

# Managing Knowhow

by

Karl Erik Sveiby

Tom Lloyd

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by valuing creativity*

*Oh joy, is this a business . . . you got it, you sell it and you still got it!*

Do you also think that you are just a lousy manager trying to cope with a bunch of highly creative, well-paid eccentrics?

You are probably managing knowhow and are struggling with the same problems as many others. Now and again you are getting a few right answers.

The information society is emerging - increasingly dependant on sophisticated knowhow. This society brings with it a new kind of company - the knowhow company. A knowhow **company** has to build a durable organisation based entirely on the knowhow of human beings. A **new management approach** is needed.

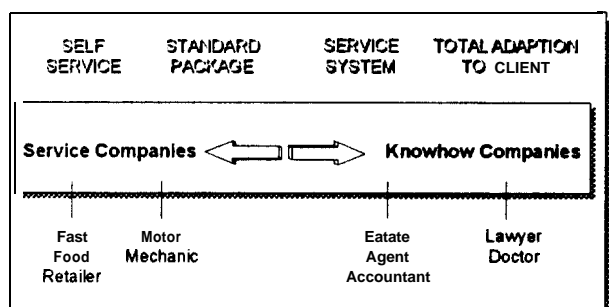
Knowhow companies

computer consultants  
journalists, physicians  
academics, lawyers  
civil servants  
research scientists  
merchant bankers  
venture capitalists

Knowhow departments in traditional industries

- Research Centre in a manufacturing company
- Engineering Department in an automobile company
- Securities Division in a bank
- Surgical Unit in a hospital
- Corporate finance team in a large company

## Introducing the knowhow company.



Service and knowhow companies

The business of a knowhow company consists of **complex, non standardised, individual and creative** problem-solving.

Its key resource is knowhow capital rather than financial capital or the production process. **The individual is at the centre of the stage** - representing the lifeblood of the company - and somehow has to be managed.

Important terminology used in traditional industries has its counterpart in the knowhow company.

Knowhow enriched INFORMATION is the **revenue** of the knowhow company.

KNOWHOW on the invisible balance-sheet is the same as **fixed assets** on the traditional balance-sheet.

EDUCATION is for human beings, what **maintenance** is for machines.

RECRUITMENT is the counterpart of **investment** and most important of all, TIME is the **raw material** of the knowhow company.

The HUMAN BEING is the knowhow **machine**.

Atypical knowhow company finds it very **hard to standardise its operations**. Its major problems are the scarcity of knowhow and its dependence on key people.

## Knowhow capital means power.

There are two types of knowhow, **professional and managerial knowhow**. Both are essential for the success of a knowhow company.

Knowhow capital is **mobile and heterogeneous**. Owners of knowhow capital tend to be **independent** of their employers and have a high bargaining power due to shortage of knowhow capital.

## The information society is a knowhow society.

**Focussing on core knowhow** is the key to success for knowhow companies.

Investment in knowhow means growing smarter through accumulated knowhow (value added information). Knowhow capital can reduce the need for financial capital.

## Putting knowhow coronanies to work.

The core of the knowhow company consists of the business **idea**, which belongs to the key people and the **personnel idea**.

The business idea contains the personnel idea. This is an integral part of strategy and consists of four elements: recruitment, development, motivation and departure of its people.

**Supportive functions** like **marketing** and **accountancy** surround the core and the **culture** binds the organisation together.

Professional organisations need **few tangible assets**. They can build structures that are quite as tangible as a mortgaged building or a depreciating stock of goods.

These structures consist of human relations (networks), shared values and attitudes (**culture**) and collaborative arrangements between people inside and outside the company (**cooperation agreements**).

The more stable structures are **the accounting system** and the “home” of the company (**office space**, designed to develop relationships and build information channels).

Developing a knowhow company into a professional organisation means that four categories of employees must learn **to work together efficiently and harmoniously**.

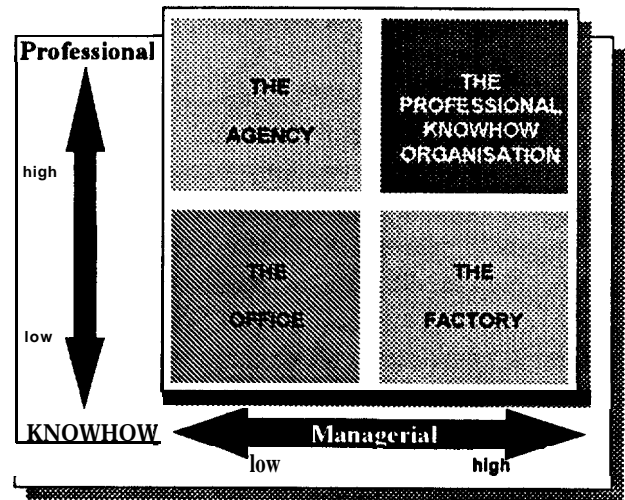
- **THE PROFESSIONALS** are the most important resources but hard to manage. They are interested mainly in freedom to develop their own professional skills. Very **often** they are unable or unwilling to manage other people but they possess a high degree of professional self-management.

- **THE CLERICAL STAFF** or **FRONT OFFICE** support the professionals. Ideally they should develop into professionals in their own field. Yet, through lack of information and lack of vision they are often a source of discontent.

- **THE LEADER** is the driving force of the **knowhow** company, often an ex-professional with the ability to organise. A right balance between professionalism and leadership is crucial.

- **THE MANAGER** as exists in conventional industrial companies will have a hard time in knowhow companies. Top positions are out of reach and acceptance by professionals is hard to obtain.

**The need for dual expertise** is a dilemma to all knowhow organisations.



Next to professional knowhow, **managerial knowhow is uppermost important**, yet professionals are not very interested in developing their “places of work” as organisations.

If management or leadership consists of one person for each knowhow domain, the leader with managerial knowhow loses his grip on the professional reins.

Collective leadership can solve this **dilemma**, usually a pair of leaders who both combine the professional and managerial knowledge.

## Measuring knowhow.

Present accounting systems are inadequate to measure knowhow. Output-related information is needed whereas one presently measures the **input-related** information (e.g. time accounting).

Traditional financial indicators as volume-growth or profitability can be misleading. Moreover, none of them measure the growth (maintenance and expansion) of the knowhow capital.





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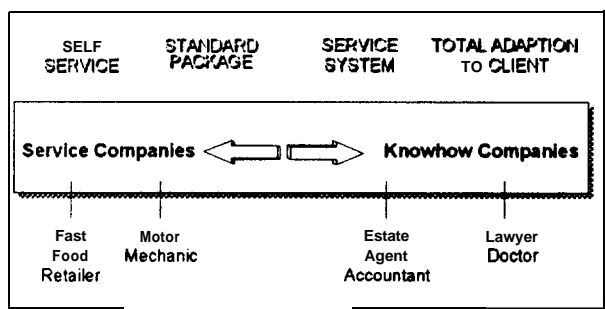
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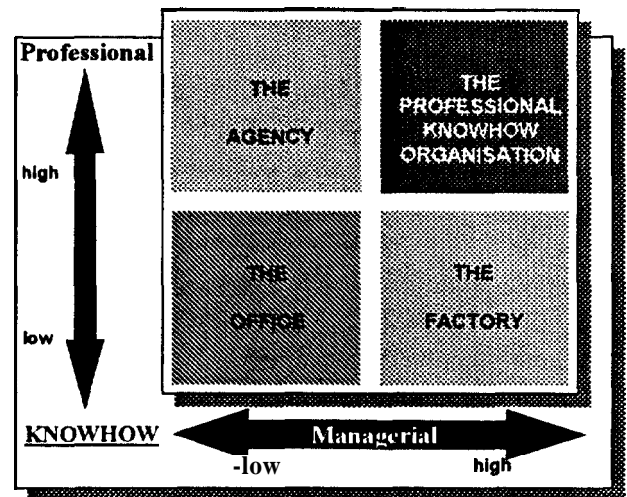
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Traditional financial indicators as volume-growth or profitability can be misleading. Moreover, none of them measure the growth (maintenance and expansion) of the knowhow capital.

It is important to invest in the core **knowhow** and to **keep the right balance between profitability and investment in knowhow.**

Important key indicators for **knowhow** companies:

1. The knowhow capital
  - ☞ total man years of professional experience
  - ☞ quality of **knowhow**
  - ☞ average knowhow capital per professional
  - ☞ investments in knowhow
  - ☞ R&D budget
  - ☞ average age of the professionals
  - ☞ knowhow transferal within the company.
2. **The return on knowhow capital**
  - ☞ profit as a percentage of revenues
  - ☞ total added value (profit before net interest + salaries + social security costs + depreciation) divided by the total knowhow capital.
3. **Efficiency and productivity**
  - ☞ total added value
  - ☞ added value per employee
  - ☞ per professional
  - ☞ per team.
  - ☞ profit per client
  - ☞ administrative costs as a percentage of revenue
  - ☞ productivity indexes.
4. **Stability - the knowhow risk**
  - ☞ personnel turnover
  - ☞ average age
  - ☞ age and experience mix
  - ☞ salaries as a percentage of added value.

### Structuring knowhow.

In knowhow organisations, the **power lies with the owners of knowhow**, rather than with the owners of the equity. Partnership between founders, owners of equity and professionals are important.

Therefore a corporate structure that allows for the realities of the professional organisation should be sought for. The legal and accounting structures that give shape and substance to the knowhow company should be flexible and dynamic.

### Leadership.

A leader is a **creator** of the work environment and a **tutor**, who creates opportunities for his employees. He **channels intellectual energy**, maintains a **clear sense of direction and is** the guarantor of **continuity and security** in his organisation. He is all but a patriarch.

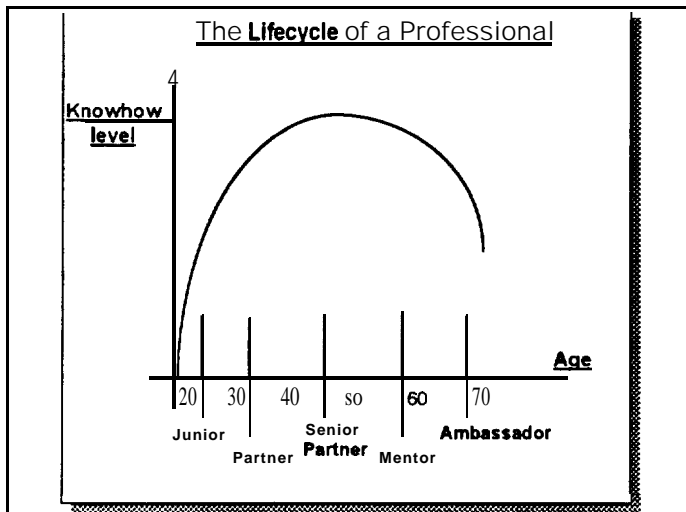
## The en u e f a o s of knowhow management.

