which is quite meaningless in the type of know-how company where financial capital is unimportant.

The profit margin usually vanes considerably from one sector to another. When it expresses profit as a percentage of turnover, one should try to be clear about what the turnover figure includes as it is affected in different ways by commission, outlays, the sale of hardware, etc.

A better way of expressing profit margin is profit/value added. And with regard to profit, the same uncertainty exists as with other measures based on reported profit figures.

CHAPTER VII

The Stability of the Company

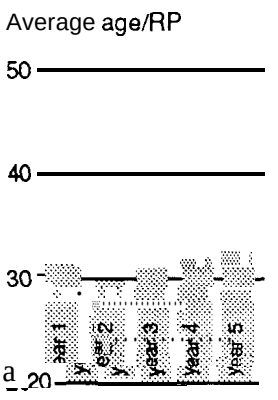
Business stability

The stability of a company is linked to the business it is in. Thus a company drilling for off-shore oil runs a much greater business risk than a firm of accountants. Customer structure is also extremely important. Is the company dependent on a single customer? The industrial company also faces risks in the flow of goods and materials, e.g. dependence on special raw materials or suppliers, as well as transport problems and environmental risks.

The know-how company, which has no flow of goods and materials to worry about, therefore runs a relatively low risk in its actual operations. There is a risk connected with the customers: who are they, how dependent is the company on a few large clients etc? Suppliers can also be a risk factor, especially if they are important suppliers of know-how.

But the greatest risk in a know-how company is its staff. It is highly dependent on the stability of the personnel. It should therefore report a number of yardsticks of this stability. These differ from the individual-related ones given in Chapters 2 and 3, by describing the employees' relationship to the company and not to the profession.

Figures should be given for the past five years, in each case.



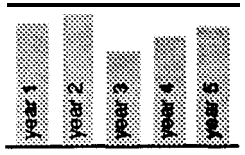
The diagram showsa young company with an average age of around 30.

Average age

The average age of the staff is a factor in judging its stability. Older people are generally more stable than younger ones. They are not as mobile. Therefore a high average age indicates a more stable personnel situation and a correspondingly lower risk.

On the other hand, a high and increasing average age is not good for the

Years employed/RP



If nobody leaves, the number of years employed per revenue person will go up by one each year. The diagram shows a young company with a high staff turnover in year 3.

dynamism of the company. And so it must be kept in check by recruitment and staff turnover.

Number of years employed

This indicates the stability of the business concept. To some extent, it gives the same information as the key indicator in Chapter 2, but is more specific to the company. A low figure leads the outside observer to forecast that the company's strategy and business concept can be easily changed, which involves a greater risk.

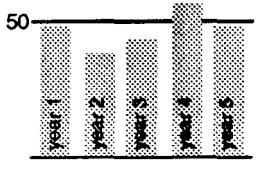
Thus the company is not particularly stable if most of the employees have been employed for only a few years. However, it is possible to assert that the company is flexible, which may be necessary in a number of rapidly growing new sectors.

Proportion of veterans

The proportion of veterans is the number of revenue people with at least three years' employment, as a percentage of the total number of revenue staff. This key figure also shows how stable the company's business concept is. High figures indicate high stability, but also the risk of rigidity and a lack of new development. The figure should give the situation at the end of the year.

Proportion of new employees

Number of RP employed at least three years, %



This company has not been hit by high staff turnover, but has maintained the proportion of revenue people employed at least three years, at around 50%.

The proportion of new employees is the number of revenue people with one year's employment or less, as a percentage of the total number of revenue people.

This yardstick gives an idea of the company's ability to replenish itself. Combined with the figure for the number of years employed, it also provides information on whether the newcomers are experienced professional people, or have recently completed their education. And that will also give an idea of how soon they can become profitable.

A large group of new recruits in the same year also increases instability.

Staff turnover

Staff turnover is calculated by taking all those who have left during the year as a percentage of the total number of employees at the beginning of the year. Turnover figures should be given both for revenue people and the staff as a whole and should be provided for the past five years, to show the trend.

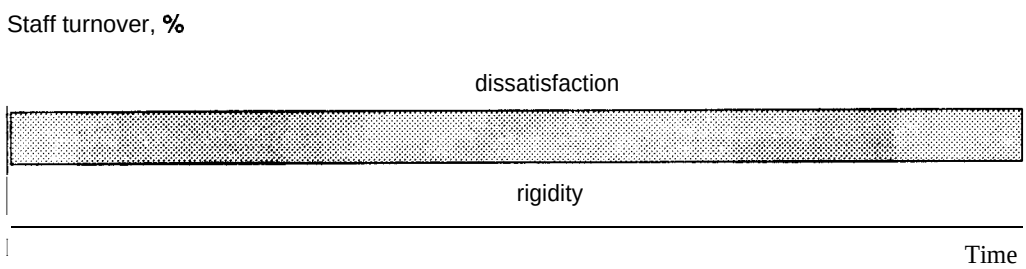
Turnover among revenue people should be shown both for those with less

than three years' employment and those who have been with the company three years or more.

Staff turnover is an important measure of the risk involved with personnel. Very high turnover indicates dissatisfaction, very low turnover is a sign of rigidity. An intermediate level indicates a dynamic situation. It is important to follow this yardstick over time to see if any pattern emerges.

It is good if turnover lies in a band between two levels as in the figure below. Exactly where the band lies depends on the sector, but in general it can be said that a turnover of less than 5 per cent is extremely low. It means the employees stay for an average of 20 years. Such a know-how company risks becoming inflexible if the low turnover is not counteracted by high growth. On the other hand, a very high turnover of say 20 percent, is a sign that the company is being drained of know-how capital as the employees stay for only five years on average. It is a very seriously disturbing sign.

Staff Turnover

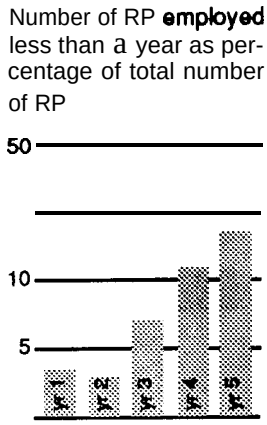


An extremely low staff turnover of 5 per cent or less, is a sign of rigidity, while very high turnover, 20 per cent or more, indicates dissatisfaction. The intermediate level indicates a dynamic situation.

External staff turnover should not be studied to the exclusion of all else. There should be good opportunities for internal staff turnover, especially in large know-how companies. An active personnel policy can enable employees to acquire new knowledge and develop within the company.

Internal staff turnover arises when employees at different entities move internally. Thus a company can have O per cent external staff turnover, but at the same time 100 per cent internal turnover if all the employees change jobs with each other, but no one has left.

Therefore we suggest that internal staff tumoverbe reported in the same way as external turnover.



The proportion of revenue people with less than one year s experience has risen greatly. It can reflect a company undergoing strong growth, but also one where there have been many defections in recent years.

Sensitivity to departures

Howsensitiveis the company's profit to departures? A relevant yardsticks how much profit would be affected if a group of ten people were to leave, or if an entire profit centre defected. Two different effects should be given, firstly if all the customers remain (i.e. what would really be a cost of delay), and secondly if half the customers were to go together with the departing employees.

Stability of the customer network

The customers are extremely important to the know-how company's stability. Is the company dependent on one or a few customers? How do customers rate the company's problem-solving? The customer network is important for stability. The key indicators for it are described in Chapter 5, Customer Capital.

Financial stability

The financial risk and required financial stability normally mean less than the personnel risk in judging the stability of a typical know-how company. Investment is normally already written off and financed by profits earned in previous years and the company usually does not have any large loans. The risk of not being able to make interest payments, i.e. what is normally associated with pure financial risk, is often insignificant.

Instead, it is important to get a grasp of the great dependence on the employees' stability and the financial strain caused by departures.

Therefore certain minimum solvency requirements must be laid down if a group of employees leave, or if the market fails so that consultants are underoccupied. If possible, it should also be stated how long it would take to restore the firm's competence to its former level.

Liquidity reserve

The liquidity reserve should be expressed as the number of months the cash will last if the company does not receive any assignments.

Solidity

Yardsticks of financial solidity indicate the company's long-term solvency. They are worked out by comparing equity with its borrowed capital or capital employed.

As a rule, the know-how company has a relatively small balance sheet total in relation to the size of its operations, with comparatively little equity and no,

or insignificant, loans. Therefore, traditional financial yardsticks of solidity are not so relevant in assessing risk.

Differences between them normally do not mean much in comparing know-how companies, except in capital-intensive ones, where indicators have the same significance as for other capital-intensive enterprises.

But other things being equal, a know-how company with high solidity / large equity should naturally have greater chances of surviving disturbances in the long run than a company with low solidity / little equity because of its extra buffer and presumably better credit potential.

Also, though it is not necessarily so, good solidity can lead to the company's net financial items making a positive contribution to the aggregate return. In that case, it is often evidence of the fact that the company has a large amount of structural capital.

Interest cover

Interest cover tells you how many times the company's cash flow will cover actual interest costs.

As external loans are often of no importance in the typical know- how company, this yardstick is of the same limited significance as other measures of solidity.

Liquidity

The know-how company's solvency in the relatively short term, can determine its chances of surviving changes of personnel and in the employment situation, and also in retaining its image. This too, is what the various liquidity yardsticks try to express.

Usually, they compare current assets, i.e. assets which it is considered can be realised quickly, and short-tern liabilities.

Comparisons within the sector

How do you know if the liquidity yardstick for a particular company is good, bad, or indifferent? Is it of real importance in assessing the risk if the company's liquidity is acceptable, or extremely good? To answer the question it is necessary to make a comparison and the comparison closest to hand is with other companies working under similar conditions, i.e. primarily companies in the same line of business.

In addition to assessing the personnel risk, it should then be possible on the basis of comparisons over time, mainly between liquidity measures for know-

how companies in the same sector, to judge whether the individual company is sufficiently solvent, i.e. if there is a financial risk that must be taken into account in assessing the overall risk.

CHAPTER VIII

The Need for Capital

The business concept and capital intensity

Is it in the meeting and interplay between big investors and companies heavy on know-how, that the really profitable business ideas are to be found?

To some extent that is certainly true. It is plain to see in property, finance and investment companies, shipping lines and so on. It is clearly possible to speak of a leverage effect= the know- how lever. It could be measured by working out how much greater the increase is in profit per employee than in capital per employee (see also below under the importance of capital intensity).

It maybe possible for investors to earn a lot of money from untapped know-how companies. It is necessary to be aware of when the leverage effect begins to diminish. There is a hazardous borderline somewhere and it is probably reached when developing financial capital is given priority overdeveloping know-how capital.

Changing the business concept

The borderline is hazardous because the business concept changes when the company starts using more capital. It changes from a small know-how intensive consultancy dependent on individuals, to a more industrialised know-how company with other structural capital and management requirements.

Even the capital-managing companies tend to become more industrialised when they grow. They acquire something of the same character as banks and insurance companies, i.e. the ability to construct safe and efficient routines and systems becomes increasingly important. The professional staff then often change to developing the business, if they do not choose to start again in a new small consultancy company of their own.

In industrialised know-how companies, a direct increase in capital intensity does not really give greater profitability, but a greater profit which can swallow up large investment in product development, marketing, administrative ability

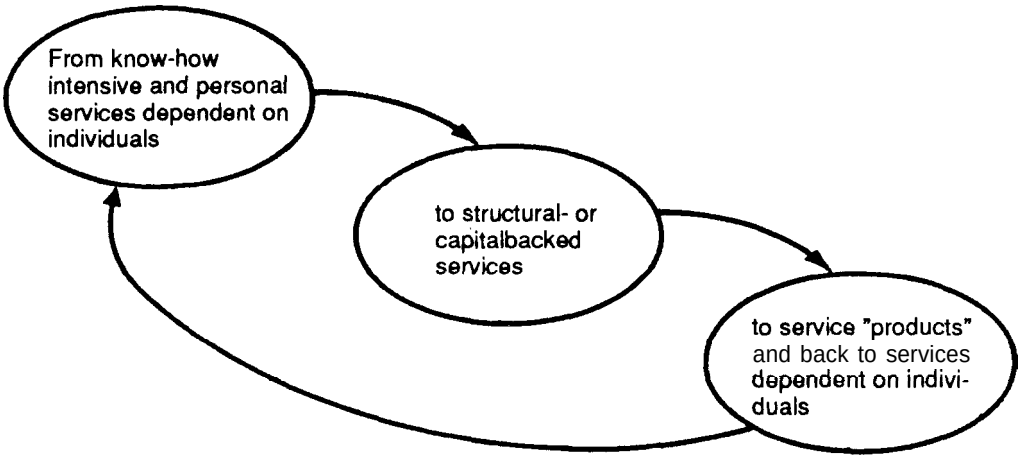
etc. The new investment is of a kind not normally entered as an asset in the balance sheet, but which is a charge on profit in the year it is made. This in turn also means that it is self-financing. The part of investment that consists of building up working capital, however, may need to be financed with additional capital. But there are now different ways of financing purely "soft" investments, if the business development projects can be placed outside the company.

The business development process

Whether the management want it or not, it is also noticeable that know-how companies tend to become increasingly capital-intensive if the profits are not taken out. Money that remains must be invested in something.

In many cases, expansion eventually leads to changes in the nature of the company. The business concept changes. It is, of course, necessary for owners and management to be aware of this type of character transformation, if the continued existence of the company is not to be jeopardised.

The Business Development Process



*A business development process could look like this:*the ideas *are developed* into know-how intensive, *personal services, eventually becoming more and more dependent on capital and less and less dependent on individuals. The circle* is *tkn completed by hiving off new ideas in the form of services dependent on individuals.*

It should be possible for a person who sees the opportunities offered by transition between the different business ideas in good time, to earn a lot of money,

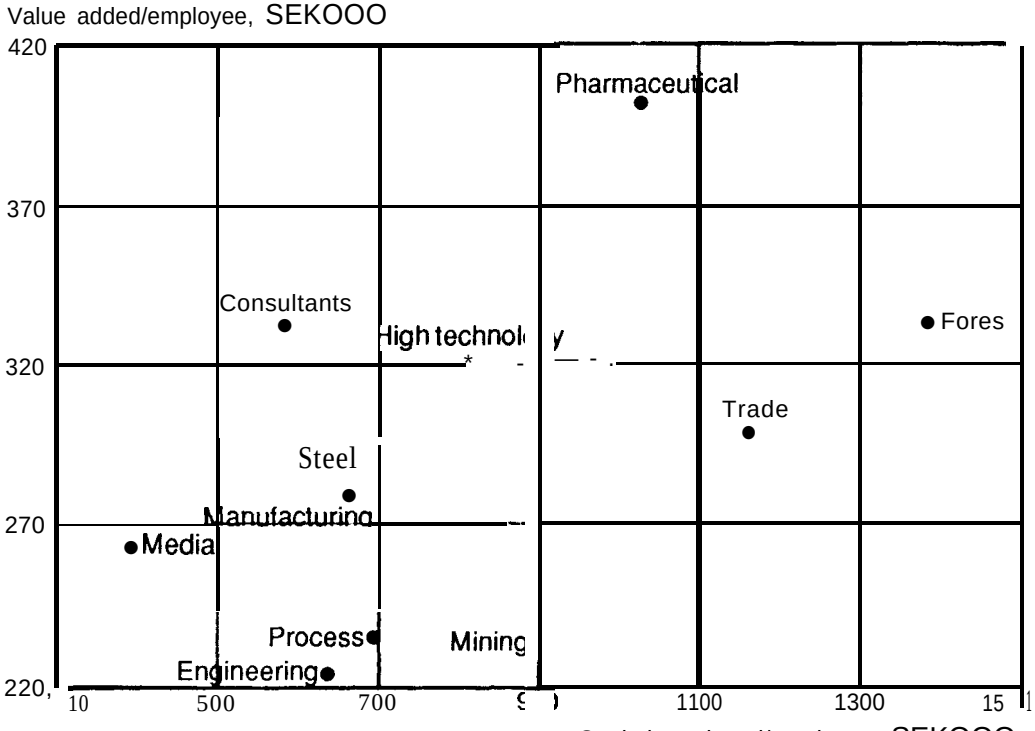
For an investor, it should be of interest to follow the trend of the key indicators profit per employee, capital employed per employee and equity per employee. The rate of change in these figures could indicate when capital can exploit know-how and when know-how can exploit capital.

The importance of capital intensity

It is perfectly clear that financial capital is of great importance to a know-how company's ability to generate added value.

The Connection Between Capital and Value Added

100 quoted companies, 1987



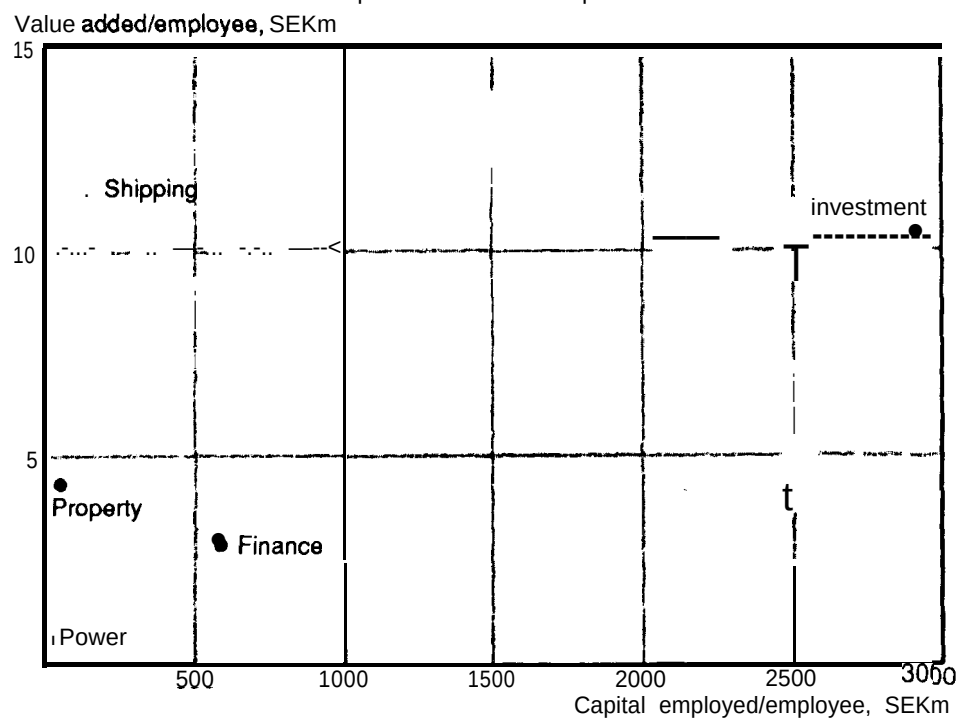
With a lot of capital, the forest *industry adds more value per employee than the engineering industry. With little capital, the value added by consultants is as great as in the forest industry.*

The importance of capital is shown in the diagram above, where we have analysed the 1987 annual reports of 100 quoted companies. One axis is the capital employed per employee, i.e. a yardstick of capital intensity, while the other axis measures value added per employee.