Any knowhow company can, through knowhow management, turn into a professional organisation. Here are 10 success factors.

1. **Day-to-day leadership**  
The leaders should take initiatives and stay involved in the production. They should set up and use **informal** monitoring systems to keep in touch with what lives **in** their organisation. It is very important that they remain accepted by the rest of the organisation.
2. **Quality and quality control**  
High quality standards are imperative, uncompromising quality control systems should be set in place and quality measured regularly (e.g. internal discussions, client **surveys**).
3. **Respect for knowhow**  
Resources for training and in-house R&D should be available. Internal education and transfer of knowhow (also for administrative **staff**) should be among the top priorities.
4. **Professional & managerial knowhow combined**  
Knowhow management means finding the right balance between professional and managerial **knowhow**.
5. **Strong & well-defined culture**  
Define the culture, use it as a framework and adapt it in time.
6. **Focus on core knowhow**  
Managing an organisation with many different **knowhow** areas is **difficult**.
7. **Knowhow preservation**  
Keep key people through employee ownership, profit sharing and employee motivation.
8. **Develop the people**  
The single most important management activity is recruiting and developing the people.
9. **Changing key people**  
Leaders and key professionals **MUST** become dispensable. Change is inevitable and an **OPPORTUNITY** rather than a threat.
10. **Stable structures**  
Embed the intangible brain substance in structures to give the professional organisation coherence and stability. The two kinds of formal structure important to a **knowhow** organisation are the accounting system and the legal structure.

## From knowhow company to a professional organisation.

Acknowledge the life expectancy in the profession and keep an equilibrium between dynamism and experience.



*Professionals increase their knowhow as they get older and may develop into mentors.*

*The ambassador has left the company and may prove valuable as a link to the external network.*

The personnel **idea**, which is extremely important to all knowhow organisations, contains four components: recruitment, development, motivation and departure.

**Personnel recruitment** is the most powerful long-term instrument for changing the company's position on the market; the most important **strategic weapon**.

Recruitments can alter the knowhow level and even the business idea. They can profoundly change or consolidate the organisation and even help conquering new markets.

Different strategies can be **chosen**, depending on the organisation's markets and ambitions:

**Recruiting** young people, who will learn from but also copy elder professionals, tends to conserve the existing culture.

Recruitment of skilled **people** will bring new business, new clients, new networks and new ideas, but might be a threat to existing professionals.

**Recruiting nice people** who bring no conflicts and say "yes" to the older professionals will reduce stress, but they might lack inspiration and this decision could compromise long-term quality.

**Adding a whole team to the organisation** through a merger only works when the teams and their respective cultures fit.

**Personnel development** should be tailored to each of the four personnel categories in the knowhow company:

**Managers** could probably **build** their own careers, but not by letting them build empires.

The **front office** (or clerical **staff**) should not feel imprisoned in boring jobs. Educate them about the business idea, give them opportunities to develop their own skills and treat them as professionals within their own profession.

Be flexible about both careers and remuneration of **professionals**. Give them food for their inquisitive brains and as wide a scope as possible. Show empathy for the need of the individual.

**Identify potential leaders** in time. Give them managerial experience though keeping **focussed** that his main task is to establish his or her professional credentials. When the time comes for him to take over leadership, he should be accepted by the other professionals.

*Do not confuse the role of a **professional leader** with that of a manager. In so many knowhow organisations or departments (e.g. state, universities, ...) **skilled professionals are forced to abandon their profession to become "administrators"**.*

**Personnel motivation** is very important. Hiring good people is just the start. Create a stimulating environment, have feedback systems as an essential stimulus for self improvement.

Do not neglect the importance of the success spiral; success breeds success and motivates professionals. A successful company makes it easier to hire good people and keep the best.

**Personnel departure** means losing part of the accumulated knowhow. Yet, . . . a lot can be salvaged.

The leaver can be an ambassador for his **ex**-company. When he does well, he will even help **further** recruitment.

Departures can inspire a **fundamental** reassessment and cause new ideas.



## **The living Knowhow**

Knowhow is always changing - growing through development and knowhow transfer within the organisation and shrinking through leakage,

- KNOWHOW DEVELOPMENT. Research & Development is essential and it is not hard to encourage professionals to do research. Yet, always make sure that the R&D is **useful** for both company and individual.

- KNOWHOW TRANSFER. Combat professional jealousy. Instead, exercise education programmed, training on the job and an opportunity for newcomers to “shadow” the professionals,

- KNOWHOW LEAKAGE is inevitable as it is in the nature of a knowhow company to share its knowledge with clients, other professionals and even with competitors. Keep on replacing knowhow leakage by new knowhow.

## **Making business out of knowhow - the business idea.**

### **Converting knowhow into business ideas**

The added value per individual is limited, especially when services are charged based on the time involved.

Yet, with a profitable business idea, the same knowhow can earn much more for your organisation.

The profitability of a given knowhow is determined by the extent to which it is combined with a sound business idea and with managerial expertise.

#### **- KNOWHOW MULTIPLICATION.**

Knowhow multiplications such as multi client studies, software packages, newsletters, specialist magazines can be produced at **low** cost.

They can be handled by less expensive personnel who take care of their distribution, bookkeeping and administrative jobs.

In that way the professionals have become knowhow multipliers - their added value is not merely linked to their time anymore.

#### **- COMBINING KNOWHOW WITH FINANCIAL CAPITAL**

Typical business ideas of this kind are merchant banking, venture capital, property development and portfolio management.

Irrelevant of how important financial capital is for the success of the business idea, the knowhow remains the most important asset and the financial capital plays a subordinated role.

## **Four generic business ideas**

They have **different** degrees of dependence on both key individuals and financial capital.

- THE CONSULTANT. The revenue-generating ability is limited to what the team of individuals can produce in terms of added value per hour. There is a high dependency on key individuals, but a **low** dependency on financial capital.

- THE **KNOWHOW-MULTIPLIER**. Knowhow of a few key individuals is embedded in systems and routines that can be handled by less educated persons. There is a low dependency on key individuals and a low dependency on financial capital.

- THE ASSET-MANAGER. Financial capital enjoys high profitability when enriched with knowhow, or knowhow is **powerfully** leveraged when combined with financial capital.

The added value per employee correlates strongly with the capital intensity. There is a high dependency on key individuals and a high dependency on financial capital.

- THE HIGH-TECH COMPANY. Multiplies knowhow by incorporating it into products that will sell well in large numbers.

It is a combination of investment in equipment, routines, systems and software. Knowhow is used to provide goods and services to customers.

There is a low dependency on key individuals and a high dependency on financial capital.

### **A business idea a day**

Professionals, who feel “at home” in their organisation and understand its goals, will generate plenty of business ideas.

The managers and leaders, who value their professionals and possess managerial expertise, will turn ideas into profit-generating business.

A **professional** knowhow organisation is **buzzing with new business ideas** and it has the **power to turn them into viable businesses**.

## **Making a business out of knowhow - expansion and growth.**

### **Grow or die**

All companies must grow or die. For a knowhow company, only growth based on its core knowhow will work.

## Entrepreneurial business development

Whatever the money injected, it is the entrepreneurial expertise, which makes the knowhow company grow.

An entrepreneurial business development begins with the **development of the entrepreneur**, not the business itself. It is possible to expand a knowhow business either by exploiting the **professional** or the **managerial** knowhow.

## Characteristics of a knowhow company that help development

- **Little** need for financial capital.
- Low barriers to entry, but the knowhow itself. Strong defences against stealing this can be built, e.g. agreements with suppliers or clients about exclusive rights, a strong database, an effective personal network, rare personal knowhow .
- Internationalisation: knowhow can be exported, or similar operations in neighboring countries can be set up.
- Human network: friendly relationships with customers, suppliers and other companies in similar industries help to reduce the risks and fasten the flow of information (the knowhow company's raw material).
- Dual expertise: the managerial knowhow must be developed to be able to survive the first three critical years for any new businesses and - even more - to grow.

## Growth is the expansion of the knowhow capital

The expansion of the core **knowhow** capital is the key measure of growth.

Volume, turnover or financial assets growth can be a dangerous strategy. There is a negative correlation between profitability and size in knowhow companies.

## The three strategies for growth

**Organic growth** is the most natural and the safest expansion strategy. If the business idea is strong, ever more customers will demand the company's services. Maintaining quality and recruiting the right professionals **will** be a big challenge as the organisation grows more complex.

- **Combining financial capital with knowhow** is not as easy today as it was in the beginning of this century. Today knowhow companies have able people that produce services, whereas their forebears had expensive machines, making products. So there **must be a mutual understanding** between the representatives of the financial capital and the owners of the knowhow capital to be **successful**.

**Mergers and acquisition** rarely work for **knowhow** companies. Cultures and ideas can clash; size removes the leaders from their **fellow**-professionals.

Professionals may leave, the focus on the core knowhow maybe lost and the knowhow itself may even leave with key professionals.

## The three phases of growth

Knowhow companies grow from **consultancy**, through a phase of high growth, to a low but steady growth. The transition from **consultancy** to high **growth** is the critical point.

When **successful**, the knowhow can be embedded in routines and . . . an ordinary service company emerges. For some key people, phase one will then start again, as they will leave the company and start one of their own.

## Investing in knowhow.

A prospective investor in a knowhow company should ask: **“Do the company's managers understand knowhow management?”** and **“Does the company need financial capital?”**

Of the four generic **knowhow** company types, the Asset-manager and the High-tech company are most dependant on financial capital.

The **Knowhow** Multiplier might need capital to invest in mainly computers and working capital, mostly when entering growth-phase two.

Still, the financial capital plays a minor role.

**“What are the risks?”**

The (visible) balance sheet does not show the company's true position.

The stability of the knowhow company must be taken on trust, as traditional accounting methods and legal reporting requirements do not show enough.

The biggest risk in a knowhow company is the “knowhow risk”, the risk of knowhow leakage due to inadequate R&D or departure of key professionals.

## The value of a professional

**His** profit potential, depending of where in the professional life-cycle he is and depending on what the business idea itself adds to his personal potential.

For the investor, the value of all professionals combined, the age mix, the experience mix and the average personnel turnover, is important.

**“How should the value added be divided between the suppliers of knowhow and the providers of financial capital?”**

As the **knowhow** gives leverage to the financial capital, the surplus should be reasonably distributed.

1. Investor: normal yield plus a risk premium.
2. Organisation: development of knowhow capital.
3. Professionals: remuneration.

**Analysing** key ratios about the employees rather than financial capital gives a better insight on knowhow companies.

- personnel turnover rate
- market value per employee
- added value per employee

### **The Pro-team - the worm in the bud.**

The focus of this book is on knowhow companies, mainly engaged in complex problem-solving.

Yet, practically **all** industries, manufacturing and service, contain within them larger or smaller areas of complex problem-solving activity. Knowhow work is a **pan-industrial phenomenon**.

Many traditional industries in the Western world are becoming knowhow industries, whereas production moves out to other parts of the world.

All managers need to learn the rudiments of knowhow management if they want to avoid losing their key personnel.

#### **The pro-team**

Within every company, large or small, manufacturing or service, there is a department, division, unit or **subsidiary** that is very different from the rest of the company.

Their working conditions are completely different from those in the rest of the company or organisation. They talk a language (jargon) **foreignly** to the other employees of the organisation.

Highly motivated and enthusiastic, they often keep to themselves and have their own culture.

Their attitudes to company rules and conventions, to top managers and union leaders often cause problems.

These pro-teams should be seen as embryonic knowhow organisations, operating like **worms in the bud** within traditional “industrial” companies.

Pro-teams in large organisations represent the core knowhow, they can drive organisations, but it is hard for them to be servants.

The 10 success factors apply to pro-teams too.

1. The manager must take an active part in the daily work.
2. Pro-teams thrive on the professional part of the business idea, the quality.
3. Invest in knowhow by engaging in “in-house” R&D.
4. Encourage internal entrepreneurs ("**intra-preneurs**") and give them autonomy.
5. Let the pro-team develop their own culture; it stimulates the development of professional expertise.
6. Focus and give priority to quality projects.
7. Find ways of keeping the key people to preserve the core knowhow of the organisation.
8. Help develop the people in the pro-teams on their own terms, let them have their own careers.
9. Develop smooth changeover techniques.
10. Create stable structures - both formal and informal - which tie the pro-teams together and, through networks, link them to other parts of the group.

#### **Top management is a pro-team**

One can regard top management as a pro-team at the **centre** of a large organisation.

### **Knowhow and the future.**

#### **A paradigm shift in the information society.**

If the reader accepts the basic themes and ideas treated here, how much of the present economic and managerial orthodoxy will he have to reject?

#### **Knowhow life-cycles.**

A particular knowhow has its own life-cycle: it is born, developed, becomes mature and eventually declines. There is a transition of goals in these **life-cycles**.

In times of shortage, the goal is obtaining **maximum volume of output per unit of capital and human resources**.

When shortage moves to abundance, the market will ask for **quality** and a new life-cycle will start.

The food industry is a good example of this transition from the quantity to the quality life-cycle.

The knowhow, developed in the last 100 years, has enabled us to have enough food, even more, to have food mountains. So, we do not fear food-scarcity anymore.

Yet we are paying the price of loss of taste and nutritiousness. Consumers are now willing to pay more for “natural foods”. The quality life-cycle has started.

## A shift of paradigm.

Knowhow, which is important for the entire population, will be embedded in government and universities. Laws will be made to let that knowhow live and THE ESTABLISHMENT takes over. ,

When there is a **shift** of needs, “heretics” will bring new knowhow. They will be fought by the establishment, which feels threatened.

Yet, if the demand for new knowhow is large enough, the heretics will reach a critical mass and there will be a **shift of paradigm**. No paradigm of business, however firmly established, can **defy** the customer indefinitely.

## Transition.

Are there trends, suggesting a change in the bargaining power of professionals? Can we keep on characterizing the positions of the professionals and the knowhow manager as static in the sense that both adapt to the existing situation?

## Imperfect markets.

Imperfections in the professional marketplace, are caused by the persistence of old conventions, which are still giving too high a return and too much power to financial as opposed to knowhow capital.

These imperfections will be progressively ironed out; the old paradigm is already in retreat in some knowhow areas,

A widespread restructuring of companies and industries to suit the ethos of the professionals is very likely.

## Towards a knowhow future.

### What are the implications of a shift in the balance of power from capital to knowhow?

Knowhow or “gold-collar” workers will become increasingly powerful at all levels of society and traditional manufacturing industries will adopt knowhow oriented strategies to survive.

Unions will undergo a major transition following falling membership; self-employment will increase.

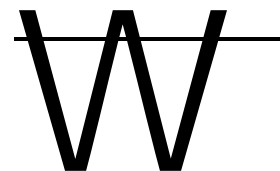
Business ethics and corporate culture will become key management tools, and so on . . .

### What are the implications of the hunger for growth?

Knowhow , industry managers hunger for “globalization” and the “services supermarket” may be very dangerous. Can they keep above-average quality? Do their customers really want them to grow? Can they keep their professionals while growing?

## Mutiny in the ranks.

Even the best managers and the most charismatic leaders will find it hard to reconcile the exigencies of rapid, acquisition-led growth with the essential fragility of the knowhow capital on which knowhow companies depend.



summarized by Diane Van den Berge  
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## The Author

### Dr. Karl-Erik Sveiby

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He was Executive Chairman and Co-owner of Ekonomi + Teknik Förlag, one of Scandinavia's biggest publishing companies for business and trade until 1993.

Over the years he held various executive positions and is a pioneer in the emerging research field of Managing Knowledge Intensive Organisations; he has written many articles and has published several books on the subject.

Kunskapsföretaget (The Knowhow Company), Coauthor Anders Risling, voted "Best Management Book 1987".

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## **A shift of paradigm.**

Knowhow, which is important for the entire population, will be embedded in government and universities. Laws will be made to let that knowhow live and THE ESTABLISHMENT takes over. ,

When there is a **shift** of needs, “heretics” **will** bring new knowhow. They will be fought by the establishment, which feels threatened.

Yet, if the demand for new knowhow is large **enough**, the heretics will reach a critical mass and there will be a shift of paradigm. No paradigm of business, however firmly established, can **defy** the customer indefinitely.

## **Transition.**

**Are** there trends, suggesting a change in the bargaining power of professionals? Can we keep on characterizing the positions of the professionals and the knowhow manager as static in the sense that both adapt to the existing situation?

## **Imperfect markets.**

Imperfections in the professional marketplace, are caused by the persistence of old conventions, which are still giving too high a return and too much power to financial as opposed to knowhow capital.

These imperfections will be progressively ironed out; the old paradigm is already in retreat in some knowhow areas.

A widespread restructuring of companies and industries to suit the ethos of the professionals is very likely.

## **Towards a knowhow future.**

### **What are the implications of a shift in the balance of power from capital to knowhow?**

Knowhow or “gold-collar” workers will become increasingly **powerful** at all levels of society and traditional manufacturing industries **will** adopt knowhow oriented strategies to survive.

Unions will undergo a major transition following falling membership; self-employment will increase.

Business ethics and corporate culture will become key management tools, and so on . . .

### **What are the implications of the hunger for growth?**

Knowhow ,industry managers hunger for “globalization” and the “services supermarket” may be very dangerous. Can they keep above-average quality? Do their customers **really** want them to grow? Can they keep their professionals while growing?

## **Mutiny in the ranks.**

Even the best managers and the most charismatic leaders will find it hard to reconcile the exigencies of rapid, acquisition-led growth with the essential fragility of the knowhow capital on which knowhow companies depend.



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## **The Author**

### **Dr. Karl-Erik Sveiby**

Management Consultant, Researcher, Book Author and President of a Consulting Company, specialized in Knowhow Management.

He was Executive Chairman and Co-owner of Ekonomi + Teknik Förlag, one of Scandinavia's biggest publishing companies for business and trade until 1993.

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As the **knowhow** gives leverage to the financial capital, the surplus should be reasonably distributed.

1. Investor: normal yield plus a risk premium,
2. Organisation: development of knowhow capital.
3. Professionals: remuneration.

**Analysing** key ratios about the employees rather than financial capital gives a better insight on knowhow companies.

- personnel turnover rate
- market value per employee
- added value per employee

### **The Pro-team - the worm in the bud.**

The focus of this book is on knowhow companies, mainly engaged in complex problem-solving.

Yet, practically **all** industries, manufacturing and service, contain within them larger or smaller areas of complex problem-solving activity. **Knowhow work is a pan-industrial phenomenon.**

Many traditional industries in the Western world are becoming knowhow industries, whereas production moves out to other parts of the world.

All managers need to learn the rudiments of knowhow management if they want to avoid losing their key personnel.

#### **The pro-team**

Within every company, large or **small**, manufacturing or service, there is a department, division, unit or subsidiary that is **very** different from the rest of the company.

Their working conditions are completely different from those in the rest of the company or organisation. They talk a language (**jargon**) **foreignly** to the other employees of the organisation.

Highly motivated and enthusiastic, they often keep to themselves and have their own culture.

Their attitudes to company rules and conventions, to top managers and union leaders **often** cause problems.

These pro-teams should be seen as **embryonic** knowhow organisations, operating like **worms in the bud** within traditional “industrial” companies.

Pro-teams in large organisations represent the core knowhow, they can drive organisations, but it is hard for them to be servants.

The 10 success factors apply to pro-teams too.

1. The manager must take an active part in the daily work.
2. Pro-teams thrive on the professional part of the business idea, the quality.
3. Invest in knowhow by engaging in “in-house” **R&D**.
4. Encourage internal entrepreneurs (“**intra-preneurs**”) and give them autonomy.
5. Let the pro-team develop their own culture; it stimulates the development of professional expertise.
6. Focus and give priority to quality projects.
7. **Find** ways of keeping the key people to preserve the core knowhow of the organisation.
8. Help develop the people in the pro-teams on their own terms, let them have their own careers.
9. Develop smooth changeover techniques.
10. Create stable structures - both formal and **informal** - which tie the pro-teams together and, through networks, link them to other parts of the group.