Thevalueadded inSweden's engineering industry was a little more thanSEK 220,000 per employee, which corresponded to the traditional picture of how much value people can add. There was just over SEK 600,000 in capital for each employee. Other manufacturing industry, however, seemed to have been able to use capital better. The value added by employees was more than SEK 270,000, with the aid of a bare SEK 700,000 of capital.

The injection of further capital can raise production considerably. The forest industry, for example managed to raise the value added by each employee to SEK 336,000 by using SEK 1.4 million per person.

The Connection Between Capital and Value Added



In capital-intensive companies, money acts as a lever giving high added value.

The know-how of the employees, however, is obviously of great importance. Look at the consultancy companies (in the diagram they are a mixture of computer consultants and other companies) who add as much value as the forest industry, but with a fraction of its capital requirements. A consultant clearly needs only SEK 580,000 to add a value of SEK 333,000.

High-tech companies use more capital, but do not add more value than the consultants. The explanation is mainly that Ericsson pulled the average down with its poor results in 1987. Otherwise, these companies would almost have reached the level of the pharmaceutical companies, which should be regarded as a mixture of know-how and manufacturing concerns.

In the pharmaceutical industry, an investment of about SEK 1 million per employee gave a value added figure of SEK 400,000.

Money becomes a lever

However, what can be achieved if a really skilful person is in charge of a great deal of money, is shown by the capital management firms to the left in the diagram. We have taken figures for the most capital-intensive companies.

In the finance companies, i.e. leasing and other companies lending capital, but not banks, each employee has about SEK 500 million at his disposal and adds a value of no less than SEK 3 million. Perhaps it is not so much in relative terms if you compare with the consultants, but in nominal terms there are no consultants who reach such a level. In the shipping industry, the employees chalk up SEK 10 million with about the same capital, and in the pure investment companies, the same level with SEK 3 billion.

All operating companies are put in the shade beside these enterprises. They land in the bottom left-hand corner of the diagram. It is no wonder the owners of capital hunt skilful mamgers and offer them fantastic salaries.

CHAPTER IX

Valuation and Analysis of Know-How Companies

Definition of "value" and "valuation"

The value of shares in a know-how company is no different to the value of shares in any other company. But there is a difference between investing in an "ordinary" company and a know-how firm. The risk is not greater, but cliff erent."

Before talking about valuation of know-how companies, it is necessary to be clear about who the valuation is for.

There is an essential difference in making an assessment if you do so as a potential minority shareholder in a nonquoted company, as a potential shareholder in a quoted company, or as purchaser of the entire company.

When we use the words "value" or "valuation" in this book, we mean the value of, or valuation of, the shares in a quoted company for a potential investor **thinking** of buying a minority holding.

The value of a know-how company

In our view, the value of such shares is no different to the value of shares in any other company.

The potential investor must always choose what to invest in, Volvo or Indivo? What will guide him orherin making this choice is the value of future profits and dividends and their growth. For an investor guided solely by requirements about the return on his investment, the only thing to go by must be: "Which company will give me the greater return in future, Volvo or Indevo?"

All our usual valuation models - assessing yield, PE, net worth, technical analysis etc. - are therefore as valid for the quoted know- how company as for all other quoted companies.

The risk involved in a know-how company

There is one difference, however. The risk in investing in a know- how company is certainly not greater, but it is not the same as the risk involved in a normal company with a high net worth in capital terms.

The risk to the investor who contributes only capital to a know- how company is intimately connected with the size of the company's structural capital. We gave examples of key indicators for assessing structural capital in Chapters 4 and 5 and for judging stability in Chapter 7.

The problem faced by investors is thus to try to judge the risk of losing their money if they invest in Indevo shares compared to Volvo shares.

The Volvo risk is relatively well known and thoroughly analysed but what about the Indevo risk? There is hardly a financial analyst today who has any idea about the variables essential in assessing that risk.

The problem is new and even though Indevo made a serious attempt in its 1988 annual report to account for its activity in a proper manner, the reader cannot put it into context. There are no comparative figures, no sector averages, no history.

Different risk

Thus in our opinion, it is primarily in judging the risk involved that know-how companies differ from others. The risk is different, but should not be greater. There is no plausible reason why it should be more difficult for the know-how company to attract capital than for others to do so.

The problem, however, is that the risk is in fact greater today. This maybe simply because it is unknown and unquantifiable, as the relevant key indicators are not given. And even if they were, they are not yet understood by most readers.

It will take time before investors have learnt to use the new figures, and time before the companies have learnt to work them out and present them properly.

In this chapter, therefore, we give some examples of analyses made with the aid of the new indicators. In appendices at the end of the book, we also give an account of the analyses made by the staff of Aff rsv rlden and Ledarskap of companies in three know-how fields: computer consultants, finance companies and advertising agencies.

Key financial indicators give no guidance

The annual report is normally a good guide in judging profit potential and risk. The historical figures provide a basis for assessing the future. Unfortunately, key

financial indicators alone, give little guidance.

In a business-economics essay written in the spring term of 1988, three students studied and analysed the financial development of 28, hived off, technology-based companies in the town of **Link ping, using the 18 key financial indicators given in the annual report of the Central Bureau of Statistics. The material was subjected to statistical and economic analysis, using Link ping University's statistics software. The conclusion drawn by the students was that they could not draw any conclusion at all. It was not possible to detect any connection between the indicators and the companies' development.**

The value of a revenue person

Normally, net worth acts as a kind of control figure in valuing a company. It is equity capital adjusted for undisclosed reserves. But this cannot be used in the know-how company as it is people and not capital that generate profit. A more interesting control figure is therefore obtained by valuing and assessing the revenue-creating people.

As we stated in Chapter VI, it is possible to work out an expected value added per revenue person, taking into account all the costs that such a person incurs.

The value of a revenue person is then quite simply the discounted, expected profit over a given period.

In our experience, a revenue person's expected long-term profit cannot exceed a certain level. This maximum varies between different business concepts and sectors and probably also between countries. However, there seem to be certain reasonable levels that are difficult to go beyond.

In 1989 monetary terms, the pre-tax, persistent, maximum profit per revenue person seemed to be around SEK 200,000 — 250,000. There does not appear to be any quoted know-how company in the world that persistently exceeds that level. There are conceivably private companies that do not publish their profit figures.

This applies to companies with the general business concept "consultancy". (See Chapter II). Capital-intensive know-how companies achievea much higher profit per revenue person. (See Chapter VIII.)

More normal average levels that can reasonably be expected are SEK 50,000 — **100,OOO.**

In calculating the figure, expected profit over time is discounted. The discount factor can be put at 6-8% after tax. This constitutes a real interest of some 3% and a risk premium of about 3-5%.

Why this low factor? We assume that a revenue person should always be able to compensate for inflation. Neither does a revenue person automatically give

rise to greater capital requirements because of inflation. Therefore we do not adjust the discount factor for inflation.

With an estimated tax rate of 35%, the yield required before taxis thus 9.2-12.3%

Current value

If he or she is professionally active for 30 years and the expected profit SEK 50,000 perannum and person, the value of a company per revenue person is SEK 394,000-514,000 at a discount of 9.2% and 12.3% respectively.

Expected current value per revenue person at a 10% discount and an expected professionally active life of 30 years, is:

Profit SEK	**Current value SEK 30 years**
50,000	470,000
100,000	940,000
150,000	1,400,000
200,000	1,900,000

The aim of these calculations is not to put a price tag on people. The figures should be seen as a plausibility y check in company takeovers or stock market valuation.

Why take a professionally active life of 30 years? There is good reason to maintain that the number of years used should not exceed the revenue people's expected period of employment, for instance. And that is obtained by using the relevant staff-turnover figure.

Against this view it can be maintained that every revenue person who leaves should be replaced by a new one who can generate the same amount of profit. If the cost of reinvestment, i.e. taking on new staff, is charged directly in the profit and loss account, our method of calculation should be used. After all, corresponding methods are used for machines and inventary, as well as property. Of course, the prior condition is that the company does not close down, but continues its operations.

Profit requirements and distribution

Assume that average invoicing by a revenue person in a consultancy company is SEK 700,000. Office, depreciation, secretarial and administrative costs are SEK 300,000 per person. His or her added value is thus SEK 400,000.

Of this amount, each person should have a certain sum or education etc. (i.e. "maintenance and repair" of the know-how capital), say SEK 20,000.

That leaves SEK 380,000. Employees in the industry usually receive about 65% - 75% of their value added in salary plus social security charges. In this case SEK 280,000.

That leaves SEK 100,000. The financial capital should receive its share. Say the required return on equit y including a risk premium, is 12% after 35% actual tax, i.e. 18.5% before tax. Say that equity amounts to SEK 200,000 per revenue person. The finance capital will thus take a further SEK 37,000. In addition, there maybe interest costs and revenue. These should also be deducted, or added. In this example we assume that net interest is nil.

There remains SEK 63,000. This could be called kn'ow-how capital's excess profit. How should it be distributed?

Naturally, it is a sensitive question and must be decided from case to case. There is no given key, but in our opinion this method of calculation gives all the parties concerned abetter understanding of the factors that should be taken into account before salary levels are set and profit distributed.

An important question is investment. Should part of the SEK 63,000 be reinvested in R&D to increase the know-how capital? The answer is probably yes.

Say that the management and revenue people agree to set aside SEK 30,000 for R&D and educational investment per person. This is entered directly as a cost in the profit and loss account and reduces the disclosed profit.

We are left with SEK 33,000. Assume that it is divided 50/50. The revenue persons receive 16,500 as their share of the profit and finance capital a further 16,500. The financier/owner thus receives a total of 37,000 + 16,500= SEK 53,500.

But SEK 30,000 has been allocated to R&D. The part of R&D that is pure investment, should be added back into the profit in making the calculation.

Assume the management concludes that SEK 20,000 is pure investment in structural capital which will provide greater income in the future. If after analysing the risks, this profit level is considered to be stable in the years immediately ahead, the value of an average revenue person can be put at SEK 53,500 + 20,000= SEK 73,500. This value is seen from the point of view of the external owner, the passive owner of capital.

Examples of analyses

Key indicators tell you nothing if there is nothing to compare them with. We must create a built-in frame of reference based on experience to help us judge the figures.

With old established indicators such as profitability, everyone knows 3% is poor, while 20% is very good. Most analysts are also aware that a profit margin (profit as a percentage of sales) of 10% in industry is extremely good, while 2% in a trading company is reasonable. Another frequently used rule of thumb is that an industrial company should have an equity ratio of around 30%.

But then it starts getting difficult. How many know, for example, that banks have an equity ratio of only 5% and that 8% is considered a good figure? So what should one say about a value added of SEK 400,000 per employee? Is it high or low? Good or bad? We must create this frame of reference for ourselves before the new Konrad figures can tell us anything.

First team, second team and third team

For this reason, the magazines Aff rsv rlden and Ledarskap have added the new key indicators recommended by the Konrad Group, to their analyses of quoted know-how companies, for the past four years. The indicators they have used most are value added per employee, profit per employee and a share-related yardstick of their own: market value per employee.

In September 1988, Aff rsv rlden used Konrad indicators to analyse the quoted computer consultancy companies. One method was to place the consultants in a four-field diagram with two axes, one showing value added per employee, the other profit margin.

The idea was to measure two dimensions at the same time. Value added per employee gauges the efficiency of the business and the profit margin what is over at the end of the day. Thus profit margin was used instead of profitability.

The result was that the magazine could divide the market into a first team, second team and third team, the first one having above average efficiency and profit. Easily topping the first-team list was Data Logic, with Enea Data and Enator in second place together with IBS.

Data Logic stood out as the aristocrat among the companies on a comparison of educational levels, experience and age, i.e. the consultants' know-how capital. Interestingly enough, there was a connection between high efficiency and high know-how capital. The analysis also showed that Cap Gemini had exceptionally young consultants with a lower level of education, which led the magazine to warn that there could be problems in the merger with Data Logic. Which there

were. (Cap Gemini bought Data Logic in August 1988.) At the same time it could also be observed that Enator appeared as a fairly average company in the sector, as opposed to its image of a high-flier.

The new indicators thus gave more information, which in this case could modify the official picture of the companies in the industry. (Seethe appendices in Chapter 12.)

Aff rsv rlden and Ledarskap have also used the same methods to analyse the advertising agencies and management consultants, as well as the capital-intensive stockbroking sector.

Market valuation of know-how companies

It is an old truth among valuers that a company has no value until it is sold. Shares in companies are bought and sold on the floor of the stock exchange.

There are generally accepted models for valuing shares, based on PE ratios, profitability, dividend yield and net worth. If we study the Swedish know-how companies listed in Stockholm, their key figures in fact present a rather confusing picture. How does the market really value these companies' know-how?

Some examples on the next page taken from Aff rsv rlden's Investment Indicator in June 1989, show that the profitability of know-how companies is considerably greater than the market average. The return on equity is at extremely high levels. As a rule, it is over rather than under 20%, something not found in other sectors. Comparison can be made, for example, with the engineering companies, which may well be described as the core group in the Swedish market. Average profitability in the industry is 13%. (The figure is a forecast made in June 1989 for the 1989 full year.)

Investors were actually satisfied with an even lower figure in June, as they valued the capital of the engineering companies at 167% It is the same as saying that they were content with a return of about 7% after tax. (12/1.67).

The average market return was lower still. On average, investors valued the companies quoted at 138%, with an earning capacity of only 8%, i.e. they required no more than just over 5% on their invested capital. The figure is so low because there are so many property companies on the Swedish market, and their disclosed yield is extremely low.

The greater part of their profit consists of an unseen appreciation in the value of undisclosed reserves.

	P/E ratio	Price / net worth	Profit ability	Dividend yield
Indevo (consultancy)	12	1380%	114%	0,9%
K lldata (computer)	13	303%	23%	1,3%
Industn-Matematik	19	402%	21%	1,1%
BNL (information)	11	362%	33%	3,0%
AwaPatent (consultancy)	12	274%	22%	3,8%
Programator (computer)	13	489%	39%	3,5%
FFNS (architects)	29	93%	3%	0,9%
Viak (consultancy)	33	204%	6%	0,2%
Total market	17	138%	8%	2,2%
Property companies	43	102%	2%	0,9%
Engineering industry	13	167%	13%	2,8%

Value hidden reserves

The net worth of property companies consists largely of properties with hidden reserves. These reserves and changes in them are seldom shown in their accounts, however. Instead, the reserves are described in comparative detail in a footnote in the annual report. The visible return is only 2% in property companies, as the appreciation in value of property holdings is not included.

The market values financial capital according to the return it provides. Capital giving a high return is valued higher. It is therefore perfectly logical for the high visible profitability y of know-how companies to result in their capital being valued much more highly by the market, i.e. their shares are valued far above their net worth.

Thus in August 1987, investors were prepared to pay nearly SEK 14 for each SEK 1 of the consultancy company Indevo's capital. But then this capital gave a return of no less than 1141%0. The figure for engineering companies in the same year was 12%.

Invisible balance sheets

If you study the annual reports of quoted know-how companies, you will find that they do not have so much capital. They obviously have "substance" that is not evident from the reports. Investors in the market have understood that there are hidden balance sheets which yield the high visible profits. They work

backwards from the yields to determine the value of the capital, i.e. the shares.

What know-how companies with a very high net worth can look like, can be seen from VIAK and FFNS. They own many properties. In VIAK, property makes up two-thirds of the balance sheet.

Despite the fact that they are technical consultants and architects respectively, they have a great deal of capital and are therefore valued more like property companies than know-how companies.

In Aff rsv rlden's Investment Indicator, net worth is adjusted for the hidden reserve in property, even if it is not entered in the balance sheet.

It is now perfectly natural for the market to require annual information about this undisclosed reserve and equally natural for VIAK and FFNS to produce it.

But if you ask what the hidden reserve is in these companies' know- how capital, you get no answer. Nevertheless, it is obvious that there is a hidden balance sheet here too. Not property, but know- how.

The stock market's dilemma

It is not possible today to make similar adjustments for know-how companies. The analysts fumble around blindly, and therefore so does the stock market.

If normal fundamental methods based on financial capital are used to value the know-how companies on the market, their key ratios appear to be extreme. Just as extreme as those of the property companies if their profit and loss accounts and balance sheets were not adjusted for inflation.

And extreme key figures are usually warning signals to investors. In the long run, no company can carry on making excessive profits, something the players in the market have long been aware of.