#### **Top management is a pro-team**

One can regard top management as a pro-team at the centre of a large organisation.

### **Knowhow and the future.**

#### **A paradigm shift in the information society.**

If the reader accepts the basic themes and ideas treated here, how much of the present economic and managerial orthodoxy will he have to reject?

#### **Knowhow life-cycles.**

A particular knowhow has its own life-cycle: it is born, developed, becomes mature and eventually declines. There is a transition of goals in these **life-cycles**.

In times of shortage, the goal is obtaining **maximum volume of output per unit of capital and human resources**.

When shortage moves to abundance, the market will ask for **quality** and a new life-cycle will start.

The food industry is a good example of this transition from the quantity to the quality life-cycle.

The knowhow, developed in the last 100 years, has enabled us to have enough food, even more, to have food mountains. So, we do not fear food-scarcity anymore.

Yet we are paying the price of loss of taste and nutritiousness. Consumers are now willing to pay more for “natural foods”. The quality life-cycle has started.



## Entrepreneurial business development

Whatever the money injected, it is the entrepreneurial expertise, which makes the knowhow company grow.

An entrepreneurial business development begins with the development of the entrepreneur, not the business itself. It is possible to expand a knowhow business either by exploiting the professional or the managerial knowhow.

### Characteristics of a knowhow company that **help development**

- **Little** need for financial capital.
- Low barriers to entry, but the knowhow itself. Strong **defences** against stealing this can be built, e.g. agreements with suppliers or clients about exclusive rights, a strong database, an effective personal network, rare personal knowhow.
- Internationalisation: knowhow can be exported, or similar operations in neighboring countries can be set up.
- Human network: **friendly** relationships with customers, suppliers and other companies in similar industries help to reduce the risks and fasten the flow of information (the knowhow company's raw material).
- Dual expertise: the managerial knowhow must be developed to be able to survive the first three critical years for any new businesses and - even more - to grow.

### **Growth is the expansion of the knowhow capital**

The expansion of the core knowhow capital is the key measure of growth.

Volume, turnover or financial assets growth can be a dangerous strategy. There is a negative correlation between profitability and size in knowhow companies.

### **The three strategies for growth**

- **Organic growth** is the most natural and the safest expansion strategy. If the business idea is strong, ever more customers will demand the company's services. Maintaining quality and recruiting the right professionals will be a big challenge as the organisation grows more complex.

- **Combining financial capital with knowhow** is not as easy today as it was in the beginning of this century. Today knowhow companies have able people that produce services, whereas their forebears had expensive machines, making products. So there **must be a mutual understanding** between the representatives of the financial capital and the owners of the knowhow capital to be **successful**.

- **Mergers and acquisition** rarely work for knowhow companies. Cultures and ideas can clash; size removes the leaders from their **fellow-professionals**.

Professionals may leave, the focus on the core knowhow maybe lost and the **knowhow** itself may even leave with key professionals.

### **The three phases of growth**

Knowhow companies grow **from consultancy**, through a phase of high **growth**, to a low but steady growth. The transition from **consultancy** to high **growth** is the critical point.

When **successful**, the knowhow can be embedded in routines and . . . an ordinary service company emerges. For some key people, phase one will then start **again**, as they **will** leave the company and start one of their own.

### **Investing in knowhow.**

A prospective investor in a knowhow company should ask: **“Do the company's managers understand knowhow management?”** and **“Does the company need financial capital?”**

Of the four generic knowhow company types, the Asset-manager and the High-tech company are most dependant on financial capital.

The Knowhow Multiplier might need capital to invest **in** mainly computers and working capital, mostly when entering growth-phase two.

Still, the financial capital plays a minor role.

#### **“What are the risks?”**

The (visible) balance sheet does not show the company's true position.

The stability of the knowhow company must be taken on trust, as traditional accounting methods and legal reporting requirements do not show enough.

The biggest risk in a knowhow company is the “knowhow **risk**”, the risk of knowhow leakage due to inadequate R&D or departure of key professionals.

### **The value of a professional**

**His** profit potential, depending of where in the professional life-cycle he is and depending on what the business idea itself adds to his personal potential.

For the investor, the value of **all** professionals combined, the age mix, the experience mix and the average personnel turnover, is important.

**“How should the value added be divided between the suppliers of knowhow and the providers of financial capital?”**

## **The living Knowhow**

Knowhow is always changing - growing through development and knowhow transfer within the organisation and shrinking through leakage.

- **KNOWHOW DEVELOPMENT.** Research & Development is essential and it is not hard to encourage professionals to do research. Yet, always make sure that the **R&D** is **useful** for both company and individual.

- **KNOWHOW TRANSFER.** Combat professional jealousy. Instead, exercise education programmed, training on the job and an opportunity for newcomers to “shadow” the professionals.

- **KNOWHOW LEAKAGE** is inevitable as it is in the nature of a knowhow company to share its knowledge with clients, other professionals and even with competitors. Keep on replacing knowhow leakage by new knowhow.

## **Making business out of knowhow - the business idea.**

### **Converting knowhow into business ideas**

The added value per individual is limited, especially when services are charged based on the time involved.

Yet, with a profitable business idea, the same knowhow can earn much more for your organisation,

The profitability of a given knowhow is determined by the extent to which it is combined with a sound business idea and with managerial expertise.

#### **- KNOWHOW MULTIPLICATION.**

Knowhow multiplications such as multi client studies, software packages, newsletters, specialist magazines can be produced at **low** cost.

They can be handled by less expensive personnel who take care of their distribution, bookkeeping and administrative jobs.

In that way the professionals have become knowhow multipliers - their added value is not merely linked to their time anymore.

#### **- COMBINING KNOWHOW WITH FINANCIAL CAPITAL**

Typical business ideas of this kind are merchant banking, venture capital, property development and portfolio management.

Irrelevant of how important financial capital is for the success of the business idea, the knowhow remains the most important asset and the financial capital plays a subordinated role.

## **Four generic business ideas**

They have **different** degrees of dependence on both key individuals and financial capital.

- **THE CONSULTANT.** The revenue-generating ability is limited to what the team of individuals can produce in terms of added value per hour. There is a high dependency on key individuals, but a low dependency on financial capital.

- **THE KNOWHOW-MULTIPLIER.** Knowhow of a few key individuals is embedded in systems and routines that can be handled by less educated persons. There is a low dependency on key individuals and a low dependency on financial capital.

- **THE ASSET-MANAGER.** Financial capital enjoys high profitability when enriched with knowhow, or knowhow is **powerfully** leveraged when combined with financial capital.

The added value per employee correlates strongly with the capital intensity. There is a high dependency on key individuals and a high dependency on financial capital.

- **THE HIGH-TECH COMPANY.** Multiplies knowhow by incorporating it into products that will sell well in large numbers.

It is a combination of investment in equipment, routines, systems and software. Knowhow is used to provide goods and **services** to customers.

There is a low dependency on key individuals and a high dependency on financial capital.

### **A business idea a day**

Professionals, who feel “at home” in their organisation and understand its goals, will generate plenty of business ideas.

The managers and leaders, who value their professionals and possess managerial expertise, will turn ideas into profit-generating business.

A **professional** knowhow organisation is **buzzing with new business ideas** and it has the **power to turn them into viable businesses.**

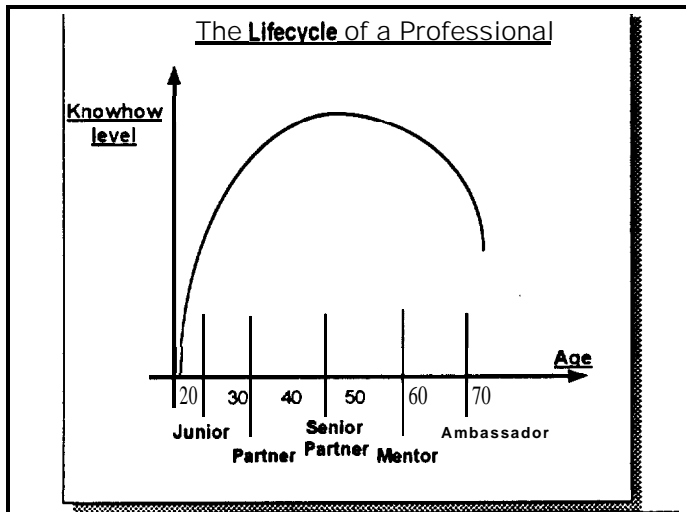
## **Making a business out of knowhew - expansion and growth.**

### **Grow or die**

**All** companies must grow or die. For a knowhow company, only growth based on its core knowhow will work.

## Form knowhow company of a professional organisation.

Acknowledge the life expectancy in the profession and keep an equilibrium between dynamism and experience.



*Professionals increase their knowhow as they get older and may develop into mentors.*

*The ambassador has left the company and may prove valuable as a link to the external network.*

The personnel **idea**, which is extremely important to all knowhow organisations, contains four components: recruitment, development, motivation and departure.

Personnel **recruitment** is the most powerful long-term instrument for changing the company's position on the market; the most important **strategic weapon**.

Recruitments can alter the knowhow level and even the business idea. They can profoundly change or consolidate the organisation and even help conquering new markets.

Different strategies can be **chosen**, depending on the organisation's markets and ambitions:

**Recruiting young people**, who will learn from but also copy elder professionals, tends to conserve the existing culture.

**Recruitment of skilled people** will bring new business, new clients, new networks and new ideas, but might be a threat to existing professionals.

**Recruiting nice people** who bring no conflicts and say "yes" to the older professionals will reduce stress, but they might lack inspiration and this decision could compromise long-term quality.

**Adding a whole team to the organisation** through a merger only works when the teams and their respective cultures fit.

**Personnel development** should be tailored to each of the four **personnel** categories in the knowhow company:

**Managers** could probably build their own careers, but not by letting them build empires.

The **front office** (or clerical **staff**) should not feel imprisoned in boring jobs. Educate them about the business idea, give them opportunities to develop their own skills and treat them as professionals within their own profession.

Be flexible about both careers and remuneration of **professionals**. Give them food for their inquisitive brains and as wide a scope as possible, Show empathy for the need of the individual.

**Identify** potential leaders in time. Give them managerial experience though keeping focussed that his main task is to establish his or her professional credentials. When the time comes for him to take over leadership, he should be accepted by the other professionals.

*Do not confuse the role of a professional leader with that of a manager. In so many knowhow organisations or departments (e.g. state, universities, ...) skilled professionals are forced to abandon their profession to become "administrators".*

**Personnel motivation** is very important. Hiring good people is just the start. Create a stimulating environment, have feedback systems as an essential stimulus for self improvement.

Do not neglect the importance of the success spiral; success breeds success and motivates professionals. A successful company makes it easier to hire good people and keep the best.

**Personnel departure means** losing part of the accumulated knowhow. Yet, . . . a lot can be salvaged.

The leaver can be an ambassador for his **ex-company**. When he does well, he will even help **further** recruitment.

Departures can inspire a **fundamental** reassessment and cause new ideas.

It is important to invest in the core knowhow and to keep the right balance between profitability and investment in knowhow.

Important key indicators for knowhow companies:

1. **The knowhow capital**
  - ☞ total man years of professional experience
  - ☞ quality of knowhow
  - ☞ average knowhow capital per professional
  - ☞ investments in knowhow
  - ☞ R&D budget
  - ☞ average age of the professionals
  - ☞ knowhow transferal within the company.
2. **The return on knowhow capital**
  - ☞ profit as a percentage of revenues
  - ☞ total added value (profit before net interest + salaries + social security costs + depreciation) divided by the total knowhow capital,
3. **Efficiency and productivity**
  - ☞ total added value
  - ☞ added value per employee
  - ☞ per professional
  - ☞ per team.
  - ☞ profit per client
  - ☞ administrative costs as a percentage of revenue
  - ☞ productivity indexes.
4. **Stability - the knowhow risk**
  - ☞ personnel turnover
  - ☞ average age
  - ☞ age and experience mix
  - ☞ salaries as a percentage of added value.

### Structuring knowhow.

In knowhow organisations, the power lies with the owners of knowhow, rather than with the owners of the equity. Partnership between founders, owners of equity and professionals are important.

Therefore a corporate structure that allows for the realities of the professional organisation should be sought for. The legal and accounting structures that give shape and substance to the knowhow company should be flexible and dynamic.

### Leadership.

A leader is a creator of the work environment and a tutor, who creates opportunities for his employees. He channels intellectual energy, maintains a clear sense of direction and is the guarantor of continuity and security in his organisation. He is all but a patriarch.

### The ten success factors of knowhow management.

Any knowhow company can, through knowhow management, turn into a professional organisation.

Here are 10 success factors,

1. **Day-to-day leadership**

The leaders should take initiatives and stay involved in the production. They should set up and use informal monitoring systems to keep in touch with what lives in their organisation. It is very important that they remain accepted by the rest of the organisation.
2. **Quality and quality control**

High quality standards are imperative, uncompromising quality control systems should be set in place and quality measured regularly (e.g. internal discussions, client surveys).
3. **Respect for knowhow**

Resources for training and in-house R&D should be available. Internal education and transfer of knowhow (also for administrative staff) should be among the top priorities.
4. **Professional & managerial knowhow combined**

Knowhow management means finding the right balance between professional and managerial knowhow.
5. **Strong & well-defined culture**

Define the culture, use it as a framework and adapt it in time.
6. **Focus on core knowhow**

Managing an organisation with many different knowhow areas is difficult,
7. **Knowhow preservation**

Keep key people through employee ownership, profit sharing and employee motivation.
8. **Develop the people**

The single most important management activity is recruiting and developing the people.
9. **Changing key people**

Leaders and key professionals MUST become dispensable. Change is inevitable and an OPPORTUNITY rather than a threat.
10. **Stable structures**

Embed the intangible brain substance in structures to give the professional organisation coherence and stability. The two kinds of formal structure important to a knowhow organisation are the accounting system and the legal structure,



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# THE KNOWHOW COMPANY: STRATEGY FORMULATION IN KNOWLEDGE-INTENSIVE INDUSTRIES

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**Karl Erik Sveiby**

Publisher of *Ledarskap*

## PURPOSE OF THE ARTICLE

Why has so little strategy development occurred outside the world of manufacturing industry? When reading through any strategy or management journal one gets the impression that it is only the manufacturing industry that needs strategy. Or—that strategy in the service industry is the same. Or—that the service industry is uninteresting to professors?

The implicit message of the management profession seems to be: if you are a CEO of a non-manufacturing company, try to behave as if you produce products and everything will turn out all right.

Is this why the present strategy formulation of service industry seems a blueprint of manufacturing industry?

However, two-thirds of OECD country CEOs work in non-manufacturing companies! In the EEC countries, 62 % of employment is in the service sector.

The purpose of this chapter is to suggest an alternative route in strategy formulation for knowledge-intensive organizations. I call it “the knowhow company”, an expression coined by myself and my coauthor Tom Lloyd in our book *Managing Knowhow* (1987).

\* In most developed countries, some two-thirds of the GNP is made up of services. However, strategic planning and concept development are still focused on solving problems for the manufacturing industry. They are, with few exceptions, manufacturing companies with their roots in the nineteenth century.

The only new service industry in which strategy concept makers have shown any interest is financial services, especially banking. Again, big banks are an integrated part of the world of big global manufacturing industrials.

Is it because of this poor state of knowledge that almost the only service company that has had any impact on general strategy formulation is the fast food chain McDonalds? The success of McDonalds is based on a simple and effective strategic formula: standardization of service into a package of the smallest detail, strict quality control and cost-effective production by young, cheap, unskilled workers supervised by managers on the shopfloor. The growth comes from franchising out this concept and the name to entrepreneurs.

What you see behind the desk of any McDonalds restaurant is an almost perfect industrial system, a conveyor belt in an environment which is inadvertently designed as a blueprint of the traditional manufacturing organization in the factory as it was conceived by F. W. Taylor and his successors at the beginning of this century.

As an employee, you don't even have to like the work. The McDonalds concept is so successful that it can handle a personnel turnover of more than 100 % a year, a rate that would grind any car manufacturer to a halt. At McDonalds the system is greater than the individual, the tasks of the employees simplistic. Many are the successful followers of McDonalds. But can it be true that "McDonaldization" is the strategy formula for the future in services?

No, I suggest that it is a far too simple way of looking at the dynamic and fast changing world outside the manufacturing industries—people-intensive and people-dependent.

Is it possible that we are looking at the non-manufacturing organizations with the eyes of a world that has passed by, just as the farmers experienced the first manufacturing companies at the beginning of the 1800s—as another kind of farm?

I suggest that in order to develop truly original strategy concepts for the non-manufacturing companies one should try to turn the traditional logic of manufacturing "upside down". Instead of basing our conceptual thinking on 100-year-old doctrines based on the notion of the one-product factory, I suggest that we should look away from the manufacturing industry, very far away.

Why not learn from the organizations which are not only people-intensive but also people-dependent, i.e. dependent on their employees? What can we learn from companies where the employees are very skilled, very highly educated and thus have true power? The answers are interesting, not only for the knowledge intensive industry itself but also for the manufacturing industry. What was a car

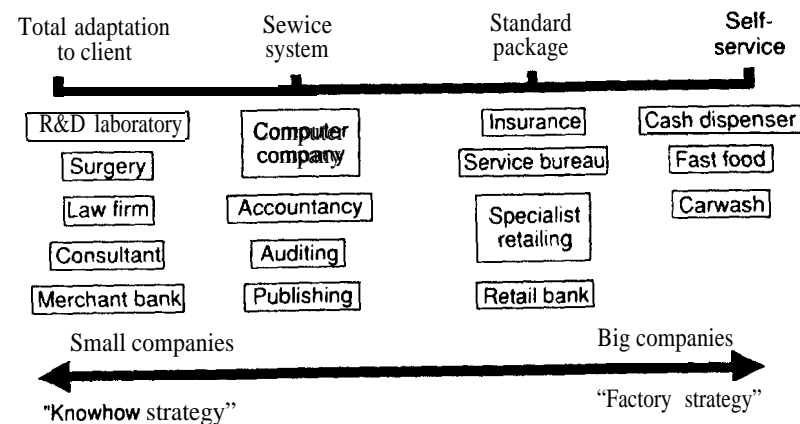


Figure S.1 The service sector

manufacturer yesterday is more and more becoming an industry that is entrusting its complex production machines to fewer and fewer very skilled people.

Look at Figure 8.1.

## THE SERVICE SECTOR

The service sector is not a discrete phenomenon but rather a spectrum of company types, ranging from those organizations totally adapted to their customers to organizations that have refined and packaged their output. The latter have more in common with manufacturing companies.

In the companies on the far right, service has become industry; the key to profitability lies in efficient, industrialized preprogrammed production aimed at a mass market. The McDonald's fast-food chain exemplifies this type, where even the smile you get as a customer is preprogrammed in the employee's manual.

The knowledge of a McDonalds company is totally structured and supervised by management. Even if the service package is delivered in a "moment of truth" (Normann, 1963) by an employee, little or no room is left for individual initiative. The success comes from standardization and the economy of scale resulting from it. In fact, too much initiative might disrupt the fine-tuned system and make it less effective.

The knowledge is in the hands of the organization. Image, manuals, routines, experience, control. The standardized service factory has a high structural capital.

Thus, the customer knows what he or she can expect when entering a McDonalds restaurant. No surprises, either negative or positive. The customer buys security.

## THE KNOWLEDGE-INTENSIVE SERVICE SECTOR

The companies at the far left of Figure 8.1, however, are their opposite. It is to the left that we find what we might call the sector of the knowledge industries. The “service” emerges as an ongoing problem-solving process between the customer and the producer. There is no standardized service package. The customer often does not know what he or she is asking for. The service provider is an expert and the customer wants the problem solved by the expertise of the expert. The knowledge industry therefore has to treat its customers as individuals. Their close relationship is sometimes even revealed in their language. Who has not heard a lawyer say “We decided to plead guilty” or ridiculed a doctor claiming “I believe we’ve got fever”. The most typical firms are to be found within the professional services or business services.

The doctor or the consultant finds it hard to standardize his operations. Because he cannot force his clients to adapt to him, he must perforce adapt to them.