Based on figures like those above, only people who tend to take risks should buy shares in know-how companies. The PE ratios certainly seem fairly harmless, but the extremely high profitability figures appear risky. This is also evident from the fact that relatively few of the major institutional investors in the market have dared to put funds into know-how companies.

Is it really the case that shares in know-how companies are not suitable for big investors? Or does the market know something that they do not?

The example of EDEBE

EDEBE is one of the companies including know-how capital in its 1988 annual report. Several of the Konrad indicators are given in the section entitled "EDEBE's employees - competent associates". However, there are no figures showing value added, the number of years in the profession, educational costs

and the proportion of revenue people. Moreover, some of the figures are only current ones without any historical comparison.

But EDEBE has applied the method to both 1987 and 1988 and some comparisons can be made. For instance, the average number of employees fell by 26, or 7.5%. It can then be questioned whether the information given on staff turnover, which was said to have changed from 9% to 10.2%, is really correct. At the same time, the long-term trend of the company's staff turnover, shows an increase from 4% in 1984 to over 10% in 1988. The total level, however, is not particularly high for a computer company.

But a comparison of age structure and employment period between 1987 and 1988, shows considerable "ageing".

The age structure at EDEBE was:

Age	1988	1987
Over 40	47%	41%
30-40	33%	36%
Under 30	20%	23%

The length of employment was:

No. of years	1988	1987
More than 10	51%	39%
5-1o	18%	18%
3-5	14%	13%
1-3	12%	23%
Less than 1	5%	7%

What reflections can be made and conclusions drawn from the "ageing" tendency and reduction in the average number of employees? There may well be natural explanations, but EDEBE leaves it to the reader to speculate about the causes.

The attentive reader may note that the voting strength of the management's shareholdings fell from 17.8% in 1987 to 12.8% in 1988. One may well wonder whether key people defected, in which case there should have been a comment on it.

Schedule for valuing quoted knom-how companies

1. ANALYSIS OF BUSINESS OPERATIONS

Fields	Effect on valuation		
	Negative	Neutral	Positive
The Management			
The Board			
The Managing Director			
The business concept, in general			
Personal know-how capital			
Structural capital			
Investment / structure			
Personnel			
Agreements with key people			
Problem-solving ability / the product			
Market position			
Customer structure			
Organic growth			
R&D			
Stability			
The personnel			
Sensitivity to departures			
Business development opportunities			
Capital intensity			
Other			

2 FINANCIAL ANALYSIS

Results:	1987	1988	1989
Invoiced sales			
Operating profit before depreciation			
Operating profit after depreciation			
Financial revenue			
Financial costs			
Profits after financial items			
Investment booked as cost			
Return on equity			
Profit margin			
Profit/employee			
Value added			
Value added/employee			
Productivity			
Number of employees			
Personnel costs			
Value added level			
Salary intensity			
Investment			
Financial stability	1987	1988	1989
Solidity			
Interest cover			
Liquidity			
Adjusted equity			
Adjusted equity/employee			

3 OTHER KEY INDICATORS FOR QUOTED COMPANIES

The key figures used in Aff **rsvärlden's**
Investment Indicator, with certain additions

Value added / employee
Profit / employee
Profit / employee, three years' growth
Adjusted equity / employee
Adjusted equity / employee, three years' growth
Market value / employee
Number of employees

CHAPTER X

The Quoted Know-How Companies' 1988 Annual Reports

Most know-how companies quoted on any of the stock exchange lists, used at least some of the key indicators we recommend in their 1988 reports.

In an essay presented at Uppsala University in the autumn of 1988, Marie-Louise S derlund, Ulrica Pettersson and Magdalena Lidhall examine how 22 quoted know-how companies used the yardsticks we suggest. The study was updated in the spring of 1989 and it is the results of this later version that are given in this chapter.

Know-how capital

A verbal description of the company's business concept is given in 19 of the 22 annual reports. The educational level of the staff is included by 13 companies, although in one case only for the consultants. Two companies simply state how large a proportion of the staff have an academic education, while the most detailed report describes different types of education. Four reports give the total number of years in the profession, one of them only for consultants. The average number of years in the profession is given in two cases and the proportion of consultants in nine.

Interest in the revenue-person-, or RP-related, yardsticks is low. Three companies give the proportion of RP's and only one gives their educational level, plus their total and average number of years in the profession.

A verbal description of recruitment potential is given in six reports, none of them in particular detail. R&D is given by nine companies and investment in education by six. Two firms included a section on agreements with key people. One of them explains a consortium agreement signed by leading persons in the

company, while the other states that it has no agreements with key persons. No company has a full description of its structural capital. Some of them have noted the concept, however, and give a brief account.

The return on know-how capital

The most common yardstick measuring return is the profit margin, i.e. profits in relation to turnover or value added. Profit/turnover is given by 18 companies and profit /value-added by three. Comparability is reduced, however, by the fact that the companies use different ways of calculating profit. Value added per employee and profit per employee are given by three and five companies respectively.

Value added per revenue person is given by three companies and profit per **revenue** person by two.

The stability of the business

A yardstick of the business's stability, is the age distribution of the employees. It is given either diagrammatically or in table form by ten companies, while nine give the average age. Nine companies give the number of years employed and the proportion of new employees, while one of them provides separate information on its revenue people. Eleven companies give the proportion of veterans, two of them only among the RP.

Staff turnover is shown by 11 companies, the proportion of large customers by four and of repeat purchases by three. Organic growth is given in four of the annual reports.

Financial stability

The equity ratio is the most common key indicator of financial stability and is given by all the companies except one, which for special reasons published a report containing only information required by law in that particular year. Interest cover is given in nine reports and liquidity in 11.

The best "Konrad" reports

Of the 22 reports examined, five stand out from the others, those of ngpannef reningen, Indevo, BNL, Finansrutin and WM-Data.

Of these five, WM-Data gives the best description of its staff situation with the aid of Konrad indicators and makes a good attempt to account for its structural capital with a description of its corporate culture. The text is given among the appendices in Chapter 12.

The best thing about WM-Data's annual report is that the management try to make an analysis using the key figures. Otherwise, there is no analysis in most of the reports, even the best of them. This is natural, as the key indicators are so new and there are no comparisons with previous years and between companies.

The use of Konrad indicators in some annual reports is shown in the Appendices, Chapter 12, while Sven-Erik Johansson praises Indevo's annual report in Chapter 11.

It is pleasing that so many of the companies studied consider it important to describe their staff with the aid of key indicators. The reports are still finding their way, however. Many companies give key figures, but make no analysis, which leaves the reader with unanswered questions. Naturally, it is difficult to make analyses based on indicators that have not been used before and when there are no comparisons with other years or companies.

This is likely to change. As more and more firms use the indicators, analysis will become easier.

A conclusion that could be drawn from this study is that it is easiest for those companies with a large proportion of consultancy services and a smaller proportion of hardware on offer, to accept key indicators like these.

Annual reports examined

BNL Information AB 1988
Databolin AB 1988
DAtema AB 1988
Edebe Promotion AB 1988
FFNS Gruppen AB 1988
Finansrutin DATa AB 1988
IDK Data AB 1987/88
Indevo AB 1987/88
Industri-Matematik 1987/88
International Business System (IBS) AB 1988
AB Jacobson& Widmark (J&W) 1988
Källdata AB 1988
Memory DAta AB 1988
Modulföretagen Data AB 988
Måldata AB 1988
Opiab-Foretagen AB 1988
AB Programatro 1988

Pronator AB 1988
Viak AB 1988
WM-data Nordic AB 1988
AB Ångpanneföreningen 1988

Results of the study

The table shows how many of the 22 companies examined used the key indicators given below, in their 1988 annual reports.

1. KNOW-HOW CAPITAL

a) Verbal description of business concept	19
b) Educational level - all employees or only RP	14
c) Number of years in the profession - total, all employees	5
d) Number of years in the profession - average, all employees	3
e) Proportion of RP or consultants	12
f) Recruitment potential	6
average number of years in profession, RP	0
relative salary level	0
research and development	0
verbal description	6
g) Research and development	9
h) Education	6
i) Special agreements with key people	2
j) Structural capital	0

2. THE RETURN ON KNOW-HOW CAPITAL

a) Value added per employee
b) Value added per RP
c) Profit per employee
d) Profit per RP
e) Profit margin
profit/turnover profit/value added

3. THE STABILITY OF THE BUSINESS

a) **Proportion of big customers**
b) **Proportion of repeat purchases**
c) **Organic growth**
d) **Average age - all employees**
e) **Number of years employed**
f) **Proportion of veterans**
g) **proportion of new employees**
h) Staff turnover
i) Age distribution

4. FINANCIAL STABILITY

a) Solidity
b) Interest cover
c) Liquidity

CHAPTER XII

The Know-How Company's Value

by Sven-Erik Johansson

What is the value of a company? ,

The generation of accountants who started their studies in the 1950's had to learn the basic rules of valuing companies. With the aid of the scanty literature available, mainly a slim publication by Oskar Sill n, the doyen among business economists, teachers at the Stockholm School of Economics explained to us that company valuation was a matter of assessing net worth and adding a goodwill figure.

When we had progressed a little in our careers, we learnt from new authorities that the company's value was determined on an earnings basis.

The foundations of this were the company's future, sustained profit and the percentage discount chosen in capitalizing that profit att current value. It was emphasized that net worth should also be worked out, to compare with earnings figure. If the difference between the two was great, there was reason for a word of warning. It was therefore extremely important for the valuation to include a thorough analysis giving as complete and fair a description as possible of the company's resources, earning ability, strengths and weaknesses, etc.

The old rule five times the annual profit

When, as professional auditors, we applied what we had learnt in practice and presented a corporate valuation report, it often turned out that the people commissioning it were prepared to pay a higher price for the company than the one we had arrived at. But there was a theoretical explanation to support this. In one of the few academic studies on the subject, Ulf Lundman showed that a company's value was determined in the negotiations between buyer and seller.

Even if the differences between the auditors' valuation and the value arrived at by buyer and seller were sometimes considerable, more often than not the price stayed close to the auditors' figure. And it was seldom that the value of a well-run and stable company with good opportunities for development, exceeded 5 times the annual profit after tax.

In the 1980's, we gradually had reason to wonder whether our traditional methods and rules of thumb had lost touch with reality. A large number of the companies on the OTC list at the Stock Exchange have been given a market value infinitely higher than that obtained by conventional methods. But this applies not only to quoted companies. Many that are not quoted have been sold for prices far above what we have been accustomed to.

To return to our old methods, when we make a comparison with net worth, a very high goodwill value often arises. This is certainly true of know-how intensive companies.

Sven-Erik Johansson, an authorised public accountant with the Tnnervik Group, draws a parallel between development of new norms for reporting know-how companies and development of the BAS chart of mounts m the 1970's.

Invisible asset

There are naturally many factors explaining this development. One is the great interest in the stock market and a volume of demand that could not be dreamt of only about a decade ago. The market has also adapted itself to and accepted a dividend yield as low as two percent. There is also an expectation of continued growth in an economy with strong, inflationary features.

But it is probably also true that high values area typical feature of the modem know-how society. In many cases, the large differences between total company value and the value of visible net assets would be substantially reduced if we had a technique of reporting and valuing the company's "soft" resources. With present methods, the people in the company and the know-how they represent are an invisible asset which accounting techniques cannot manage to describe and value.

Indevo's "organisational value"

Let me illustrate this with one of our well-known know-how companies, Indevo. According to its annual report for 1987/88, it made a profit of some SEK 14m. If that is considered to be its sustained profit, a discount factor of 5 would give a yield of SEK 70m.

If you could count on the future, sustained profit being doubled, the yield would be SEK 140m. According to the balance sheet in the annual report, the company's adjusted equity was SEK 52m. Adjusting for surplus values in property etc., it could perhaps be possible to increase equity capital bya few tens of millions.

These figures should be compared with Indevo's total market value of about SEK 244m, a few months after year-end. It is reasonable to say that a value has been put on the company's soft resources, called "organisational value" in the Indevo annual report, of SEK 100-150m.

Part of this value has arisen from the company investing in building up its organisation, in new fields of business, in developing its internal training, market and image-forming efforts etc., all of which have a long-term value. The costs have been charged to each year's profit and loss account and have thus been self-financing. But part of the organisational value results from the market's assessment of the company's future profit potential. In all probability, those buying shares also have great confidence in the management's ability.

New concepts and methods

One of the great merits of its initial publication "The New Annual Report" and the present volume, is that the Konrad Group has taken the first steps towards creating concepts and methods enabling us to describe, analyse and assess the know-how **company of the 1990's in a much** more correct manner than hitherto, regardless of whether it is an Indevo or some other less well-known company.

But even if the Group has performed highly valuable pioneer work, there is room for comment and discussion on a number of areas in the book.

What are know-how companies?

The expression "the know-how company" has perhaps become known primarily through Karl Erik Sveiby's book of that name, and in various connections there is now discussion over what it should include.

In The New Annual Report and other publications and articles, the expression can cover both state authorities and the research departments of major companies, but the main focus is on consultancy of different kinds.

This orientation is perhaps understandable. In consultancy, know- how is so obviously concentrated in individuals and sold mainly in the form of charged time. This means it is not so difficult to record and measure.

Society and the business world have already reached the stage, however, where know-how and not financial capital or physical production resources, is the most important resource for a large proportion of all companies and organisations. With that in mind, the concept of the know-how company must have a wider meaning than it is being given.

The New Annual Report also says that the know-how company's output is

"non-standardised, creative and complex problem-solving, highly dependent on the individual". It is debatable, however, whether it is any longer justified to say that the know-how company's output must be non-standardised and creative.

If the growth-oriented know-how companies of the 1990's are to attain a good financial position, it is necessary inmost cases to standardise output, even if it is at a high level. I would define the term "creative" as the ability to see new possibilities and combinations and be able to develop new solutions to problems. But if production and production resources are built up and developed to a suitable level, there is so much information on different conceivable models and solutions that it is mostly a question of being able to utilise that information. The degree of creativity in the true sense, is thus limited.

The annual report and internal reporting

The arguments in favour of a new standard of annual reporting for know-how companies, are strong. But it is not simply a question of their not knowing how to present their activity so that outside shareholders can get answers to their questions. The problem lies deeper. There is no, or only a poor, accounting technique for internal reporting to identify and handle the relevant information. To a large extent, this is because there are no developed and generally accepted terminology and conceptual tools to show what resources and investments, revenue and costs are in a know-how company.

Extensive development

We are faced with extensive and highly urgent development work. I would like to draw an analogy with the work of developing the BAS chart of accounts. When a small group of us started at the beginning of the 1970's, we did intensive, indepth work on the conceptual tools. One of the reasons for starting to create a uniform chart of accounts was that annual reports and comparative figures presented at sector level, were of such varying quality. To deal with the matter, it was necessary to reach a situation in which companies' internal accounting followed the same pattern and used the same concepts.

Combined with other developments in this field, the BAS chart of accounts has led to a high level of external reporting, even by international standards.

The business concept, growth and management capital

Rune Andersson of Trelleborg, Mats Gabrielsson of Datatronic, Christer Jacobsson of Pronatorand Ulf Hubendick of Indevo can be taken as examples of leaders and representatives of companies built up and developed in the 1980's. Even if the companies have a longer history than that, their major success came in that period. How much has the business leader meant?

Most external judges would probably tend to give them a large part of the credit for the financial success of their enterprises, which has given shareholders who invested at an early stage a high return on their capital.

How much of Trelleborg's, Datatronic's, Pronator's and Indevo's value depends on Rune Andersson, Mats Gabrielsson, Christer Jacobsson and Ulf Hubendick?

How much is the business leader worth?

How much of the company's value and its growth should be ascribed to the business leader? How much of its management capital did Datatronic lose when Mats Gabrielsson sold his shares and withdrew from the company? How much know-how value would Trelleborg lose if Rune Andersson departed? Or Indevo if Ulf Hubendick gets tired of leading consultants?

As in many other companies large and small that have undergone dynamic change in the 1980's, the original business concept has been developed and broadened. They have had a business idea and ideas about how to develop business in different fields.

Within the framework of the broad business concept, different opportunities are seen and taken, with the management playing a central and often decisive part in the process. The company's development is to a great extent determined by the management's ability and interest in going for, and handling, growth.

In some companies it is the leader more or less alone who is the driving force and controls growth — both initiating and leading the process. In others, members of the management work as a team and bring about change and growth together. The significance to be attached to the management and the management organisation is the most difficult to grasp and value in writing analyses and valuing a know-how company.

Describing the business concept

Indevo's 1987/88 annual report contains a number of pages which describe the company's business concept and the philosophy it works on, in an exemplary manner. At least, the description gives a feeling that the process of development it is sought to apply among the customers, characterizes the company itself. Indevo's outlook and business philosophy led to remarkable growth during a

period of five years, from an annual turnover of less than SEK 50m to some 230m in 1987/88, a great broadening of operations with a number of specialist companies, the beginnings of internationalisation and OTC listing.

Under the heading "Investment in know-how capital", a description is given of how Indevo reasons and acts to make it an attractive company to skilled employees. "The employees are the company's greatest asset. For such a pronounced know-how company as Indevo, that is perfectly obvious. The know-how and professional skill of our employees is literally what we live off."

In itself, there is nothing special about this statement in Indevo's annual report. All know-how companies with any respect should make the same statement and try to create conditions for living up to their ambitions in practice.

So far, Indevo's record indicates that the management has had both the will and the ability to create the practical conditions that lead skilled persons to the company and make them want to help develop it.

It is also interesting to note that Indevo, a pronounced consultancy organisation, puts greater emphasis on the company with all its employees, than on the individual specialists.

"Of course, it is just as important for Indevo to keep the good people we already have, as to employ the right persons. That applies to all the staff. The idea of the revenue person is therefore of no interest to us. Everyone works in his or her field to create revenue for the company, regardless of whether it is as a management consultant, in recruitment, advertising or finance."