What characterizes a knowledge-intensive organization? It is an organization where the majority of the employees are highly educated, where the “production” does not consist of goods or services but complex non-standardized problem-solving. The problem-solving process involves a lot of information processing (not necessarily computerized) and the end result is normally a report or process delivered orally or as hard copy. The customers are treated individually and often called clients or patients.

The four main distinguishing features of the production are:

- Non-standardization
- Creativity
- High dependence on individuals
- Complex problem-solving

The companies are in any of the knowledge industries like management consulting, computer software, technical research, advertising, law, medicine, architecture, and so on. The sector is sometimes called professional services or business services but they have counterparts in the public sector, such as many of the highly specialized governmental bodies or specialized hospitals or research organizations. They also exist within big organizations as departments for R&D or laboratories.

There are very few statistics on this area. Even in Sweden, where this topic has been very “hot”, the statistics are blurred. The sector has only recently been noticed by researchers and EEC officials. Even if the statistics are obscure, there are at least some facts.

According to a recent EEC Commission paper, the so-called “business service sector”, which includes knowledge-intensive segments like advertising, manage-

ment consulting, accountancy, PR, software, contract R&D and engineering but also companies for temporary staff, contributes about **14%** of the EEC’S value added and **6%** of its GNP, which makes it a larger sector than agriculture. In Sweden, the sector (excluding temporary staff) employs **5–7%** of the total **workforce**, depending on the narrowness of the definition.

The sector is growing very fast. The growth rate in Sweden during the eighties was 5.570 per annum in employment and 10.6% in number of companies (Sveiby, 1990). The fastest growing knowledge industries are the computer consultants, the research oriented companies and the media/information companies with growth rates around 15–25% per annum. If these **growth** rates continue into the nineties, the knowledge-intensive sector will employ around **11%** of the total Swedish **workforce** in the year 2000 (EEC Commission, 1990).

In the EEC countries, the sector’s growth in current prices was an annual **14.6%** in the period 1980-1985. In Europe, statistics compiled by European Services Forum reveal the same pattern. The fastest growing companies in Europe during the eighties have been companies in the professional services, with growth rates ranging from 10% in **volume** to **well** over 100% in some segments (EEC Commission, 1990).

The companies in the knowledge industries are thus well worth attention—for one thing they are probably the fastest growing organizations in the world today. That they have been **unnoticed** so far is probably because they are so obscure, small and hidden in statistics as service companies.

A growing number of the new successful companies being formed today in the US as well as in Europe and elsewhere are probably in the knowledge industries. In the US, it is estimated that the traditional manufacturing industry will shrink down to some 10% of the total **workforce** by the year 2000.

The knowledge-intensive organization is, of course, not a new kind of organization growing out of thin air. Research by the Swedish Federation of Industry has proved that some two-thirds of the growth in the service sector in the period up to **1983** originates from companies spun out of the manufacturing companies, and most of them are to be found in the knowledge-intensive sector. Very often the largest customer is their previous employer.

The knowhow companies are often founded by highly skilled professionals who constituted what might be called a “professional island” with their previous employer. (See below.)

Ever since humans lived in caves they have been living off and by their knowledge. In the old times, the majority of the skilled were craftsmen; the skilled people in non-handicraft information processing or **consultancy** work were rare individuals indeed. There were **some—like** artists or magicians or kings’ advisors or diplomats—they were mostly freelancers and did not form big organizations employing thousands of them as today.

The expression “professional services” unfortunately leads our thoughts the wrong way, because these firms are not servicing their clients in the same sense as



a travel agency, a washing firm, a hotel or a bank does. Their product is as intangible as a normal service company's but very different indeed! I therefore prefer the term "knowledge industry" because it is the expert knowledge of the professionals that the clients are willing to pay for, not the service.

Even if the product is intangible and the benefits often are obscure, the employees of a knowledge-intensive organization can very often show very visible results, such as an improvement in the profits of their clients, or a successful lawsuit or medical treatment.

In these circumstances, what is the output of a knowledge-intensive organization in money terms? A problem solved, which saves a client, say \$10 million at a fee of \$1 million. Is the output the value of the invoicing? Is it the value added in the company? Or the value added to the client's organization? Or is it the salaries paid to the consultants, \$0.5 million? In the official statistics the net benefit of \$59 million is shown as a profit in the client's records and \$1 million as gross revenues from the business service sector, but is this the truth? What is the best mirror of the truth: to allocate the benefit to the one who asked for advice or to the one who gave it?

## THE PROFESSIONAL ISLAND

To make things more difficult, the complex and creative output of the knowledge-intensive organization and the more standardized industrial production of the service company often coexist within the same organization. Most of the companies in the non-manufacturing industries are to be found in the middle of the chart in Figure 8.1.

This **doubletness** of the organizations "in between" is a challenge in itself. As for the retail banks, most of us regard them as typical service organizations, which is also true to a large extent. The majority of their employees take care of routine transactions over the counter. At the same time, their colleagues in other departments might be engaged in more complex problem-solving like large credit investigations, cash management problems, corporate finance, and so on. These employees are also normally more highly educated. They are different from the majority, they know they are, and they do not want to mingle with the rest. They constitute what could be called a "professional island" within the company.

The professional island is an important and growing problem for top management in large organizations. The professionals within, say, a research department have to solve creative, non-standard problems and need a loose, creative, informal environment very much like the knowledge-intensive organization in order to be effective. On the other hand, they have to be an integrated part of the production or service system of the organization and to live by the more strict non-creative **rules** of that.

How does top management tackle this problem? Until the seventies it was

overlooked, but it has become a dilemma for most manufacturing organizations since then. Some have tried to organize a separate research company; IBM management chose the radical solution of creating an environment outside their own when they decided to develop the personal computer. Today, Tom Peters has coined the phrase "stunk works" for the professional island and urges management to take the creative and entrepreneurial people inside the big organization seriously and invent measures to utilize their creativity.

During the eighties the capital markets all over the world flourished and new services and financial instruments were invented at almost a daily rate. The typical retail bank—originally ideally positioned for the new development—has not been able to profit from the changes but the inventions have given rise to a number of smaller organizations, investment banks, corporate finance firms, portfolio management firms and so on, i.e. knowledge-intensive companies

Where did the employees of the new companies come from? From the banks, and when their number did not suffice, straight from school. The retail banks with their large industry-like systems lost their "gold-collar workers" since they could not compete with the new companies where the knowledge-intensive people were allowed freedom, challenging tasks and a stake in the added value they created for their clients.

There seems to have developed no consensus as to how to handle the professional island yet, but I suggest that we might find some solutions if we learn some lessons from the successful knowledge-intensive organizations.

## THE FACTORY STRATEGY

The retail banks are now facing a typical industrial problem of how to get their remaining—often unskilled white-collar—workers more productive. For this, some choose a strategy towards the right in Figure 8.1.

A movement in the right direction in the diagram is one of two generic strategies open to managers in any service organization. It might be called the "factory strategy", which in short emulates the traditional manufacturing company so that well-known management methods can be applied. The "factory strategy" means:

- (1) Package the knowledge into standardized distinguishable pieces that can be sold by others than the professionals themselves
- (2) Seek economy of scale in production
- (3) Build strong brand names through marketing
- (4) Franchise out concepts

This strategy reduces the power of the individual professionals, increases the number of non-professionals and the unskilled, reduces the salary bill per employee and makes it possible to run a very large international organization

by structuring it in the traditional way with business units, marketing, a sales force, etc.

It is probably the strategy most easily understood for the management of any knowledge-intensive organization today, because it makes it possible to use old-established management experience. It is thus the strategy of the computer consultant who develops a software which can be sold in multiple copies. It is also the strategy of the management guru who produces a package of videos, tapes and books plus a seminar with a price tag of \$499 per package.

The successful application of the factory strategy gives a high volume in money terms and is very tempting for an entrepreneur, who can get very rich. But the strategy also almost certainly leads to a loss in professional knowledge, a reduced value added per employee, smaller job content, and opens up for price competition in the end.

The success of the factory type of companies have made many people shake their heads and predict that we are heading towards a society where the job contents are even smaller than in the traditional smokestack industry. Will this prediction come true? I find it hard to believe that the same youngsters who refuse a job on the shopfloor because of its small job content will accept a small job content in the service industry.

Some of the most challenging problems that are facing the managers of today are closely linked to the choice of strategy, and they are people problems: disenchanted employees and intensified competition for the best recruits, who are becoming ever more demanding and requiring "free" professions anywhere except on the manufacturing industry shopfloor.

The successful companies in the knowledge-intensive industries have had to tackle the problems of managing "difficult", highly skilled employees wanting to do their own thing as well as demanding customers wanting tailor-made solutions every day. In fact, it is an integral part of the lives of their managers.

One severe obstacle, however, is that there is little or no systematic research and accumulated knowledge on how to manage a knowledge-intensive organization or a service company but a lot on how to manage a manufacturing company.

## STRATEGY OF THE KNOWHOW COMPANY

Suppose we throw off our old factory glasses and look in the other direction, what strategy do we see then? I call it the "strategy of the knowhow company", (Sveiby and Lloyd, 1987).

The strategy would then be to try to emulate the successful knowledge-intensive organization (a "knowhow company"). It is an organization which moves to the left in Figure 8.1.

The knowhow company:

- Solves complex non-standard problems demanding creativity
- Has a small flat organization
- Has a high number of professional employees . . .
- But few non-skilled employees
- Grows organically and through alliances rather than by acquisition
- Forms private partnerships rather than goes public
- Treats its clients individually
- Builds company strength through skilled individuals
- Develops the organization through developing the knowhow of the employees
- Has managers who are formal as well as informal leaders

## THE INVISIBLE BALANCE SHEET

The manager of the knowhow company faces a very different set of problems compared to his/her colleague in the traditional manufacturing industry. Look at the comparison of the balance sheet below:

Knowhow company	Manufacturing company
information flow	Flow of goods
Human being	Machine
Knowhow	Capital, fixed assets

The balance sheet of the knowhow company contains few machines except the human being. The research engineer, the programmer, the consultant or the architect is the real "machine" of the knowhow company. The computer is regarded in this respect as an extension of the brain.

The leader of a knowhow company has the same object as his or her counterpart in industry: to increase the value of the capital in the company, the assets.

However, the big difference is that the real assets are the knowledge of the employees, their formal skill, education as well as experience, and their social ability. There is also the knowledge of the "organization", the rules, the manuals, the relations with clients and suppliers. Put all this knowledge together and we find the total capital of the knowhow company. Very little financial capital is normally needed to fulfill the business idea of the consultancy firm, although there are also capital-intensive knowhow companies, like portfolio management companies. But in them too the brains of their employees are vital for squeezing an extra point of interest out for their clients.

The assets of the knowhow company are intangible and invisible to our present accounting methods, but nevertheless real. The manager of a knowhow company is no different from his/her industrial colleague. The knowhow company manager also manages the assets and tries to optimize their profitability. Only—the assets are the people.

Just imagine for the sake of argument, viewing a company balance sheet through these eyes. How would we maintain and develop the assets?

Knowhow company	Manufacturing company
Education	Maintenance (of existing machines)
Recruitment	Investment (in new machines)
Research and development	Investment (in new products)
Departure	Disinvestment

The capital and investment of the knowhow company does not show up in the balance sheet because we do not know how to account for it. No company accountant knows the benefits of education, but he can calculate the internal rate return of the new machine on the factory floor down to two decimal points. Neither does he know the value of the knowhow, but he can show the number of office desks on the screen of his personal computer.

Many managers are busy counting the few beans in the visible bowl, but totally forget about the giant heap of beans in the invisible bowl. Knowledge is an asset which only shows up lumped as “goodwill” in the balance sheet.

Surely that is a very unsatisfactory situation after more than 100 years of research in the accounting profession? No wonder that the managers of knowhow companies normally have great difficulty in calculating their real profitability. How many failures of company startups are due to the poor accounting methods for knowhow companies?

### THE TWO MAIN TYPES OF KNOWLEDGE

The concept of “knowledge” is very complex and many philosophers have tried to define it. I will not make an attempt here, but simply point to one aspect of knowledge which I have found fruitful in understanding the knowhow company, namely, the dichotomy between professional and managerial (organization) knowhow.

Professional knowhow is the core knowledge of the knowhow company—the essence of the business idea from which the company receives its revenues. In the law firm it is legal knowhow, in the laboratory it is scientific or chemical knowhow (an engineer, it is said, is someone who can make for 25 cents what any

fool can make for a dollar, while a management consultant is someone who can do the opposite). The success of the knowhow company depends on how skilled the professionals are compared to their professional colleagues employed by their competitors. The people possessing this knowledge are called professionals, “gold-collar workers” or simply “experts” or “specialists” and they often make up 70–90% of all the employees, so they are totally dominant both in numbers and in the company culture.

I define managerial knowhow as marketing, administration, accounting and the art of management itself. Managerial knowhow is needed, otherwise the knowhow company will not survive. The goal of managerial knowhow is to preserve and increase the value of the total organization—the total capital, i.e. mainly the invisible knowhow capital—to keep it together.

The great dilemma, the dichotomy, is that one person very seldom has both these types of knowhow. It seems a psychological fact that they even exclude each other. The professional is thus almost never a good manager, and vice versa. Just think of all the trouble a good consultant may cause a company if he is put in the chair of the CEO! Also, compare the well-known dichotomy between thinkers and doers, thinkers in this context being more similar to specialists and doers to managers.

This is a real strategic dilemma for the knowhow company, so let us look into it a little further. If we put the two types of knowhow together, we get a matrix showing the four main categories of personnel in a knowhow company (see Figure 8.2).

One of the key issues for managing a knowhow company is to understand the distinct features of these four main categories, the professionals, the managers, the clerical staff and the leaders.

The professionals have been studied by sociologists, who find some distinct features:

	High	“The professional”	“The leader”
Professional knowhow			
	Low	“The clerical staff”	“The manager”
		Low	High
		Managerial knowhow	

Figure 8.2 The knowhow company. Personnel categories

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- They have a field of knowledge where they have developed a skill that is higher than others
- They have a special education with distinct degrees allowing them to work in the profession
- They have often formed professional associations and codes of ethics for their profession
- They have a high degree of responsibility towards their profession and their work

We have probably **all** encountered the typical professional. He (it is mostly a man) is intelligent, brilliant, arrogant and absent-minded. He loves his job and is a workaholic when it comes to problem-solving. But he hates the company “bureaucracy” and is seen constantly arguing with management over this bill or that expense, he is never on time and no one seems to know where he is right now. He is loyal to his organization only if he can feel proud of the professional level of it. He is both unable and unwilling to manage other people; he likes working in teams but only if they consist of **skilled** professionals. He is interested mainly in the freedom to develop his own professional **skills** and the status of the profession.

His counterpart is the manager, a person who in industry is a relatively common middle manager but who is rather lonely in the knowhow **company**. **There are very few marketing managers** (if any), no sales managers, few personnel managers (if there are any they are often called development or training officers). In fact, in many of the smaller knowhow companies, the accountant is the only traditional manager, very lonely indeed since his own profession has abandoned him in respect of tools.

The typical manager **likes** to work with other people, is team-oriented, likes to exert his/her influence in an organization and feels **a loyalty** towards the organization he or she is put to manage, since the success of it can be translated into interesting career opportunities in the **future**. The managers lack the professional knowhow but are strong in managing the business.

They are also normally the managers of the clerical staff, who often are in a real problematic situation. They lack the professional skill of the professionals and are prevented from developing their career structure by the usual method of moving up the ladder and becoming managers because there are very few such opportunities in knowhow companies.

The leader is the driving force of the knowhow company and is more or less irreplaceable. He or she has often founded the company and is almost always an ex-professional who has developed managerial **skills** and interests. It is very rare to find an accountancy firm, **theatre**, engineering firm or advertising agency not led by an ex-professional.

The leader must be able to handle and steer the driving forces in the knowhow company. The leader must also be able to balance conflicts between the

categories of personnel, who might easily become opposed to each other if there is **no** leadership.

### LEADERSHIP IN THE KNOWHOW COMPANY

The power network of the knowhow company is loose, intangible and **informal**. It is formed by the relationships between people, the **larger** spots in the network being the more powerful people, most often the most skilled professionals (see Figure 83). They are the ones who everybody wants to relate to, to talk to and

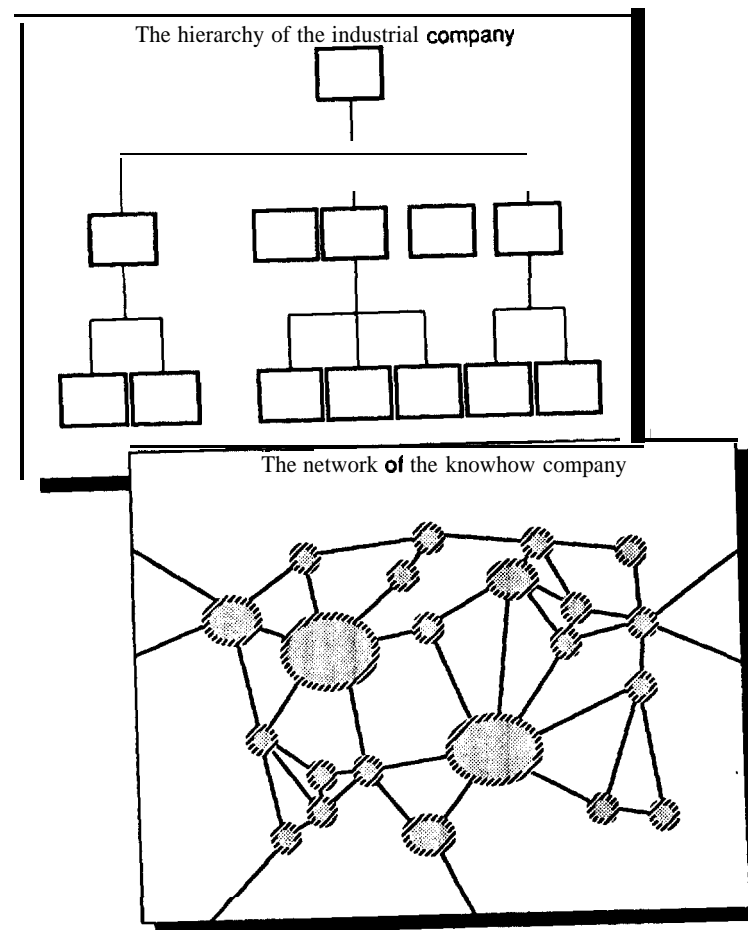


Figure 8.3 Power network of the knowhow company

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learn from. The informal power they possess can never be replaced by the formal hierarchy.

This informal network hierarchy exists in any organization—be it industrial or service or knowledge-intensive. The difference is that in the knowhow **company the informal network is so much** more powerful than in any other kind of organization. **This is because the informal** power is normally in the hands of the professionals, who have a lot more power than the workers in the factory or the white-collar workers in the office. The leader must thus understand the informal forces of the knowhow company to be able to manage it.

Which are the forces? They are more easily understood if we realize that they emanate from the group of professionals. So, if the professionals are not led by someone who is able to manage these forces, the organization forms itself around what is seen as important from the viewpoint of the professionals. The unmanaged knowledge-intensive organization thus:

- . Seeks complex problems to solve—irrespective of their importance for clients
- Gives full freedom for the professionals to develop their skills—irrespective of the costs
- Invests heavily in R&D—irrespective of the market

In the knowhow company the professionals are the high-status people, the more skilled in the profession, the more influential. Unfortunately, the “guru” is generally not the best manager of the company. However, he or she may have the greatest power in the organization because the other professionals listen to him or her. The “guru” is also very often the person with the best contacts in the industry and the highest billing rate.

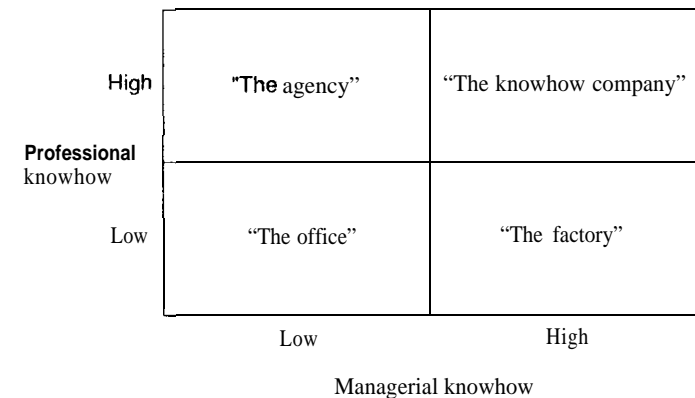
The knowhow company thus very often finds itself in the dilemma of having the most powerful person as an unable and **unwilling** leader. The knowhow company with the unwilling professional as the leader is most often not managed at all. The “leadership” consists of letting the professionals do what they want in terms of exciting new experiments or new programs.