The company's structural capital

It is the company as such and not the individual consultants, which is most important. The annual report also points out that the structural capital Indevo has built up in the form of good relations with clients, makes the company's name and everything it stands for a guarantee of continued, healthy existence.

By concentrating on building up the company, in which the question of name and the image surrounding it is an essential factor, and on growth, it becomes less vulnerable to the great risk all know-how companies live with, the loss of important employees. The movement towards total company thinking and reduced dependence on the individual employees that I have let Indevo illustrate, should be something all know-how companies aim at if they want to achieve a long-term, high, value.

Management capital

The all-important role in making sure that this comes about and then continues, is played by the management, whether one person or a team. In Indevo's case

it can perhaps be assumed that there is teamwork between the Managing Director, Ulf HUbendick, the working Chairman of the Board, Bertil Sj gren, and perhaps a few other senior executives, combined with considerable shareholdings of their own.

I consider it wrong to lump this management resource together with other know-how capital. It is a particular form of capital that should be distinguished from the company's structural and other human capital.

Know-how capital = organisational value

In assessing the value of a know-how company, it is necessary to use an overall view. Apart from its hard (reported) assets, it has a total know-how capital that makes it possible to attain a long- term profit that is higher than the normal return on the reported shareholders' equity. As I see it, this know-how capital consists of three parts:

a) Structural capital
b) Human capital
c) Management capital

Returning to the example of Indevo, the term organisational value could be used to sum up these soft assets, instead of know-how capital.

I shall use the following schedule for an analytical profit and loss account and balance sheet, to illustrate the know-how company in its entirety.

Working out and assessing, future sustained profit, lies at the heart of the valuation, as it always has done. But in a know-how company, the total know-how capital is the decisive factor. It is necessary to go through and critically analyse and appraise the three components: structural, human and management capital.

The know-how company's profit and loss account

Invoiced sales		x
Operating costs before salary costs		x
Salaries		x
Operating profit before investment in the organisation		x
Investment booked as cost		
Structural capital	x	
Human capital	x	
Management capital	x	x
Operating profit before depreciation of plant		'x
Depreciation of plant		x
Operating profit after depreciation of plant		x
Net financial items		
Profit before appropriations and tax		x
Appropriations		x
Tax		x
Net profit		x

The know-how company's balance sheet

HARD ASSETS	
1. Working capital	x
2. Fixed capital	x
3. Financial capital	x
Reported value	x
ORGANISATIONAL VALUE	
Know-how capital:	
1. Structural capital	
Business **concept**	
Company name and market identity	
Business fields and products	
Customers	
Network of contacts	
Organisational structure	
Administration and accounting systems	
Production routines	Ⓧ
2. Human capital	
Key people	
Other personnel	Ⓧ
3. Management capital	Ⓧ
Total value*)	x

FINANCING	
1. Borrowed capital	x
2. Shareholders' equity	
Untaxed reserves	x
Taxed capital	x
Reported value	x
3. Shareholders' equity	
The value of the know-how capital	⊗
Total value	x

*) Not including possible surplus values in hard assets.

Some final comments

Perhaps the basic ideas about company valuation we learnt at an early stage in our professional careers as company auditors, still hold true. The ideas of know-how capital, organisation value and goodwill should perhaps be seen as synonymous.

It is a matter of seeing the company in its entirety and being able to make a detailed and true analysis, giving as good a foundation as possible for assessing sustained profit. What is new is the significance attached to know-how capital in the analysis.

CHAPTER XII

Appendices

WM data's annual report

WM-data's description of its staff in the 1989 annual report

At present, six hundred employees devote their lives to WM-data. Behind them are about a thousand members of their families, they too important people in the WM-data community.

Together, they constitute a strong corporate culture with high production capability, stability and experience.

It is of fundamental importance in WM-data to develop a good corporate culture leading to contented staff, satisfied customers and high, sustained profitability. The idea is for WM-data to look after its employees better than any other consultancy in the business.

The whole person and quality of life

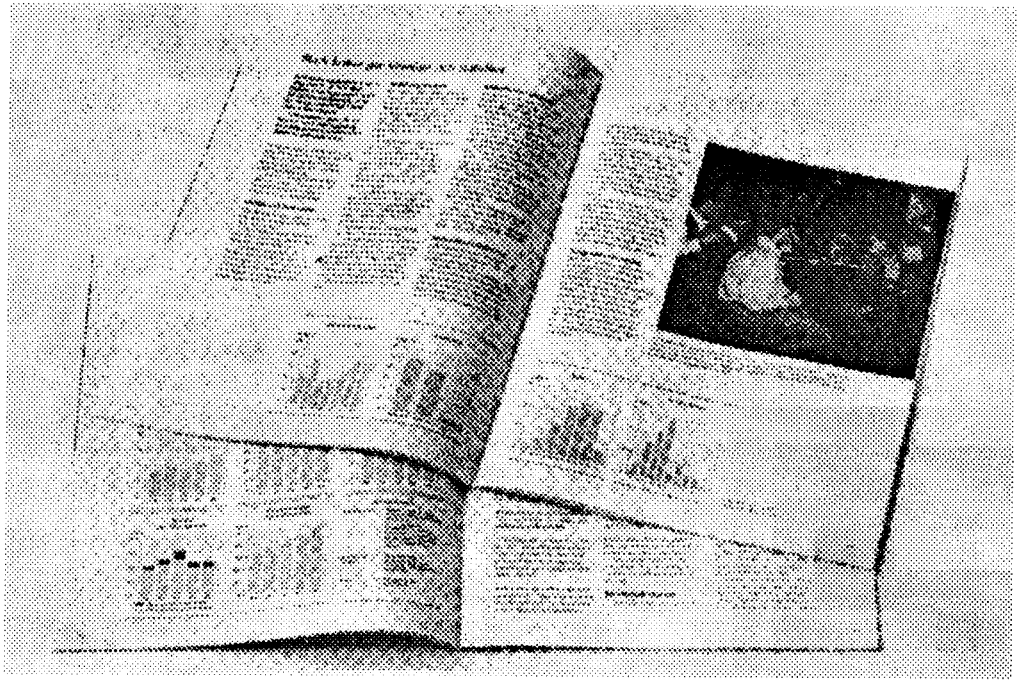
"If you are not happy at home, you are not happy at work..." and vice versa. This view of the whole person is a guiding light for most of what goes on in WM-data.

Consideration, security and quality of life are some key words. It is only whole and harmonious people, not robot consultants, who can manage to produce professional results in the long run.

Stable organisation

Stability is a characteristic of the organisation. The six hundred employees each work in one of the geographically dispersed 20 WM- data companies, mainly in Sweden, its Nordic neighbors and the Benelux countries. Numbers are small, with no one in charge of more than 50 people.

All the staff are well-educated. Half have an academic degree, others at least



WM-data has picked up the signals on new methods of reporting a know-how *company's capital and gives a number of key indicators about the staff in its annual report.*

upper secondary schooling or are trained programmers. The average age is 34. 77 percent are men, but the aim is to recruit more women to improve the balance.

Loyalty is high. Most of those who worked for WM-data in the 1970's are still there. That is unique in the computer consultancy business. Average length of employment is six years. 50 percent of the staff have at least 10 years' experience.

Annual staff turnover is about 10 per cent, mainly concentrated in the big-city areas. Elsewhere, turnover is considerably lower. Of those who leave, more than a third start working for a WMdata customer or supplier.

Consultants at centre

The company grows and grows, but its organisation remains in non- pyramid form and informal. The corporate culture makes the consultants, i.e. the greater part of the personnel, the centre of attention. Being a consultant, i.e. working for customers and being a revenue person, means high status.

The employees have great freedom, provided there are professional results

and profitability. Values and rules of the game are clear and well known to everyone.

The percentage of administrators is limited. Bureaucracy is at a minimum. There is a belief that the individual employee always achieves the best results.

Internal information is marked by openness and abundance. The reason is that each employee should feel secure and have confidence in what is happening.

Targeted education

Educational efforts are always targeted and related to concrete customer assignments.

Discussion evenings about once a month dealing with a specific topic, are popular among the staff. Usually, the subjects are general ones within the professional field, but they may also concern personal finance, for instance. The meetings are of great social significance to the consultants, who work mostly at the clients' premises.

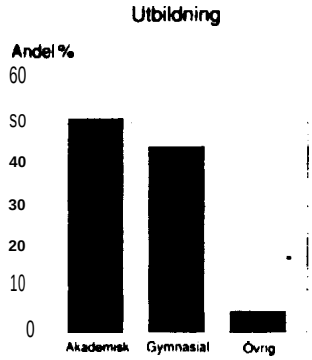
As a rule, customer relations are lasting and so it is of extra importance for a consultant to have a sense of where he belongs. There are also many leisure-time activities for the staff, often with the clients, often together with their families.

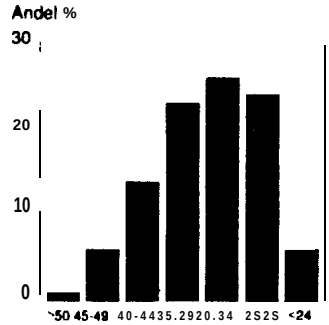
A very different and much appreciated form of training is "Andersson, Svensson and Hanzon", a joint exercise in everyday psychology that WM-data has used for several years. It helps increase understanding of how other people function.

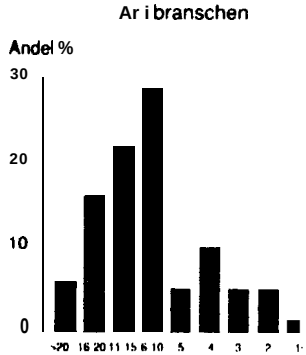
Careful recruitment

The high proportion of employees who have worked at WM-data fora long time, helps provide good stability and consistency in developing know-how. Older consultants teach the younger ones. Half of all those recruited enter the company through someone already there. And with good result. Every mistake in recruitment is expensive. Therefore there are several interviews before anyone new is taken on.

WMdata may consist of a score of companies, but there is no territorialism. It is natural for all employees to rally round the business concept of being the complete computer consultancy company and to assist each other, if necessary across company borders. It is unusual for consultancies of WM-data's size to achieve efficient teamwork in concrete projects in this way.







Education

Age

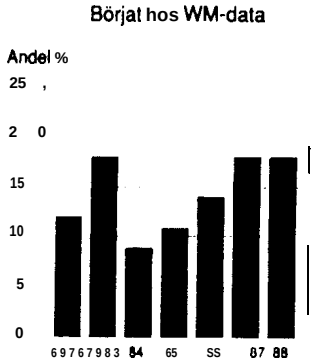
Years in industry

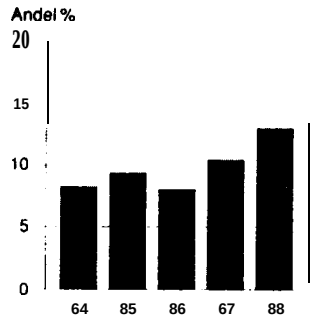
0/0 0/0 0/0

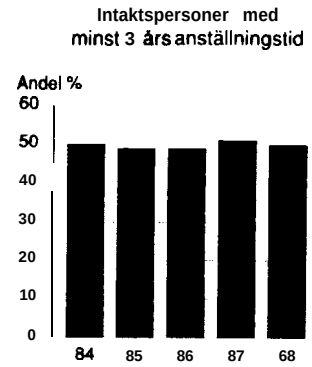
Academic

Other

Upper Secondary







Started at WM-data

Staff turnover RP with at least

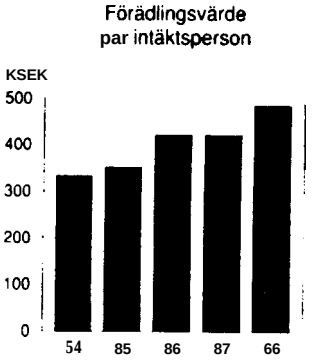
3 years at **WM-data % % %**

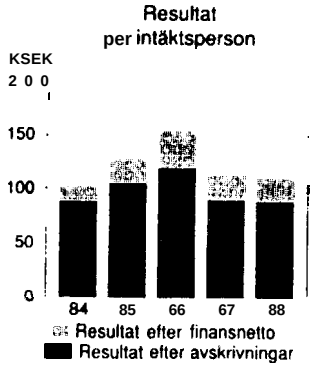
Value added per Profit per R&D - cost in relation revenue person revenue person to turnover

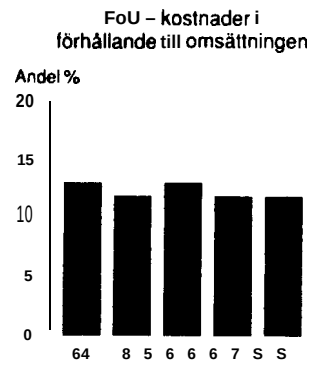
SEKSEK%000000

Profit after financial items

Profit after depreciation







Deeper values

Titles, credit cards, car phones, large expensively furnished offices, personally reserved parking - that type of superficial benefit does not exist at WM-data. Instead, the values offered employees run deeper, like new and stimulating assignments, regular planning and development talks with the leader, education in important fields, financial support when necessary and a share of the profit through a bonus system. Most employees have also chosen to be shareholders in the company and therefore share in its appreciating value.

An employee who wishes to work in another field, whether technical, applications or geographical, can normally have his way, provided the company operates in that field. In addition, its international network of contacts opens up opportunities for staff to follow developments in certain areas, or take assignments abroad.

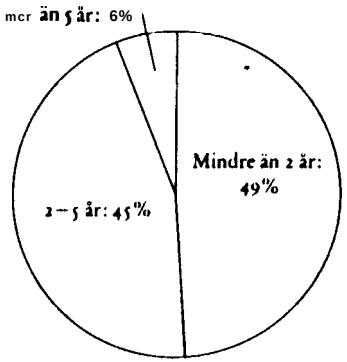
In keeping with the ambition to actively integrate working and family life, the family has a direct share in the rewards too. This highly praised philosophy is based on the fact that the family and spare time suffer when a member of the staff has to work outside of normal hours.

There is a continuous dialogue with the families through various activities e.g. a party to mark the end of the Christmas period, computer courses for children, visits to the circus and theatre, and a sports day for the whole family.

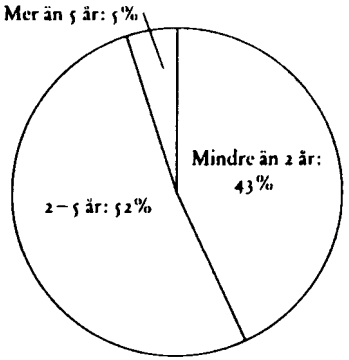
BNL's annual report

Diagrams from BNL's 1989 annual report

Years employed

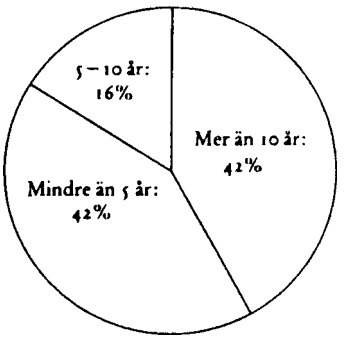


Years employed -



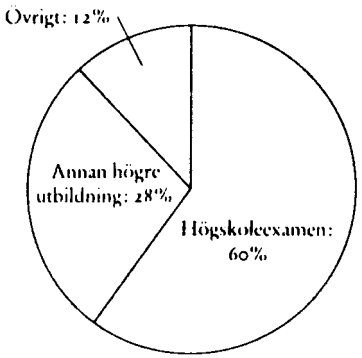
Comment: The average is 2.7 years.
proportion of newly employed RP is 31 %.