I call this kind of unmanaged company an “agency”.

This kind of leader is more common than one might believe, because so many of the knowhow companies are partnerships of lawyers or architects or accountants where nobody **really** wants the boring task of managing the company. “I did not study law/medicine/accounting in order to shuffle papers in a company” is a common phrase.

We thus very often find the poorest accounting systems in the auditing firm, the most pathetic management in the management **consultancy** firm-and the poorest marketing of the university itself in the university’s marketing faculty!

Many knowhow companies, desperate to find a solution to their top management problems, look to the manufacturing industry for help. There they



**Figure 8.4** The knowhow company. Four categories

have the experience! Unfortunately, that experience is not applicable to the knowhow companies. This revelation usually comes as an unexpected blow to everybody when the new manager starts to send out memos with orders regarding how to report meetings with clients, changes the accounting system, asks the professionals to clean their messy tables, questions them about where they spend their time, why they travel so much and should they not be able to reduce the number of employees? The industrial manager is then met with scorn whenever there is a discussion about the content of the business. The business idea is tied to the profession, and everybody relishes seeing the non-professional manager revealing his ignorance in these matters. A manager who is unable to lead the professionals creating the revenues is thus very easily reduced to a sour administrator of the costs, and the power rests with the experts.

The manager might then try to get rid of the most troublesome specialists and make the company more manageable by introducing standardized procedures, going towards the right in Figure 8.1. This kind of company might be called a “factory”. (See Figure 8.4.)

### KEY TO SUCCESS--BALANCE THE DICHOTOMY

One key to success for leadership in a knowledge-intensive organization is to be able to balance the management of both the professionals and the organization strategy of the knowhow company. It is a very difficult task because the professionals rarely accept leadership by any one except a professional. Since the architects make up the majority of all employees in an architect firm and so have formed the whole culture, it is thus more or less impossible to manage the company if the top manager is not an architect himself.

But architects are poor managers! How does one solve this problem? The leader who knows everything is, of course, one solution, but rare. One clue is to be found in the fact that many successful knowhow companies are run not by one CEO but by two or even three. **In some industries this has become the norm.**

The newspaper is run by one editor (the manager of the professionals) and one managing director (the administrative manager). Sometimes their two tasks are combined in one, called publisher. The advertising agency **often has one creative manager and one administrative**, the film industry has the **duo of producer/director**, and the boxer has his promoter. The managing director thus has a much weaker position in the knowhow company than in the manufacturing company. Unless he can team up with the manager of the professionals his powers are reduced to mere administration.

The balance of power between the professional knowhow and the managerial knowhow is crucial to understanding the strategy of the knowhow company. The **balance may shift abruptly** when one of the top team is changed or is becoming more powerful. These shifts of power explain many of the otherwise incomprehensible strategic moves of some knowhow companies.

That the balance does affect the business idea can be seen very clearly in some cases. **Just imagine** for a moment that you are looking at a movie. Think of the text at the beginning (or the end) of the film saying who were the people responsible for **making** the production. The later the names appear, the more important they are. Who is usually the last name? Right. The director. **It** tells you as a viewer that the creative content of this movie is in the power seat of the production. The producer comes in as number two, counted from the end.

Now think of some of Stephen Spielberg's monster movies. He is called producer but still makes it as the last name of the list. It is because the film is based on its technical effects, which are so complex that the film-making has to be in the hands of the producer.

Now think of Dallas or any other soap opera. Who is the **last** name? You don't remember? Actually, the list is full of producers, executive producers, operating producers and assistant producers. The name of the episode's director appears very briefly in the middle. What that tells us about the creative content of **Dallas** is obvious, but it also tells us that the TV production of the soap opera is run like the conveyor belt in a factory.

The conveyor-belt organization is actually a very primitive form. No biological process is so crude. Still, it has proven its productivity for more **than 50 years and is still the most efficient organization** when the production is run by unskilled, disinterested **labour** who **use** their working hours for pondering about what to do during their spare time.

This is why the factory strategy functions so well with immigrants or illiterate youngsters, but try to put a team of Harvard graduates in there and count the hours they stay on the job!

In fact, **McDonalds** has a perfect match between personnel idea and business idea and this is probably one of **the** cornerstones of its success.

## BUSINESS IDEA—PERSONNEL IDEA

The concept of the personnel idea was first suggested by Richard Normann in his book *Service Management*. It is very useful in understanding any non-manufacturing industry, be it service company or knowledge-intensive organization.

The personnel idea is the comprehensive opinion among top management about what kind of employees they will recruit, how the employees **will** be developed, motivated, remunerated—and **outplaced**.

I suggest that a knowhow company must have a very close link between its business idea and personnel idea, otherwise it cannot function.

Many knowhow companies in the management consultant industry have, for instance, copied McKinsey, who has a very distinct personnel idea, sometimes shortened to "up or out", Young bright graduates are recruited and introduced to the McKinsey toolkit and then developed through a tough career program by which they either end up as a senior partner or outside—very often as an important buyer of McKinsey services.

Contrast that with a personnel idea by which a consultant company mainly recruits experienced line managers as consultants and expects to keep them for **5–7** years while they consult clients from their own experience.

Two very different strategies, businesses and concepts for solving clients' **problems** will be the result of two such different personnel ideas.

## SOME SUCCESS FACTORS

I have come across a vast number of knowledge-intensive organizations in the last few years, some as a consultant, some as a researcher, some as a board member. Here, in summary, are my findings as regards successful strategies.

### Focus

Focus is clearly a success factor. It is much easier to manage a narrowly focused knowhow company than a conglomerate. This is because (a) a leader from another profession will not have the automatic following from the professionals in the other; (b) it is more or less impossible for **the** conglomerates to achieve better quality than the focused companies. **Saatchi & Saatchi**, who tried to build an empire consisting of a portfolio between advertising, management consulting and finance, is the negative example. The biggest Swedish consultant firm, **Indevo**, tried to build the same kind of conglomerate and failed too. It will be

very interesting to see whether the French computer consultant Cap Gemini, who recently acquired a minority interest in the French/Swedish management consultant Siar/Bossard, will succeed.

### Organic Growth

A fast acquisition-based growth strategy—like that of Saatchi & Saatchi—seems to create too dangerous a turbulence. Acquisition of a knowhow company is nothing more than recruiting a large bulk of new people-unseen. This normally creates disenchantment among the professionals in both camps and quality, motivation and consequently productivity are affected negatively.

### Quality Control

All professionals want to produce high quality. Clients want it too. The key is the follow-up of quality through rigid systematic client reviews.

### Developing the Core Knowhow

The knowhow is the most important asset and is regarded as a balance sheet item to preserve, improve, develop, acquire and guard. The professionals are given ample resources for research into the core areas.

### Keeping the Key People--Preserving the Knowhow

Various creative measures are found in order to keep the key people who possess the critical knowhow. The actions vary between beer on Friday afternoon and strict employment agreements and owner/partnership.

### Small is Beautiful

There seems to be no economy of scale in production; on the contrary, creative people like small organizations better than big ones. Efficiency measured as value added per employee is the same or even slightly better in small companies as compared to larger organizations according to the data I have gathered.

### Economy of Scope

There are some scale economies in PR and marketing. Big knowhow companies get more attention and larger accounts from big clients. Accounting firms also maintain that they need a certain volume in order to be able to keep specialist knowledge which their clients ask for, such as international tax.

### Strong Culture-Little Need for Formal Central

The successful knowhow companies see culture as a management tool and carefully maintain and develop it. This is because the stronger the culture, the lighter the formal control. If bright and knowledgeable people are well aware of what is allowed, how they are expected to behave and what ethics the company stands for, very little traditional top down management is needed.

### Leaders Come from the Profession

If the leader is a professional or ex-professional of the same industry as the company, he/she will find it easier to (a) get the professionals following, (b) truly understand the business. Very often this is impossible, so the leadership is divided between two or even more people. The traditional managing director, as we find him in the manufacturing company, takes on a different position in a knowledge-intensive organization.

### THE KNOWHOW COMPANIES--ORGANIZATIONS OF THE FUTURE!

All management theories up till now are based on the simple fact that the formal boss has an automatic advantage by being in control of the information flow, so he or she always knows a little more and has a better overview.

But suppose that this is not the case? Suppose that your subordinates are better informed than you are, have better relations with the key customers than you have, have closer networks within the organization than you do and—how awful—they are even more intelligent than you and they know how to show it.

Is it possible to be a manager under such circumstances? No, would be the classic answer—change the manager. Of course, a manager who is not accepted by his staff cannot function in any organization. However, in the industry the “grassroots” generally give in after a while, grinding their teeth.

They yield because the manager possesses an arsenal of instruments of power against which the individual subordinate is helpless.

However, many managers of knowledge-intensive organizations are precisely in this situation, and the most successful of them are able to handle the situation with great success. Our present theories of management are of little assistance in understanding the strategic implications of this, because they are based on the notion of the manufacturing company.

I therefore suggest that the strategists take a good look at the successful knowledge-intensive organizations, the knowhow companies. The knowhow companies might give some interesting clues as regards the organizations of the future because they have for decades been tackling the problems that the rest of the world is only now beginning to grasp.

The most successful knowhow companies have had to adapt to the needs of their clients, to **tailormake** their problem-solving. They have had to be very careful with how they organize in order to make room for creativity. They have had to learn to manage the difficult, highly skilled people that are now becoming numerous in the manufacturing industry also. The knowhow companies have had to invent individual remunerations tied to performance, they have had to maintain and develop the valuable knowledge of their employees as their prime assets, In order to survive, they have had to create a leadership based on mutual trust, respect for the individual, employee-driven, loose but still strong.

The managers of knowledge-intensive organizations have not created all these features because their managers are better than other managers. On the contrary, as I hope I have shown in this chapter, the strategy of the knowhow company is but one of several alternative strategies.

But, out of necessity, they have long ago had to find solutions to many of the problems that are now emerging in many other companies and organizations **all** over the world. This is because the companies in the knowledge-intensive industries are the first organizations since the beginning of the industrial era that are truly dependent on their staff.

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