Years in profession
RP - RP's

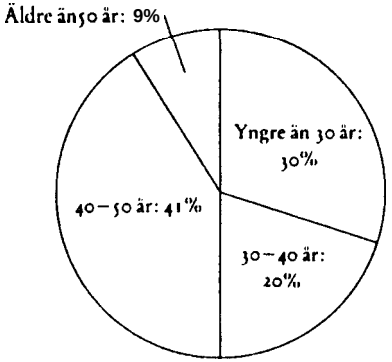


Comment: The average 16.7 years

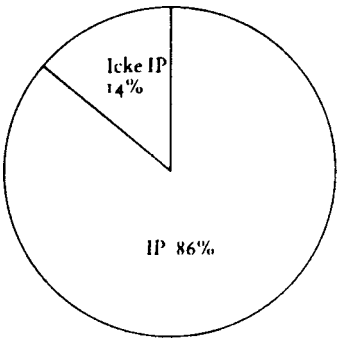
Educational level



Age structure - RP



Full-time employees



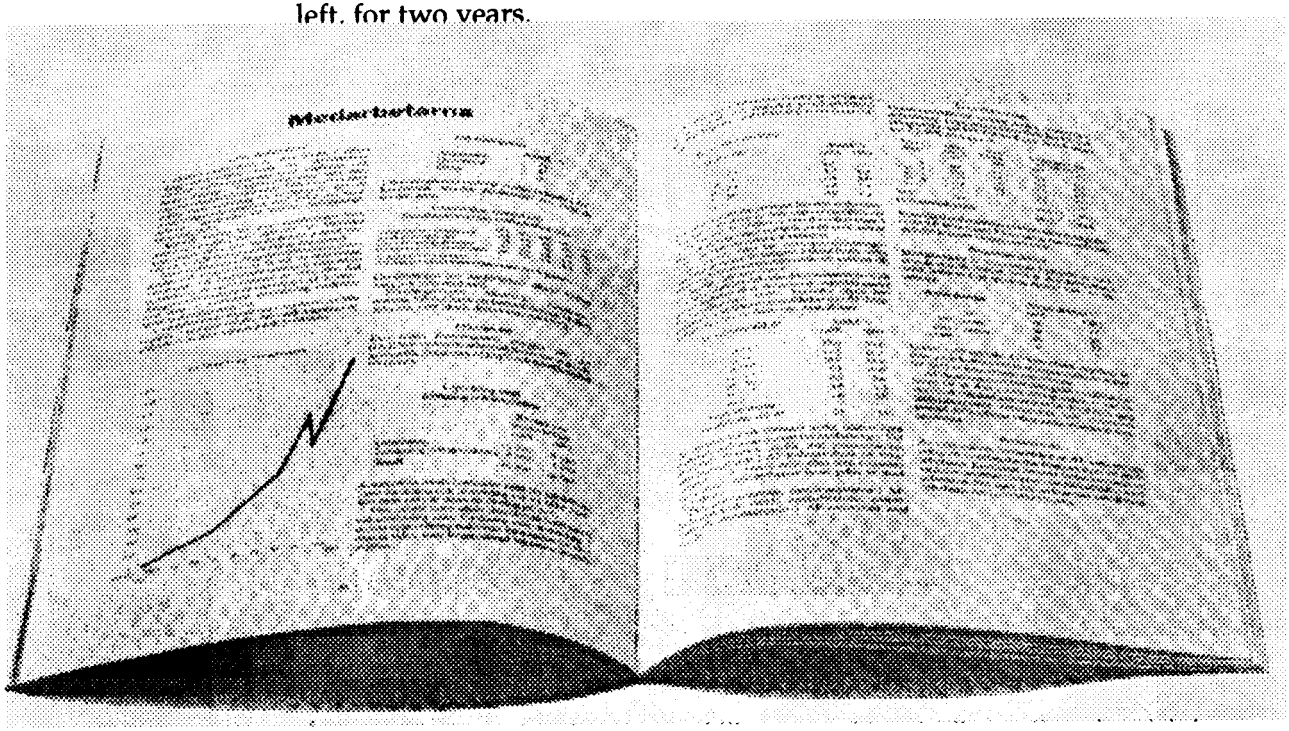
Comment: Revenue people (RP)work in direct production.
They plan, pro duce, process and pre sent the pro duct in dem and by the cus tom er, i. e. work dir ectly for the cus tom er. Staff who work to some ext ent for the cus tom er, e.g. ass ist ants, have been inc luded in pro por tion to that work. Staff in sup port functions like the acc ounts dep art ment, car eta kers and the like, have been cou nted as non- RP. Weighting was used in cal cul sting the ave rage num ber of full- time staff in both cat ego ries.

Ångpanneföreningen's annual report

Extract from the chapter entitled "The Staff" in the 1.989 annual report.

ÅF reports and analyses the following key staff figures:

a) Educational level - the percentage with academic, upper secondary and other education.
b) Turnover per employee, for five years.
c) Profit before financial items per employee, for five years.
d) Salary and social security costs per employee, for five years.
e) Value added per employee, for five years.
f) Time absent.
g) Education, research and development - total in SEK and SEK per employee.
h) Staff turnover - proportion of employees in different age groups who have left, for two years.



Ångpanneföreningens annual report *contains* ***nearly 20*** *key ratios and other valuable items* of information *about its* ***staff.***

i) The percentage of new employees.
j) Number of years employed - average plus the proportion employed O-2 years, 3-5 years, 6-10 years, 11-15 years, 16-20 years, 21-25 years and 26 years or more.
k) Age distribution - division into age groups, percentage of men and women and the change in age groups between two years.
1) Average age.
m) Project size - percentage under 100 hours, 101-1,000 hours, 1,0001-10,000 hours and over 10,000 hours.
n) Total number of customers.
o) The number of customers together accounting for more than 50 of total invoicing.
p) Debiting level- percentage of time charged to total time at work
q) Percentage of revenue people-members of the staff in revenue-creating work as a percentage of the entire personnel.
r) Bonus system.

The computer consultants

From an Affärsvärlden and Ledarskap supplement, September 1988.

The starting shot has been fired. Five companies, four Swedish and one French, aspire to leadership among the computer consultants in Sweden and the rest of the Nordic area. But it cannot be taken for granted that it will be one of the current Swedish stars - the number one, Programator, rich WMdata, much discussed Enator, or the newcomer ÅF Mandator - that goes to the front.

The Swedes must step up their pace, or risk being left behind by the big international consultancy bureaux. Perhaps the most attractive consultant, Data Logic, has already been lost to France's Cap Gemini.

Restructuring is likely to continue for another few years. The trend, both in Sweden and internationally, is towards polarisation, with a few large consultancy houses and a lot of small ones.

Experience from other consultancy sectors, e.g. building and construction, shows it is the medium-sized firms that feel the pinch. They are too small to maintain the specialist competence required for major projects, but too big to be able to compete with the flexibility of the small firms.

The consultancy houses take over

Internationally, some observers believe there will be a handful of large consultancy houses in the world at the beginning of the 1990's. Some of them with perhaps 50,000 consultants and a multibillion turnover. The US company, Arthur Andersen, for instance, with 8,500 consultants, aims at tripling its business to reach SEK 10 billion in 1992. Another American firm, EDS, and the French Cap Gemini, are also making a big effort. Moreover, the computer manufacturers have opened their eyes to this lucrative business and IBM for one, has announced plans to enter the field.

With a turnover of more than SEK 2 billion and more than 3,700 employees, the largest five consultancy groups in Sweden account today for an estimated third of the Swedish market. But that is not sufficient to be able to compete with the international giants. Therefore the Swedes must grow both at home and abroad.

Programatorand WMdata should have the best prospects of succeeding. But the question is whether they have the management and ownership structure needed for a major international drive.

Growth and profitability among the computer consultancies

	Turnover	Change	Growth	Profit		Profit margin	
	1987	%	5 yrs, %	1987	1986	1987	5-yr
Programator	925	+ 31	+ 6 5 -	65	48	7,0	10,2
WM-data	*275*	*+48*	*+34*	*48*	*41*	17,6	*19,.3*
Enator	269	+16	+ 39	25	37	9,3	15,0
Cap Gemini							
Cap Gemini BRA	197	+ 25	+ 34	6	10	2,9	6,4
Data Logic	182	+16	+ 31	25	17	13,7	16,5
ÅF Mandator							
AR-bolagen	109	+ 34	+36	1	3	1,3	5,1
Plandata	77	+ 8	+ 41	- 3	3	neg	0,6

	Ret on cap empl, % 1987	Val added/empl " 5 years	1907	Profit/empl 1987, SEK	Sal/empl 1987, SEK	Staff cost val added, %
Programator	(21)	(14)	315	39	182	87
WM-data	25		345	87	169	74
Enator	17	19	381	52	222	87
Cap Gemini						
Cap Gemn ini BRA	6	19	296	16	186	94
Data Logic	24	20	435	85	223	52
ÅF Mandator						
AR-Bolagen	6	20	344	7	212	95
Plandata	neg	7	290	-26	173	100

Programator has the most rapid growth in the five-year period, WM-data the highest *profit margin. Data Logic had the highest value added per employee in 1987.*

Programator's owners

Pogramator has certainly had spectacular growth and claims to be biggest in Scandinavia today. But profitability has not kept pace. There is also still uncertainty about the long-term ownership. Sandvik has certainly gone in as a major shareholder with 26 of the votes alongside the founder, Lars Irstad, but what many people wonder, of course, is what a manufacturer of sintered carbide can bring to Programator and its consultants.

Programator's hope, however, is that Sandvik will open the door to the international market through its personal contacts. On the other hand, Programator has previously cooperated with Ericsson abroad. The result was meagre,

to say the least. Indeed, Programator was forced to retreat in several markets outside Scandinavia.

WM-data's finances

By far the most profitable consultant, WM-data, has very great freedom of action, with nearly SEK 100 m in cash and a balance sheet practically free from liabilities. But its management is both fairly untried in making major acquisitions and known to be cautious in taking risks.

Purchase of the Beijer Information Group is its largest to date, and there do not appear to be any further big deals in view, at least in the period immediately ahead.

WM-data is more or less the only company that has managed to avoid any direct failures abroad. It is also the company with the largest proportion of its operations outside Sweden, but the business is primarily concentrated in the Nordic area and the earlier ambitions of getting established in other West European markets have been toned down.

As in Programator, ownership is an uncertain factor. The main shareholders, Managing Director Tord Wilkne and Chairman Hans Mellström, are both around 50 and the question is how much longer they will have the energy and ambition to continue.

Pronator's general store

Enators prospects are less clear. To judge by the figures, it is on the way to becoming an average company, from having been the one most talked of.

Enator has been fitted into Pronator's general consulting store and the entrepreneurs have departed. Moreover, Enator has been hit by great problems in its foreign operations and forced to reduce its activity. The main thing for the company now is to solve its existing problems and raise profitability again before it is possible to take any offensive action.

Mandator's entrance

The real outsider is Ångpanneföreningen's ÅF Mandator. The company made its entrance last summer and is a merger between AR-Bolagen and Plandata.

Long and patient work will be needed before Ångpanneföreningen's step into the computer consultancy business is safely home and dry.

The management are also cautious and do not believe Mandator will show a decent return until some time in the 1990's.

The strong industrial roots of its owner and links with the Wallenberg

interests, could be an advantage. But in the light of the rapid restructuring taking place in the sector, there is reason to wonder whether it is not a little late in the day for ÅF to have a chance of competing with the big boys.

Cap Gemini's offensive

That leaves Cap Gemini standing out as the most aggressive consultancy today. Acquisition of Data Logic doubled its turnover in Sweden and its Nordic operations will probably not be so far behind Programator's this year.

The Frenchmen also have the express objective of being biggest in Scandinavia. Figures from their Swedish company Cap Gemini BRA show that epansion is being put before profitability.

Differences in customer structure

Differences between the computer consultants are also evident from their customer structure. The division between large and small clients and sector orientation are important in assessing the companies' risk profile. '

A computer consultancy with few clients in individual industries is likely to be more vulnerable than one with a lot of clients spread over all sectors.

But it may also mean that the first consultant works mainly with large, often advanced projects, will the second is mainly oriented towards shorter assignments of standard type.

Enator is more dependent than anyone else on a few clients. Its largest five customers accounted for as much as 40% of its turnover last year. They include SAS, Linjeflyg and Swedish Telecom.

This is also in line with the image the management have tried to create for the company. Enator is marketed as a specialist in major, strategic, computer projects requiring both data-processing and management know-how.

In ÅF Mandator too, the largest five customers are of great weight. They are said to provide an estimated 35-40% of the revenue.

The most important customer is the public sector, especially the defence forces, with more than a third of the turnover. Mandator is a clear leader in the field. No other company has such a large proportion. Assignments from the public administration are often large. In addition, the company has been well to the fore in using new technology. On the other hand, profitability has not been as good as with the private clients. The puplic sector has to be worked on, while discounts are common.

A distinguishing factor for Mandator is its weak position in industry. With only 10-1 5% of its revenue coming from that quarter, the company is far behind

its competitors. For most of them the fiure is between 35 and 55',

Ångpanneföreningen's plans include expansion in industry, but the question is whether its objective of making Mandator one of the leading computer consultants in industry within five years, is rather optimistic.

In many respects WM-data is the opposite pole to Enator and Mandator. The largest five customers account for less than 10% of turnover. The division between sectors is also fairly even. The biggest is trade and distribution with some 30%, followed by banking, finance and insurance with 25%.

From the risk aspect, WM-data should thus be quite well-equipped. There need be no serous effects on profit if one or two of the major customers disappear. Likewise, the company is not dependent on developments in any particular sector. It should be noted, however, that together with Mandator, WMdata has the largest share in the financial sector.

Proqramator is the company closest to WM-data. But with the difference that industry is of great weight, with about 40% of turnover.

Both Cap Gemini's companies, Cap Gemini BRA and Data Logic, complement each other in several fields. BRA has its main circle of customers among industrial undertakings, with as much as 55% of turnover, while Data Logic is relatively stronger in trade and distribution, as well as the public administration.

So far, foreign operations play a limited role among the computer consultants.

Volume or profitability?

The computer consultants can be divided into two groups, those who have put volume first and those who have given priority to growth. Number one among them, Programator, which has had an average annual growth rate of 65% in the past five years, clearly belongs to the first category.

Its turnover has more or less doubled every 18 months! And that does not include Programator's involvement in technical consultants J & W and the Finansor finance company.

But profitability has not kept up the same speculative pace. With an average profit margin of 10% and a return on capital employed of around 13-14%, Programator comes in the intermediate level.

It must be pointed out, however, that consultancy accounts for only 55-60% of its computer business. The rest consists of service bureau operations and selling products. Caution is therefore necessary in drawing conclusions when comparing Programator with pure consultancy companies.

At least **under previous owners,** Plandata has had a particularly expansive policy. Average turnover has risen by over 40% a year since 1983. Chasing volume has had devastating consequences on profitability y, however. With an average return of seven percent and a profit margin of barely one percent, Plandata **is** parked **at** the bottom of the consultants' list.

If Angpanneforeningen had not taken it over, the company would probably soon have been faced with severe financial problems.

The prime representative of the other category, companies that have given priority to profitability, is **WM-data.** It stands alone, almost regardless of the yardstik used. The average return on capital employed in the past five years has been 29%. And its average profit margin just over 19%.

WMdata also shows strong **qrowth,** but 4% a year must be considered normal in the highly expansive **consultancy** sector. Moreover, the five-year average is boosted by last year's acquisition of the Beijer Information Group, which incidentally pulled down profitability somewhat for the year.

Nearest to WMdata is Data Logic, which apart from good profitability has by far the highest value added (earning ability) per employee, SEK 435,000 last year. It is no less than 60% better than Plandata's SEK 270,000.

Enator, **AR-bolagen** and Cap Gemini also report reasonable profitability y over the five years with an average annual return of 19-20%. But with the exception of **Enator,** their margins have not been so remarkable.

Profit halved

Moreover, the key ratios for all three have deteriorated in recent years. **Enator's** profit tumbled last year from SEK 37m to SEK 25m, apparently because of losses abroad. Cap Gemini's profit was almost halved and **AR-bolagen's** fell from SEK 3m to **lm.**

They may have made a profit, but the results are **cleary** not good enough. All three companies need rapid improvement to be able to consolidate their business to meet future requirements.

As can be seen from the last column in the table, showing the relationship between personnel costs and value added, it was really only Data Logic and WMdata that earned enough last year both to pay decent salaries and buildup their net assets.

Data Logic stands out as the aristocrat among the computer consultants in terms of know-how capital. It is therefore not particularly surprising that it also has far and away the largest value added and that salaries are among the highest.

With an average of twelve years in the profession, five of them at Data Logic,

the company's consultants should be among the most experienced and knowledgeable. What is more, over 80% have an academic education.

Top three

It is really only Programator and ÅF Mandator that can compare themselves with Data Logic in respect of age and experience. On the other hand, their educational level is lower.

Mandator has the oldest staff, the average age being around 36-37, and Programator the longest period of employment, an average of ten years.

The high figure for Programator results from including the time employed by acquired companies. In view of the group's many acquisitions in recent years the actual time is probably very much less.

Cap Gemini can almost be termed the juniors in this respect. With an average age of 31, the company not only has the youngest, but also the least experienced personnel.

This explains its low value added, relatively low salaries and high education costs. With an education budget equal to 20% of turnover, it leads the way among the computer consultants.

As noted earlier, as far as can be judged Cap Gemini has put growth before profit. The key know-how capital indicators confirm that impression.

A large part of its new recruitment has clearly also been straight from the institutions of higher education. Three out of four have an academic degree, which puts the company in second place after Data Logic.

Family problems

As this is an investment in know-how capital, Cap Gemini, correctly handled, should be repaid in the form of better key indicators and higher profitability when its consultants have gained more experience.

But with the profile the company has today, it can be understood why the management do not wish to merge with fellow subsidiary Data Logic. At least in the short term. The differences between the two are so great that there is an overriding risk of conflict. At worst, it could mean that the more l'professionalll Data Logic lose pace and status.

Enator also has a particularly young staff with a short period in the profession. Salaries, however, are substantially above those of competitors, particularly when age, education and experience are taken into account.

WMdata is distinguished from the rest by having a staff with a surprisingly low level of education.

The computer shares

From an Affa rsva rlden and Ledarskap supplement, September 1988

For the fourth year running, Aff rsv rlden has used a special valuation model to analyze the shares of computer companies. The following conclusions can be drawn from the 1988 analysis: 1. Prices have been pretty well normalised. 2. Their movement is worse than for the market as a whole. 3. Several of the overvalued companies have suffered setbacks. 4. A rapid increase in the number of employees has pulled down profit per employee. 5. According to the model, Memory and Pulsen are overvalued, while WM-data and Databolin appear somewhat undervalued.

What is a correct valuation of computer shares? If they areassessed according to traditional fundamental criteria, the conclusion would always be that they are greatly overvalued. In many companies equity is valued up to 400%.

"Inexplicable" prices

A return on equity of some 50% is needed to justify this valuation. None of the 19 listed computer companies come up to that level, even if they are profitable enough by customary standards, with an average figure of just over 20%. This is almost double that in many engineering companies, for example.

The computer companies often have very small real assets. Instead, you can say the capital consists of their employees, i.e. they are know-how companies. Traditional yardsticks for measuring profitability and net worth can thus be misleading in valuing them.

To supplement traditional methods, Aff rsv rlden has developed a model for valuing such companies, showing how the employees are valued by the market in relation to their earning capability. The revenue creators in computer companies are people and not machines or property.

Market value and profit per employee

The model is based on two key indicators, market value per employee and profit per employee. If the market is to put a high price on the employees, it is necessary for them to generate a correspondingly high profit.

We have taken 15% of the market value per employee as a reasonable assessment of their pre-tax profit. This makes the return required by investors 15% before and 7.5% after, tax. It is a low requirement, motivated by the fact that computer companies as a whole pay far less than 50% in tax. If, for example, the

tax is 25%, the required post- tax return is 11.25%.

In view of rising inflation and turbulence in the industry, however, there are arguments for making the required return higher. New products and models can put a company into great difficulty overnight. Incorrect forecasts and failures are not uncommon. Staff today are a scarce resource and one that is also highly mobile, which several computer companies have discovered over the years, most recently Pulsen and Enator. All this means the risk premium should be greater than in other sectors.

The required return for the market as a whole in this simplified model is 12.5% before tax, on a weighted average. Logically, it means the return required by computer companies should be higher.

High price tag on the employees

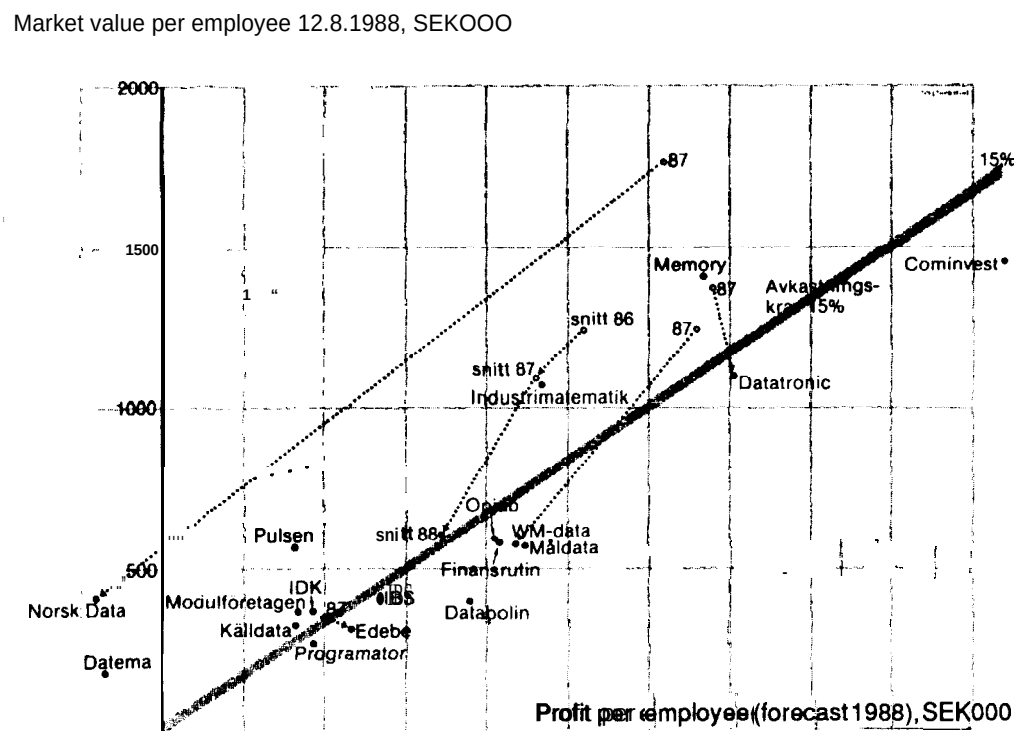
Analysis made with this model has previously resulted in the conclusion that the computer companies were overvalued. The price tag on the employees has not been equal to their long-term earning capacity. The market too, seems to have drawn that conclusion. For the third year in succession, computer shares have not risen in step with the market as a whole.

Even if the companies' required return of 15% can be described as cautious, it has not prevented the market from setting a lower figure. Last year it exceeded 10% for the first time (see the average for 1987 in the diagram). This year it was just over 14% (see the 1988 average in the diagram).

It means that, having learnt from poor experience, the market has raised its requirements three years running. The thick, unbroken line in the diagram equals 15%. Companies above the line have lower requirements, which according to the model means they are overvalued.

Conversely, companies below the line have higher requirements. The further down to the right they are, the lower they are valued. This means that companies such as Datobolin and Edebe are undervalued, on the assumption that they can maintain their profit per employee in the long term.

The great change from last year is that the companies as a whole, have moved downwards to the left, meaning that both profit per employee and value per employee have fallen. One reason for this is that the number of employees has risen. Compared to last year, the increase is all of 52%. But profits have not kept pace. The conclusion is that the most recently employed people do not generate as much profit as those taken on earlier. Neither has the sector index risen at the same rate as the number of employees. So far this year, unweighed prices have gone up 25%, whereas the General Index is up 30%.



The diagram shows how ***the market values*** *profit per employee in the computer companies. Companies above* ***the*** *unbroken diagonal line have a return lower than 15% and are overvalued if a 15% return is required. On the other hand,* ***Catabolin's*** *low value shows* the market *does not believe the company's* profit is ***sustainable.*** *Potential winners are to be* found *at the bottom right and* risk shares, top left.

Identify overvalued shares

Practically all the companies have changed position in the diagram. Norsk Data has moved most. From being the highest valued computer company in 1987, it is now one of the lowest after several years of falling profits.

Norsk Data, Datema and Kontorsutveckling have fallen greatly after being identified as overvalued in last year's analysis. Other companies have succeeded in maintaining their high valuation for several years.

One example is Memory. The market values each of its employees at almost SEK 1.5m. This should be seen in the light of the fact that each one brings in SEK 170,000 in pure profit. Profit per employee has certainly fallen a little, but is still high. Acquisition in the spring of a large holding in the American company Mark, has also helped keep the share price up. **Nevertheless, it has fared worse**

than the sector index.

Datatronic is another example. In 1987 profit per employee was SEK 160,000 and it rose to SEK 175,000 in 1988. Despite this, however, as in the case of Memory there is reason for caution. It is difficult to maintain such high profitability in the long run.

Computer service company Edebe is yet another that has managed to increase its profit per employee. But from a considerably lower level.

Consultancy company WMdata is another of those to move a long way in the diagram. Last year it made two acquisitions, Datareal and the BeijerInformation Group. Their profitability was nowhere near the WM-data level. The result was that profit per employee fell and the company dropped sharply in the diagram.

Cominvest, a leasing company, shows extreme growth. It earns most per employee, but comparison with other companies is not fully relevant as its operations include a substantial amount of financial business.

The management consultants

From Ledarskap's consultancy guide, January 1989

Anew comet has risen in the consultancy sky - Logistema. It belongs in the first team, both with regard to profitability and growth. Value added per consultant is as high as a million kronor and turnover is rising at more than 50% a year. The threat to established companies is perhaps not so great as Logistema is process oriented, with the emphasis on control systems, and has a large proportion of engineers among its consultants.

Otherwise fast-grower number one is Invent Management. On our account, Invent has separated the consultancy part of its annual report from the rest, which is otherwise rather difficult to interpret. The figures show it is on its way into the consultancy market at breakneck speed.

Indevo buys growth

Indevo has strengthened its standing as number one in the turnover stakes. A large part is bought growth. It acquired an advertising agency, Blanking, and stockbrokers Nordia during the financial year and together, these two account for half of Indevo's increased turnover. With it, Indevo stands out increasingly as a conglomerate of different know-how intensive service companies, which makes comparison with the other firms rather difficult.

On the other hand, strategy specialist McKinsey is growing organically, but still did not manage to pass PA International (formerly EF), which is losing ground.

PA has a new management, with Raimo Issal as a fresh Managing Director in the Swedish business. A tough task awaits him. PA fell back 19% in volume in a market that has grown by over 20% in the past year.

Cicero continued to expand its turnover in 1987 by acquiring Mysigma, but question marks have begun to arise about all the company's acquisitions. Cicero recently sold its subsidiary InfoCenter with some 30 employees and there are rumours of defections among key people. Neither are Cicero's profit figures convincing, At SEK 383,000, its value added per consultant is the lowest in the business.

That size is not essential is shown by Nordic Management, a small consultancy firm on the march. It is in the same high status segment as McKinsey and has attained a value added per consultant of over SEK 700,000.

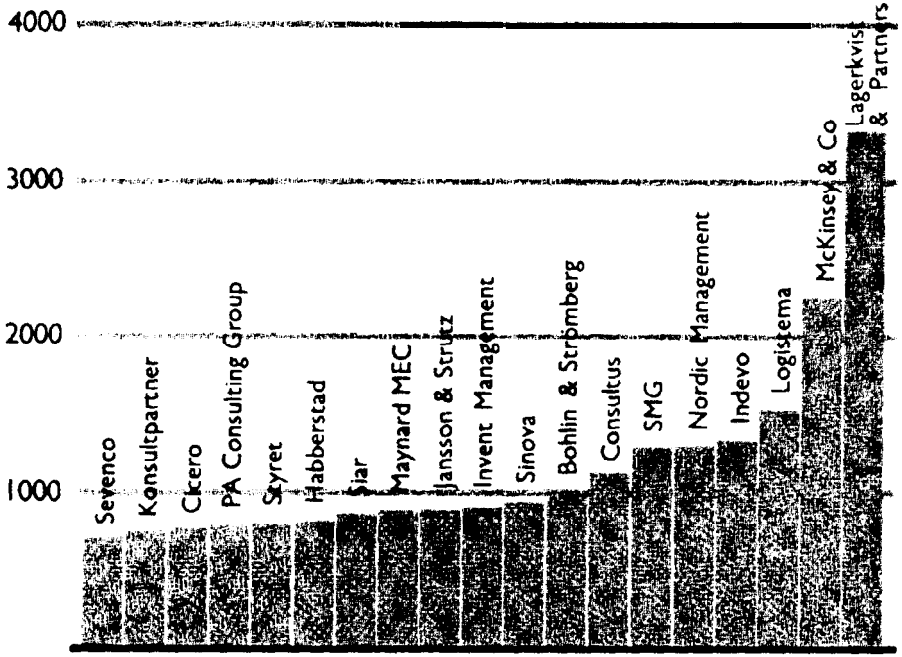
The losers, if it is possible to speak in such terms in the current market

situation, are to be found among the medium-sized companies. Neither Sinova, Consultus, nor **Bohlin & Str mberg managed to equal last year's increase in** turnover. But growth is of secondary importance to the owners of these companies.

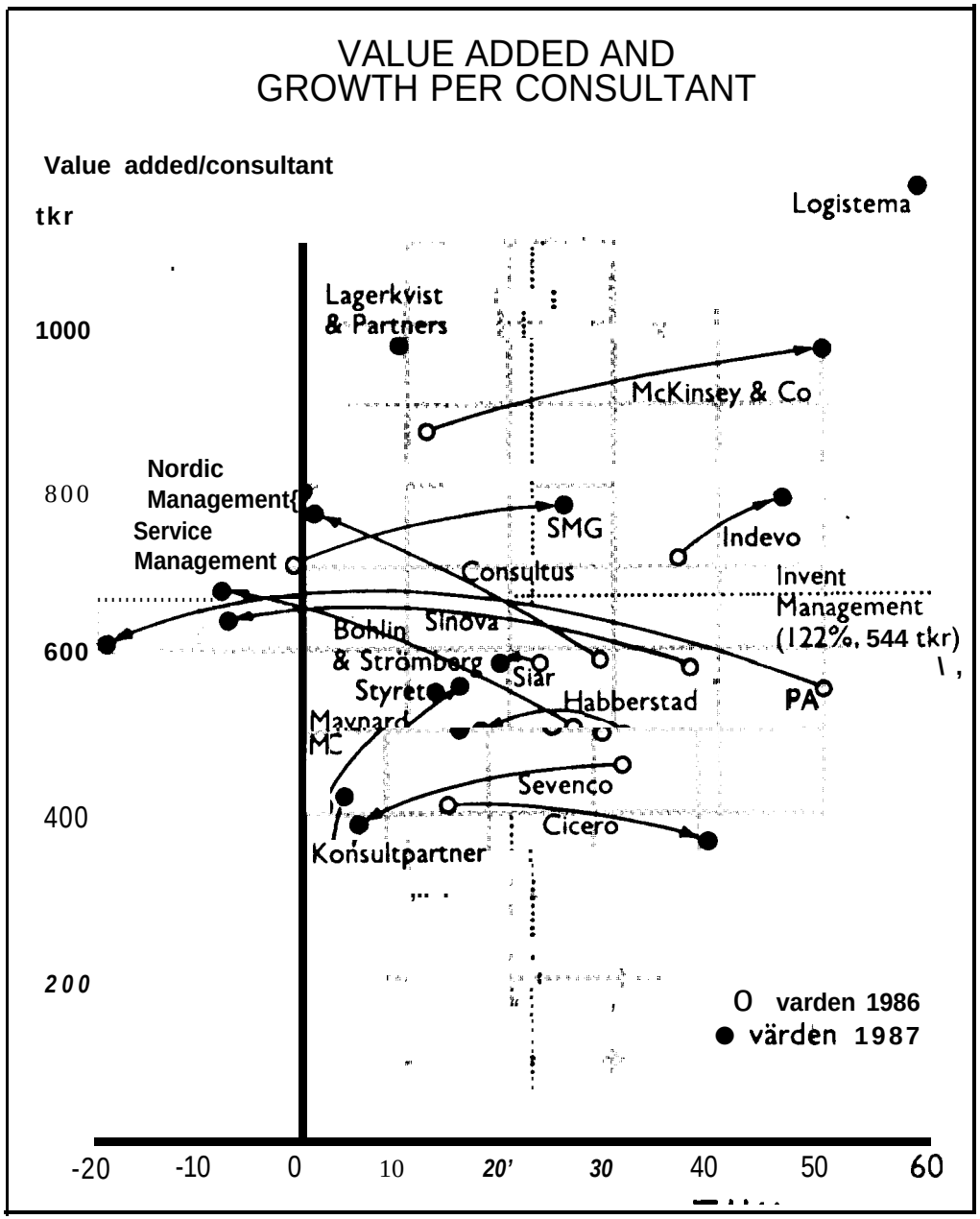
The outlook is much worse for Sevenco, which cannot grow at the same pace as the market and in addition, has a value **added** that scarcely covers the salary of a normal management consultant. The explanation may be that the owners withdraw profit in other ways. The strong accent on "management for hire" surely cannot be called in question?

For the third year **running, the** Swedish market for management consultants has grown by over 20%. The same pattern can be seen in Norway, where the **magazine Ledelse** estimates that sector turnover topped NOK 600m last year, while in the United States it is expected that the market for strategy consulting will grow by 5-10% annually over the next five years. In Europe, on the other hand, growth is expected to be 20-25% a year. The reason is that the US has a largely fully structured **consultancy** market, while Europe faces gigantic structural change in connection with the EC single market, due for 1992.

Turnover/**consultant**



The consultants at ***Lagekvist & Partners turned*** *over more than SEK3m in 1987.* ***McKinsey's*** *consultants just* ***topped*** *SEK* ***2m. The average for*** *the sector was* ***1m.***



Average value ***added per consultant*** *in 1987 was SEK 663,000. The black circles give the value added in 1987 and growth in* ***turnover from*** *1986 to 1987. The white ones show the* ***company's*** *posit ion in 1986.*

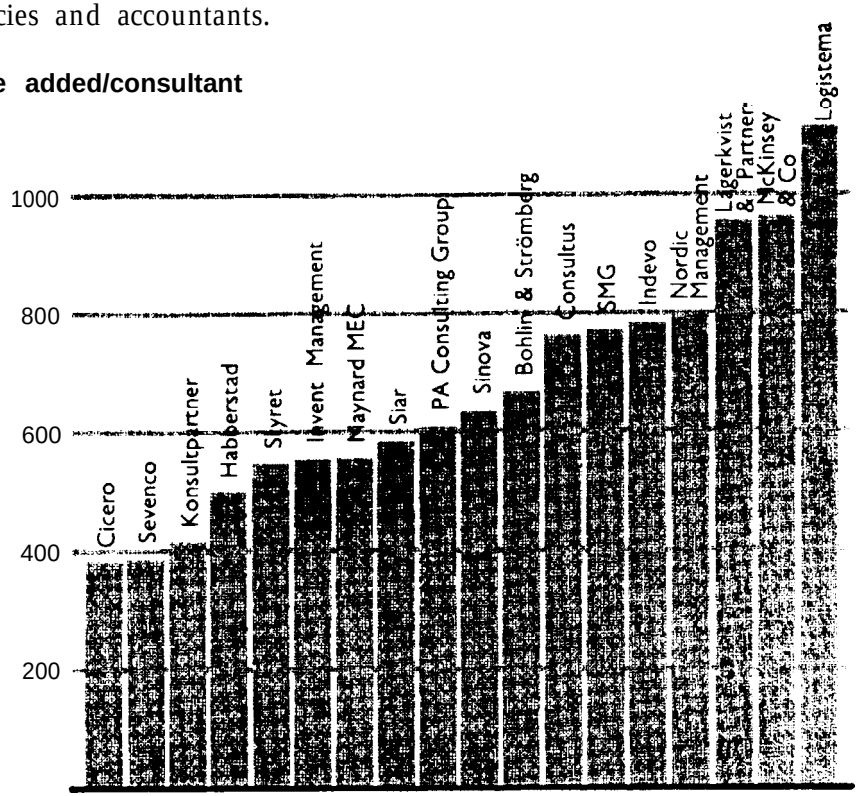
Not so international

While Swedish industrial companies are among the more internationalised in the world, the country's consultancies are worse off. It is necessary to have close **personal international contacts. Collaboration agreements are all very well, but what** counts is whether the key people have international connections. Of the Swedish-owned consultancy firms, only two are genuinely internationally established, Nordic and Siar.

But even these still work mainly with companies based in Scandinavia. Not until commissions come from the foreign-owned multinationals, can they be said to have an international character.

Full service or specialisation?

The growing market is attracting attention from several quarters. Four types of players can be discerned: general consultants, strategy specialists, advertising agencies and accountants.



Logistema had the highest value added per consultant, which gate extremely high profitability as *turnover per consultant was not particularly high (see previous diagram).*

Both the general consultants and the advertising and PR firms have grown in two directions: towards full service and standardisation. They are inspired by the idea of being able to offer their clients a full range of services. Once you have got the customer in the store, much of the sales work has been done when it comes to other services. So the argument goes. Particularly with processes of change, it is easy to seethe need for the help of consultants in a number of fields. The most obvious are recruitment services following directly upon organisational changes.

Recruitment work establishes a good relationship with the new management, which often needs assistance in communicating its thoughts to create the corporate culture. Then trimming costs and capital rationalisation can be tackled - and why not reconstruct the financial control systems so that they are in line with the new culture?

The other development is towards a higher degree of standardisation. It allows less well-qualified and cheaper personnel to take on repetitive assignments under the supervision of qualified senior project leaders who have control over quality. That, for instance, is one reason for KcKinsey's high profits. These consultancies invest in developing their structural capital, thereby reducing their dependence on key people.

The risks involved in these two lines of development are on the one hand, that it can be difficult to achieve high quality in every part of a full service range and on the other, that over- standardisation can cause quality problems, while the power of attraction of the stars who can develop new concepts is reduced if they are not given sufficient scope.

The accountants, new competitors

The accountants are new and aggressive competitors on the market. They are caught in a thorough price squeeze in their traditional market, even internationally. The accountancy market is not growing anything like as fast as consultancy. Moreover, accountancy firms have built up very large organisations. And so they are forcing their way into management consulting all over the world.

The stockbrokers

From an Affärsvärlden supplement in 1988.

The stockbrokers have been able make money hand over fist in the 1980's. Profitability has been extremely high and growth has taken place at record speed. No other sector can point to a more successful decade.

Affa rsva rlden's analysis of the 21 independent stockbrokers and the market they operate in shows, however, there is much to indicate tougher times ahead. Market turnover, which rose dramatically in the 1980's, is falling, together with the rate of turnover (turnover in relation to market value). Proposed new legislation and taxes will make it even more difficult to earn money.

The record year for the stockbrokers was 1986. Profit before extraordinary items totalled SEK 1,300m and the **average margin (profit in relation** to total revenue) was no less than 62%! The trend turned, however, in 1987. Profits were down 13% at SEK 1,150m and the margin fell to 50%,' nevertheless a fantastic level.

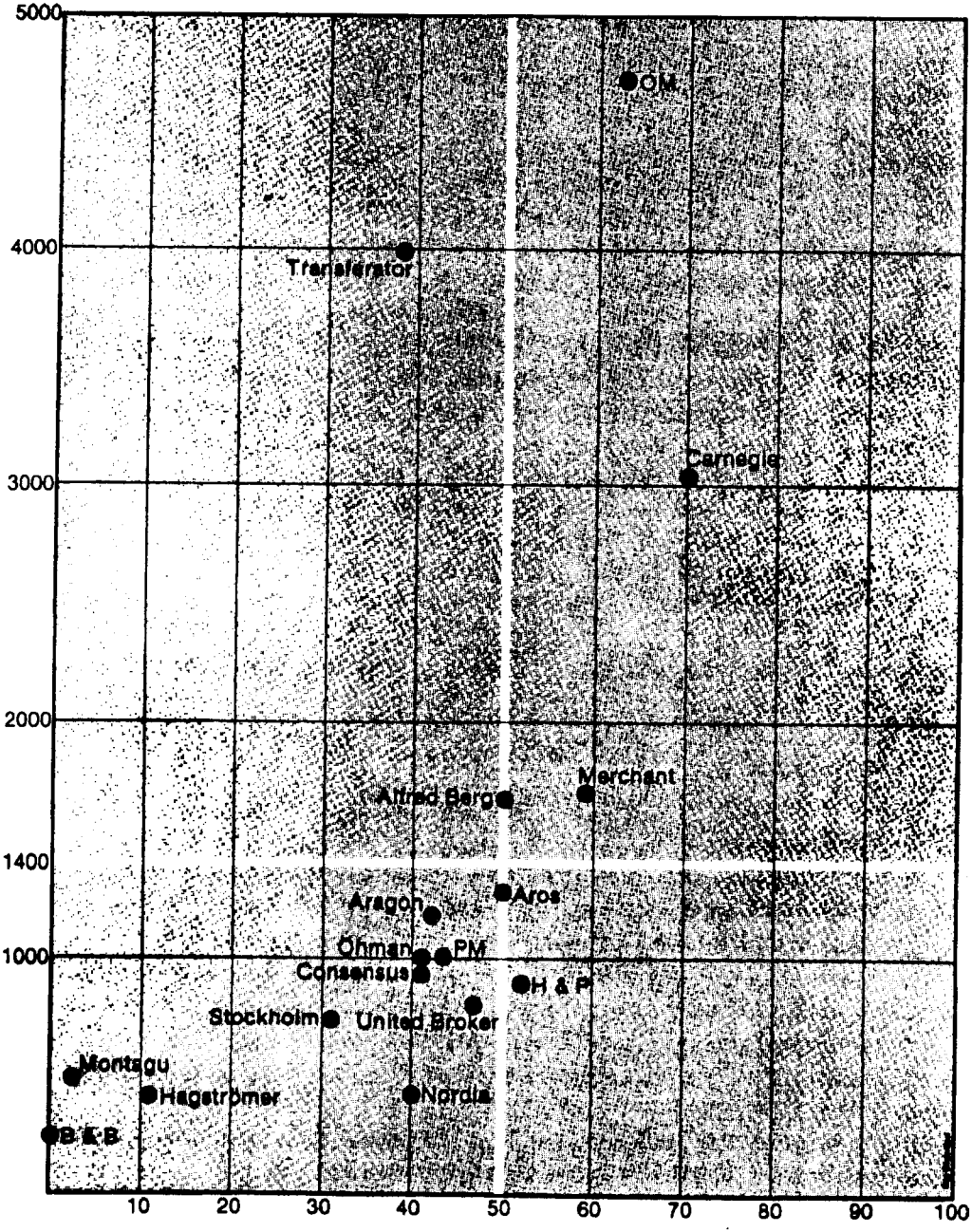
Rode the market wave

In brief, four factors have made these companies so incredibly successful

1. Market prices took off from the beginning of 1980 and at the time of writing, the General Index has soared nearly nine hundred per cent.
2. Total market capitalisation has risen from about SEK 50b to 560b in the same period (including the OTC and other unofficially listed companies).
3. Market turnover has also grown at a record pace. In 1980 it barely totalled SEK 8b. In the record year of 1986 it was up to 142b, to fall back somewhat to SEK 125b in the October crash in 1987.
4. **A** number of new financial instruments have appeared. The money and bond markets were born and grew, as did the options and futures markets.

Throughout the period, interest in and the need for, the financial markets has thus risen. There has been much money to be made in pure brokerage. Staff at the stockbroking firms discovered how easy it was to make by acting as an **intermediary**. As there is really no need for capital, only customer contacts and a degree of know-how, it has been tempting to set upon one's own rather than bring in money for someone else.

In addition, new markets and instruments have been developed all the time, making room for new companies and new people of ability. Firms such as the Stockholm Qptions Market (OM) and Penningmarknadsm klama (PM) are


5000
4000
3000
2000
1400
1000
OM
Transierator
Carnegie
Merchant
Alfred Berg
Aros
Aragon
Öhman
PM
Consensus
H & P
Stockholm
United Broker
Nordia
Montagu
Hagströmer
B & B
10
20
30
40
50
60
70
80
90
100

examples of how new needs are created and niches found in a particular segment of the stockbroking sector.

Profit margin and value added

We focus **on two factors in our study of the stockbrokers' growth and profits** in the past two years how well a company is doing, measured on the profit margin yardstick, and the earning capacity of the staff, measured as value added per employee.

That we focus attention on value added and not profit per employee perhaps requires an explanation. In a market where the personnel are a company's most important resource and turnover has gone straight up, there has been a never-ending demand for experienced people and capable new ones.

The number of employees has risen in step with growth. Between 1986 and 1987 alone, the average went up by over 30% to almost 1,100. And so salary costs have shot up. Salary levels vary, however, but by looking at value added these differences are removed and we get a comparable yardstick of the employees' earning capacity, regardless of pay.

Value added falling

With a profit margin of 9% and value added per employee at nearly SEK 16m (!) in the 1986/87 financial year, Fischer Partners stands out as an easy winner, high above all the others.

Other companies above the average, i.e. with a profit margin over 50% and value added per employee of more than SEK 1.4m, are OM, Carnegie, Merchant and finally, **Alfred** Berg, which just scrapes over the bar. Transferator also has a high value added, but does not properly clear the margin hurdle.

No company has a high margin in combination with low value added. H&P and Ares do meet the margin requirement, but the distance to the average is small. The other 11 companies are spread out below the average. It should be noted, however, that Nordia's and United Broker's profit is for 8 months only, which affects their value added.

The trend for the whole group is that profit margins and value added figures, which are fantastic compared to other sectors, are falling. Among the 18 firms where the comparison is relevant (Aragon is excluded because of its late start in 1986), the profit margin fell between 1986 and 1987 in 14, was unchanged in one and rose in only three.

Rising costs

Value added, compared in only 16 of the companies (Aragon, Nordia and United Broker are excluded for the reasons mentioned above), fell in the same period for all except Hagstr mer and Merchant. This indicates an increase in other costs apart from the cost of personnel.

In economic theory, over-profitable industries always come down to a normal level after a certain time as more players enter the field and competition stiffens.

Since 1980, the number of stockbroking firms has risen from 7 to 21. Two new firms have started in the past year alone, Gyllenhammar & Partners Fondkommission and G teborgs Fondkommission.

The number of employees has exploded and as supply is less than demand, salaries have risen, in many cases to fantasy levels. In addition, the firms gradually outgrew their premises and needed new and larger ones. In the heart of Stockholm, of course.

After a while it is difficult to get the equation to balance. Costs are going up rapidly. At the same time, competition for revenue is growing and worse still, the revenue base is declining in step with lower turnover and proposed new taxes and legislation. Profitability is on the way down.

Adapting to a new business climate

What then are the future prospects of the various stockbroking firms?

Despite falling profits and rising costs, it is not possible to talk about any crisis. Key indicators like average profit margin, at 50%, and value added per employee, at SEK 1.4m, are by no means common. It is more a question of what happens in companies that have not needed to worry about costs for a number of years, as revenue rose rapidly. The main source of income is from commission, followed by lending.

A few years ago, all the firms looked basically alike. Their aim was to chase commission, or put more bluntly, to shovel shares one way or the other as fast as possible. The biggest difference between them was size.

In step with the growth of the financial markets both in Sweden and abroad, operations have been expanded to cover more than just trading shares.

Growth of the money and bond markets led to the formation of companies like PM and Transferator. The Stockholm Options Market was created in mid-1985 by subsequently highly successful OM. These new instruments are also handled by the more traditional stockbroking firms, like hmans, Carnegie and Alfred Berg.

More and more brokers are also moving into corporate finance, i.e. mainly new issues, stock exchange introductions and acquisitions.

Strategies and key people

Thus there are greater differences between the firms today than 3 or 4 years ago, in size, strategy and ownership. **And** in all probability, these factors will have a bearing on their future success.

In a market showing saturation tendencies, the recipe for success more often than not is either to be big, or have a well-planned strategy and operate in selected niches. In a sector so dependent on personnel, being able to hold on to key people is also an important factor.

The biggest income earner is Carnegie Fondkommission, recently acquired by PKbanken. Total revenue in 1987 was just overSEK 480m, which is more than 40 times that of the tiniest firm, Nordia. Nordia too, by the way, has new owners, management consultants Indevo. Relatively new Gyllenhammar & Partners also belongs among the minnows, with 10-12 employees and operations as yet anonymous.

Like Alfred Berg, Carnegie creates a profile for itself by making a conscious effort abroad. Carnegie says it has no special market. It is at present represented in London, New York, Switzerland and Denmark Alfred Berg's strategy is to have the whole of Scandinavia as its base and has associated companies in Norway and Denmark. In future, it will probably be important to operate outside Sweden's borders, Many people believe trading in Stockholm will decline further, to the benefit of London and elsewhere. A disturbingly large share of the trade in Swedish equity has already moved to London.

Moreover, the **Government** intends gradually easing the exchange control regulations and eventually leaving the market perfectly free. For stockbrokers, it is a matter of being prepared.

Market niches

Alfred Berg is known to be good at both share analysis and corporate finance and is presumably the only one of the independent brokers that can meet competition from the banks in the latter field.

Öhmans also specialises in analysis. Previously, a few large investors had to subscribe to its analyses. Now they are offered free of charge, but still to a limited number of clients.

Until last year, hrnans dealt only with shares and related instruments, but

decided during the late autumn to setup a department for trading in interest-bearing paper. In view of reduced turnover in the money market, this may appear to be a mistaken move, but the company maintains it is not.

Alongside these more traditional brokers are some highly specialised firms. Transferator handles money market instruments and bonds only. As this trade is conducted in a market-maker system, it is fully competent to deal.

Penningmarknadsm klarna (PM) previously had the some kind of operations as Transferator. Believing that share trading in Sweden would develop in the market-making direction, PM started operating in the stock market last year. Developments indeed still point that way, but not within the time span PM has considered.

The Stockholm Options Market (OM) does not conduct stockbroking operations in the true sense. It started trading in standardised options in Sweden in the summer of 1985. The business consists of furnishing a marketplace for options and futures on shares, indices and Government securities. It does not take any positions of its own, but functions purely and simply as an intermediary bringing together orders to buy and sell from member brokers and banks.

OMS future is dependent partly on what will happen to turnover after the turnover tax is extended in the New Year, and partly on the success of its foreign ventures in France, Finland and Norway. The six-month report recently issued, shows that profit was nearly halved and it emphasizes the need to broaden its revenue base.

Only the biggest create a clear image

It is surprising that almost only the firms with the highest income create a clear image for themselves in any way. Behind them are a number that are neither particularly large nor have any clearly expressed strategy.

Consider the following scenario: a) Turnover continues to fall, partly as a result of weak prices. b) An extended sales tax makes transactions more expensive and foreign investors stay away from the Stockholm exchange. c) Interest deductions are tightened up after the tax reform and it there is less incentive to borrow money to finance the purchase of securities.

Restructuring would then be highly likely in the industry. And it is among the grey mass of small brokers with no expressed strategy and no strong owner behind them, that most changes would take place.

Defections can be the death blow

Mass defection of employees has become something of a symbol for the sector. Loyalty is greater to colleagues than to the employer. We have seen several

Fondkommissionär	Intäkter[1], mkr 1987	1986	Res f w, mkr 1987	1986	Medel-ant anst 1987	Vinst/anst, tkr 1987	1986	Förädlingsvärde/[10] anställd, tkr 1987	1986	Lön/anst 1987
Carnegie	482	337	33s	274	137	2465	2715	3040	3045	270
OM	349[2]	231[2]	221	151	55	4 o m	5035	4?30	5565	400
Alfred Berg	238	213	120	141	93	1290	2170	1690	2510	225
H & P [3]	162	320	85	163	175	485	960	895	1300	250
Transferater	161	129	61	87	17	3590	6215	3990	6530	250
Merchant	124	53	73	31	51	1430	1190	1710	1430	160
Öhman	105	106	43	47	71	605	810	1010	1165	230
PM	100	75	43	44	76	565	1 220	1010	1660	250
Stockholm FK [4]	98	158	30	105	71	423	I w'G-	755	2385	220
Fischer Partners [5]	65	663	61	59	4	15250	14750	15890	16425	420
Consensus [6]	64 4	6 69	26	42	" 45	560	1355	930	1730	190
United Broker 7]	53	96	25	60	47	530	1540	810	191950	155
Persson & Co	49	84	-25	44	65	neg	1025	neg	1570	200
Aragon [8]	48	4	20	0	27	740	20	1190	180	240
Aros	46	42	23	25	27	850	1250	1290	1630	250
Montagu	39	56	1	29	39	20	830	490	1245	285
Sven Hagströmer	36	20	4	-2	34	117	neg	410	290	195
B & B	24	49	0	16	44	neg	513	240	675	140
Nordia [9]	11	14	4	2	18	240	155	425	365	120

The table covers 19 *stockbroking firms. Gyllenhammar & Partners started at the end of 1987 and G teborg Fondkommission in 1988.*

examples in recent years. About ten people disappeared with Olof Hedengren from G tabanken to Aragon and the former Consensus management and others went to Alfred Berg, to mention but two. Today, such defection could be the death blow for one of the smaller companies.

To summarise, it is still too early to say how things will really go for the gilt-edged stockbroking firms. In a harsher climate, they will have to be able to hold their own.

Recipe for survival

Those who survive the 1990's will probably have created a profile based on one or more of the falling fields of competence

1. Trading know-how. When, rather than if, we get a market-maker system in the equity market, the requirements will change. The brokers will be forced to take positions of their own to a much greater extent. 2. Analysis know-how.

Until now, stockbrokers have used analysis mainly to create business, thereby generating commission. With a market-maker system, they will be forced to charge for their analysis other than through their commission. It is no accident that several of them **have** gone in for fund management work in the past year. Here is a natural use for the analysis and also new opportunities of getting paid for it. 3. Corporate finance. Many people speak about this as being important, but few stockbroking firms can point to any great success. The indications are strong. however, that this form of competence will be in greater demand if the structural changes of the past few years continue. For example, we have still only seen a few management buy-outs in Sweden.

Internationalisation of the stockbroking business offers a further way of creating a profile. When exchange control disappears, competition will increase. The companies will either have to move abroad with their business, i.e. open offices in London and New York like Carnegie, or buildup competence in the Swedish or Nordic capital market with theairn of becominga natural partner for foreigners who want to do business in this exotic area. Which is what Alfred Berg is trying to do.

Profitability of the advertising agencies

From an Affärsvärlden and Ledarskap supplement, May **1989.**

No agency has threatened R nnberg&Co in terms of profitability in recent years. With an average margin of over 5% and almost SEK 1.2m of value added per employee, R nnberg is the industry's undisputed prima donna.

More unexpected in our survey for 1986-88 is the fact that R nnberg is followed by two smallish agencies. The profitability over several years of both Adaptus Stockholm and HDM/MK, wins them first-team places. Adaptus maintains, however, that 1987 and particularly 1988 were extreme years for work-load and profit and that the result will therefore be difficult to repeat.

High capacity utilisation

Brindfors is holding its own with a margin well above the **average** of just over 9% and the average value added of SEK 37,000 per employee needed to get into the first team in the three-year diagram.

It is impressive that Brindfors can keep its work-force so well occupied year after year that despite misdirected efforts at times, it can come so high in the profitability league.

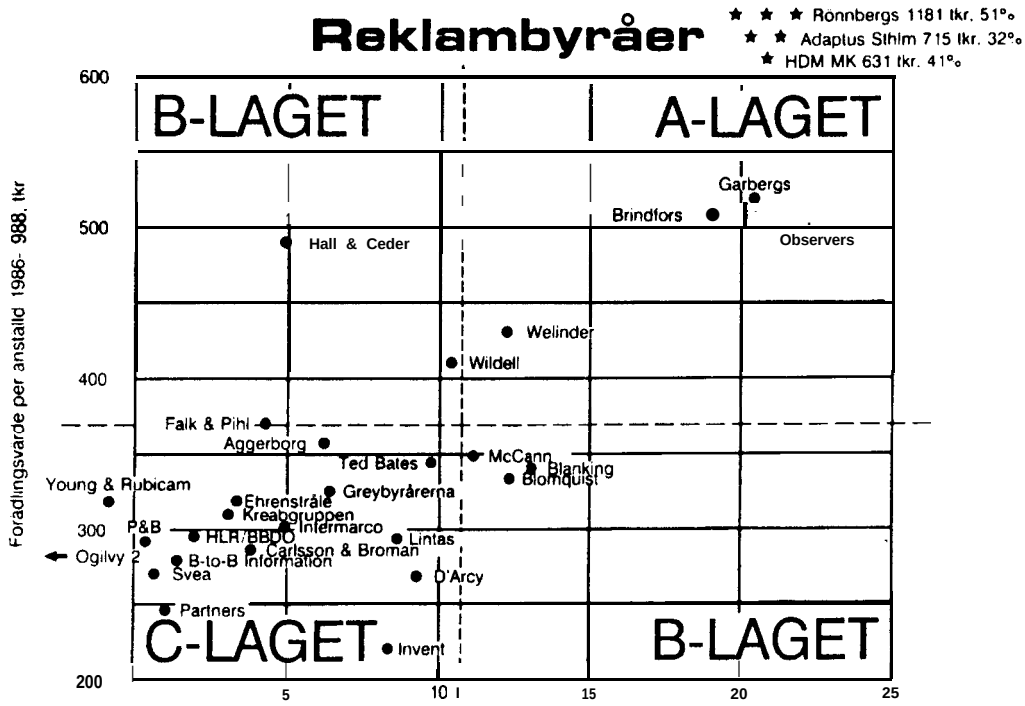
Around Brindfors are another two new acquaintances to show they can maintain a good level of profitability. They are Grey subsidiary Observera, which is now reported separately, and Garberg.

No fewer than 8 agencies get into the 1986-88 top team. In the three-year survey last year there were only four. Ted Bates and RKAB have been dropped. Ted Bates' figures are a special case as the management did not want to reveal their 1988 profit. We have therefore had to estimate it. RKAB was too small in 1988 to be included.

The profitability bar has been raised

The general, big upward leap in earnings in 1988 has raised the bar considerably both for profit margin and value added. In the 1985-87 period, a margin of 8% and SEK 310,000 of value added were sufficient. With the bar at that height, Ted Bates, Blanking and Blomquist would have made the first team too. As before, Hall & Cederquist flies high in value added, while its margin falls short of the mark.

Half the agencies are in the third team, where many of them seem to be firmly rooted. Young & Rubicam have certainly taken a big step up, but there is still a



Rönnberg & Co tops every list of the advertising agencies' profitability.

little way to go.

The Grey agencies landed in the second team last year, but now that Observera is being reported separately, the others have fallen back into the third team. Grey Stockholm, however, which is too small to get into the table on its own, would have earned a first-team place.

Invent, Wildell, Ogilvy 2, Garberg, Aggerborg and Partners provided information for 1987 and 1988 only, while agencies not providing figures for 1987 are not included in the three-year diagram.

Staff turnover in the advertising agencies

From an Affä rsva rlden and Ledarskap supplement, May 1989.

The personnel may be the advertising agencies' most important resource, but it is also the most volatile. The firms that Aff rsv rlden and Ledarskap have studied had an average staff turnover of more than 20% in 1988. Only one or two were below 10%.

These are figures that would take the breath away in other sectors. Transferred to a gigantic service undertaking like S-E-Banken, they would mean that 2,000 of the banking group's 10,000 employees leaving in one year and being replaced by newcomers. It would naturally be an impossible situation for the bank, which historically has a staff turnover of less, rather than more, than 1 %.

But the advertising world seems to survive its staff% mobility. One reason must be that a high turnover is part of the image of the industry and of creative personnel.

Another, more technical explanation is that it only needs three people to leave and be replaced at an agency with 15-20 employees, for the percentage to be high.

Untenable in the long run

But it is not possible to withstand an unlimited turnover of personnel over many years. The levels that Ehrenstr hle, Falk & Pihl, the Arbman & Alinder agencies, Pettersson & Brusquini and others had in 1988 are naturally untenable in the long run.

The turnover may be high in some agencies because they have enlarged their staff during the year.

Among them are the Wildell Group and Pettersson & Brusquini. For some agencies there is no information on the number of employees in 1987 available, but there is nothing to say that they would deviate from the general pattern.

No clear-cut conclusions

What factors can beat work in determining high or low staff turnover?

It is difficult to draw any clear-cut conclusions from the available figures of how much goes into education, salary level (i.e. what each employee costs) and the agency's financial profit.

An example: Ted Bates invests a lot in education, about SEK 25,000 a year per employee and had a low turnover of staff in 1988. Which is what the text-book

Staff turnover in the advertising agencies

Byrå	Antal anst	Börjat 1988 ● ntal	Slutat 19S8 ● ntsl	Pers oms %	Utb/ anst tkr	Pers kostn/ ● nst tkr	Pers kostn ● ndel ● v för- ädlvärdet
Kreabgruppen	167	40	36	23		286	81
Kreab	72	12	7	18		336	80
Ted Bates	141	11	10	--7"	25	321	86
Invent	137	31	43	26	11	207	97
Brindfors	124	39	29	28	30	359	69
Grey	117	22	28	21	13	332	81
Grey Malmö	38	10	10	26	13	265	91
Grey Göteborg	34	4	7	15	13	338	96
Observera	26	7	5	24	15	398	71
Svea Reklam	88	-'13	35	23	5	287	89
Svenska Intermarco Farner	74	17	13	21	?	288	88
Young & Rubicam Sweden **AB**	71	12	16	19	10	--339	85
McCann-Erickson	69	11	18	21	13	336	82
Indevo	62	13	11	39	il	276	64
Sören Blanking AB	41	5	5	12	11	276	67
Welinder	21	8	6	67	11	276	59
Hall & **Cederquist** AB	58	10	15	22	10	391	84
Partners **(Partitur)**	57					212	87
Business-to-Business Information	56	6	7	12	3	293	94
Wildeligruppen	55	26	10	(38)	10	*273*	*74*
HLR/BBDO Reklambyrå AB	41	7	10	*22*	21	*278*	*88*
D'Arcy Masius Benton & Bowles AB	40	4	5	11	*6*	*259*	86
Lintas AB	39	3	6	11	22	241	89
Blomquist	36	5	5	13	20	398	85
Pettersson & Brusquini	36	27	13	(68)	3	286	87
Ogilvy 2	27	5	9-	24	10	350	80
Bo Aggerborg AS	26	6	5	22	16	245	72
Carlsson & Broman AB	25	4	2	12		229	79
Ehrenstråhle & Co i Stockholm **AB**	25	8	9	33	7	370	98
Arbman & Alinder i Stockholm AS	24	6	11	71	3	312	77
Arbman & Alinder i Malmö AS	23	5	4	39	-	336	88
Lyberg Annonsbyrå AB	19	3	1	11	20	338	64
Garbergs	19	8	5	41	25	343	66
HDM MK Marknadskommunikation	16	3	3	19	12	309	52
Rönnberg & Co	16	3	3	19	30	507	36
Adaptus Stockholm-	15	6	2	30	8	379	44
Falk & Pihl	15	9	18[1]	65[1]	..	420	

says it should be.

But Brindfors, which invests even more in education, suffered much greater staff losses than Ted Bates. Perhaps it was the calm after the storm for Bates, which lost a large number of people at the end of 1986.

However, there seem to be a couple of tendencies: 1. Agencies in the first profitability team seem to have a slightly lower turnover. 2. It looks as though material factors such as salary or education, turn the scales. At least, these two considerations are probably always present. No one can run an agency without paying market salaries and providing opportunities for self-improvement.

Top agencies go for education

The sums invested in education and training vary from one agency to another. In part, it probably depends on some things being counted as education at one firm and not at another, but also, the stated amount is an average for all employees, not only the key people agencies are particularly anxious to keep.

There is a clear tendency here for agencies like Rönnberg, Garberg and Brindfors at the top of the table to invest more in education than others. The question is simply what is cause and what effect? Is it profitability that has made it possible to devote greater resources to education, or the other way round?

On average, the agencies invested between SEK 15,000 and 20,000 in education per employee in 1988.

Too much salary

Affärsvärlden and Ledarskap have previously criticised agency managements for allowing their employees, as well as themselves, to take home too much of their value added in the form of salary. There has simply been too little left to build up a stable company.

As yet, last year's much improved profits do not seem to have led to high salary increases. The average proportion of value added going to the personnel has therefore fallen, but is still high compared to other sectors.

As before, staff in the most profitable agencies get the smallest proportion. Those agencies which have not done as well cannot reduce their salaries, otherwise the staff will disappear, while as a rule, the pay of creative staff is at a level where increases are of no value under the present tax system,

CHAPTER XIII

The Key Indicators Defined

Average age
The average age of all employees and the average age of revenue people respectively. (See below for definition of revenue people.)

Average number of years employed, revenue people
The same definition as for average number of years employed, but counting only revenue people.

Average number of years employed
The total number of years employed for all the staff, divided by the number of employees.

Average professional experience
The total number of years revenue people have been in the profession, divided by the number of revenue people.

Big customers
The proportion of big customers is the number together accounting for 50% of invoicing, as a percentage of the total number of customers.

Capacity utilisation
The total number of hours charged for as a percentage of the total number of chargeable hours for revenue people.

Challenging assignments
See under "Challenging assignments" in Chapter 4 for a detailed description.

Customer relations, duration

The length of time that relations have existed, divided into periods of less than 2 years, 2-5 years and more than 5 years.

Customer structure

The most suitable way of describing customer structure is to give the percentage of sales to, or value added for, the largest 3,5 and 10 customers. The number of customers accounting for 50% of total sales can also be given. (See under Big Customers.)

Customer turnover

Customer turnover is the proportion of the year's total sales that go to new customers. It is given as a percentage.

Education

The personnel should be divided into those with: a) Compulsory schooling b) Upper secondary schooling c) An academic degree d) A master's degree or doctorate.

Educational costs

The cost of both internal and external education should be shown. The method of calculating internal time should be stated e.g. if it is at the same value as to an external client or at salary cost only. (See also under Chapter 3).

Employees

The average number of full-time staff during the year. Freelances or sub-contractors are not included. Time worked is converted to full-time in accordance with noms laid down by the National Social Insurance Board.

External costs

Payments to suppliers outside the company. Also called out-of-pocket costs. (See also Internal costs.)

Individual capital, in years

The total number of years all revenue people have been in the profession.

Interest cover

This can be shown in different ways: a) Profit after financial items plus interest costs, divided by the interest costs. b) The same as above but with profit adjusted for exchange rate differences and any undisclosed change in the value of assignments in progress.

Internal costs

Computed personnel costs and computed costs that have not required payment from the company.

Liquidity reserve

The number of months the cash will last if present and on-going assignments are completed and no new ones received.

Liquidity

Liquidity can be calculated in different ways. a) Current assets minus stock-in-trade and advances to suppliers, divided by current liabilities. This is called the acid test ratio. b) Current assets divided by current liabilities, called the current ratio. Note that adjustment should be made for any unreported value of assignments in progress.

New employees

The proportion of new employees is the number of revenue people employed for 1 year at most at year-end, as a percentage of the total number of revenue people.

Organic Growth

The company's increase in sales as a percentage, adjusted for acquisitions.

Profit per revenue person

Value added divided by the number of revenue people.

Profit

In this book profit is always taken to be after depreciation and financial items, but before extraordinary items. This concept is used as it gives the best idea of the company's sustained profit.

Profit per employee

Profit divided by the total number of employees.

Profit margin
This can be measured in two ways
a) Profit as defined above, in relation to sales.
b) Profit in relation to value added.

Repeat purchases, proportion

Current invoicing to customers the company had the previous year, divided by total invoicing in the current year.

Research and development costs

Both internal and external R&D costs should be given in total. Suitable key figures are R&D as a percentage of value added and of sales. The method of calculating internal time should be stated, **e.g.if** it is at the same value as for an external client or salary cost only. (See also under Research and Development in Chapter 4.)

Return on capital employed

Profit after financial items plus interest costs, as a percentage of the average balance sheet total.

Revenue people, proportion

The total number of revenue people as a percentage of the total number of employees.

Revenue people

Those who are active in the know-how company's actual production. The people who plan, produce, process and present the product in demand by the customer. The dividing line between revenue and non-revenue people is difficult to draw. It is natural for staff who are directly involved in customer work to be included among the revenue people even if they are not professional in the main know-how field, e.g. sales and other marketing staff. On the other hand, personnel working in departments serving the know- how company as an organisation, e.g. the accounts and personnel departments, caretaking etc., are not included. The grey zone that can arise from staff doing mixed work should be dealt with so that time spent doing work for customers is counted as such, the rest as internal work.

Sales

This is always taken to be invoiced sales excluding cost outlays passed on.

Sensitivity to defection

The effect on profit if 10 people leave. Alternatively, if an entire profit centre leaves.

Solidity

Solidity can be measured in several ways:

a) Reported equity+ 50% of reported untaxed reserves, as a percentage of the balance sheet total.
b) Reported equity+ reported untaxed reserves, as a percentage of the balance sheet total.
c) As a) but adjusted for goodwill and the surplus value of real assets, as a percentage of the balance sheet total.
d) As b) but adjusted for goodwill and the surplus value of real assets, as a percentage of the balance sheet total.

In each case, adjustment is made for any reserve in work in progress and any difference between book value and the mathematical value of pension undertakings.

Staff turnover

The number of people of different categories who have left during the year, as a percentage of the average number of employees of the same category. Internal staff turnover should also be shown, i.e. how many in different categories have moved within the company.

Staff who did not complete their upper secondary schooling or completed only individual courses, should be counted under compulsory schooling. Those who did not complete an academic degree, or completed only individual academic courses, should come under upper secondary schooling. Those studying for a doctorate should be placed in category c).

Suitable key figures are:
a) Educational costs as a percentage of sales, or of value added.
b) Education days per employee and education days per revenue person.

Value added per revenue person

Value added divided by the number of revenue people.

Value added per employee

Value added divided by the total number of employees.

Value added

Value added is operating profit before appropriations, with the addition of labour and leasing costs. Leasing costs (depreciation and interest) are included to get a proper comparison between companies using leasing finance and those using loan finance. Labour costs can be worked out on a standard basis as salary +50% social security charges. All benefits that can be attributed to an employee, such as use of a car, free lunch etc., are included in labour cost.

Veterans

The proportion of "veterans" is the number of revenue people employed for at least 3 years at year-end, as a percentage of the total number of revenue people.

De vanliga finansiella nyckeltalen som används for att styra eller analysera ett foretag och vardera dess aktie racker i nte t i ll for ett kunskapsforetag. Det firms ett osynl igt kapital gomt i foretagets organisation, marknadsposition, ledning och personal – ett kapital som bara kan tas fram genom de nya "mänskliga nyckeltalen".

DEN OSYNLIGA **BALANSRÄKNINGEN** presenterar dessa nya nyckeltal for redovisning, styrning och vardering av kunskapsforetag.

DEN OSYNLIGA **BALANSRÄKNINGEN** är en belt omarbetad uppföljare till pionjärarbetet DEN NYA ÅRSREDOVISNINGEN. Den var resultatet av ett mer an årslångt forskni ngsarbete av den s k Konradgruppen, som består av Elisabet Annell, **chef for Tonnerviksgruppen, Siv** Axelsson, **medarbetare i Affarsvarldengruppen,** Per-Magnus Emilsson, **VD i KREABgruppen, Hans Karlsson,** auktoriserad revisor i Bohlins Revisionsbyrå, **Karl Erik** Sveiby, **chefredaktor for tidningen Ledarskap och** medlem av ledningen **for Affarsvarldengruppen, Carl Johan Wangerud,** ledningskonsult **vid** Semco **Management Consultants och Stig** Vikström, **auktoriserad revisor vid Revisionsgruppen Lindeberg & Co AB.**

Konradgruppen från vänster **till** *höger: Hans Karlsson,* **Cad** *Johan Wangerud, Siv Axelsson,* **Karl Erik** *Sveiby (bokens redaktör), Elisabet Annell,* **Stig** *Vikström* **och** *Per-Magnus Emilsson.*