

Europa



Business Support Programme

Phase Business Support Programme - SME-Excellence

Alternative and innovative ways for the provision of information to companies

Awareness rising and promotion of best practices on issues such as
technology, quality and benchmarking



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0 Preface

Providing useful information and carrying out special analyses is part of the everyday work of any company whether this company is a big or a small/medium one. Focussing on "globalisation" which nowadays is mainly characterised by causing a permanent decrease both in the life cycles of products and the profit margins of enterprises the provision of information has to be as flexible and actual as possible.

Changing behaviour of customers as well as an increasing competition therefore will exercise a remarkable influence on corporate strategies as well as they will more and more affect the everyday business. Catchwords like "Customer Relationship Management", "eBusiness", "New Economy" are becoming the determining factors of today's and tomorrow's business.

The following topics have been picked out to demonstrate the challenges of this situation, which will face a single company:

Topic #1: The Challenge of eBusiness

To be successful in the market place of New Economy the single company more and more depends on the "right" kind of communication. Much more than in Old Economy for the company it counts to be present in the public room as well as in the media in order to create and to consolidate his image of a modern and trustworthy enterprise. As an example: in order to compensate the missing personal contacts of the Internet both publicity and positive image of an enterprise becomes essential factors of success. Besides the classic "mix" a successful corporate strategy therefore has to take into account these new ways offered by Internet and new media as well.

Topic #2: The Challenge of Comparing with Best Practises

Learning from others is a basic step towards being a successful enterprise, and an organisation, if it is to survive under continuously changing circumstances, has permanently to acquire new abilities and develop new ideas to meet these new challenges. But like change and improvement are directly connected with learning also learning from another organisation which has already found a better solution to a problem has to be taken into account.

A company takes the opportunity to compare his solution of a problem with a better one from another source and by doing so it will even be able to improve on it. A concept and a method which provides the opportunity and the process to learn with and from others is Benchmarking. Benchmarking therefore is also a method of gathering and processing information on best practises and it is not confined to competitive information; it seeks innovation by looking outward, outside the boundaries of a company or even an industrial sector too.

Topic #3: The Challenge of Managing New Technologies

One of the most important decisions for a company to make is what product it will supply in the future. Although companies are often unclear how to select those new products they have also to decide whether new products will require that they have to develop or to keep up with a new technology. The management of technology is therefore an area that has attracted increasing interest in the past years and nowadays it proved to be one of the most important managerial tasks.

When technology is defined as the combination of techniques and the people's ability to use them, then technical change will almost always entail organisational changes. There are many examples of new technologies (also in

the field of information technology) failing because the necessary organisational changes were not implemented. Introducing a new technology therefore must be part of the strategic planning process of a company and it must also be accompanied by a systematic survey of the consequences, both direct and indirect, of introducing such a new technology.

Corresponding to the challenges outlined above three ways of alternative and innovative ways for the provision of information to companies are being discussed in the following chapters:

- How can a company make use from resources and means provided by fast growing eBusiness?
- How can companies learn from each other by comparing best practices?
- How can companies plan and realise the implementation of new technologies?

An adequate management of knowledge proves to become one of the key factors for future business' success in Europe.

1 „e“ as an Challenge for Doing Business in Europe

1.2 Introductory Statement

Mario Andretti: "When you think everything is under control, you are going too slow!"

At any level of policymaking (national and international) the politicians have realised that they have to act quickly to reach the speed of the development in information society.

At the European Council in Lisbon March 2000 the European leaders learnt that the information society should be the centre of their policies for economic and social development in the 21st century.

ESociety and eCommerce force them to leave old business-models. It will be important to bring up these developments to the policies of all future EC-members as well.

Despite all the doubts that have come up lately leading business men have shown a quiet confidence about the European eCommerce and its future, regarding a late survey of senior executives done by Anderson Consulting. (Study by Anderson consulting http://www.ac.com/e-commerce/eEurope2000_markets.html)

Some radical new ways of doing business are coming up, like putting together companies, which used to be competitors. A fact that would have been unthinkable just a year or two ago. This is simply the speed of change in the eCommerce environment.

Fact is a huge number of European companies – of all sizes and types – are now using eCommerce as part of their everyday activities. And their use has become increasingly sophisticated. Few companies now view eCommerce simply as IT issue.

Fact is that an increasing number do not consider it to be a separate issue at all, but instead view it as a key component of all that they do. For such companies, it is not so much a case of 'eBusiness' as the 'e' inside business.

Anderson Consulting has created a network of dotcom Launch Centres around the world, to help start-ups and spin-offs through the difficult post-incubation period. Many other organisations are facing a similar degree of transformation. But while European eCommerce is alive and well, it would be wrong to assume that the disruption of the spring has had no impact. Some important lessons have been learned.

Expectations about the opportunities and threats of the 'new economy' now are much more realistic and a recognition that the old disciplines of business still holds true. The emphasis on management expertise and cost control, alongside the focus on innovation and speed, has increased and it has been interesting to discover that dotcoms are now making widespread use of cost/benefit analyses to assess their eCommerce initiatives.

In some of the more advanced eEconomies of Europe, we found greatly increased eCommerce activity combined with static or even reduced levels of optimism about the success of such activity. This apparent paradox in fact suggests that many executives now have a far more sophisticated understanding of eCommerce.

Indeed, now that much of the hype has died away, they can see that while eCommerce provides great new business opportunities, the pace of competition is so great that it is difficult to do more than keep up.

It is often assumed that North America is still in the lead – and indeed this Anderson-Consulting study does demonstrate that in certain key respects, Europe is lagging behind the US in the adoption of eCommerce. But Europe has certain advantages when it comes to competing in the new economy, not least the opportunities presented by mobile commerce, in which it looks set to take a commanding lead over the US. There are also strong indications that European businesses often have a cultural sensitivity and an understanding of the complexity required for competing in international eCommerce markets.

It is stated clearly that we would never be able to control and steer the process of the rapid changes that are coming up because of the Internet and the information society. The "infosociety" is therefore an abstract idea, the Internet meanwhile reality in the EC. You being trainer and/or consultant have to raise the awareness in your countries about this society and its benefits.

Due to the existing and upcoming technologies and the ideas, the way we interact in the future is in fact the most important process. It is a highly complex system beyond the control of single individuals but it is a political task to reduce complexity and to create visions.

You can influence this development in the business world, too. It is like a big organism, different interest groups aim for different goals. But you should keep in mind - the game is always the same, increasing quality, efficiency, safeguarding shares, reliability and interest rates may be newly created jobs.

Most SMEs do not really appreciate the benefits of information-technologies and even less the benefits of the information-society. We should not waste any given knowledge and potentials. We have to teach our clients how to use the best and strongest tools to fight competition. Today IT and Internet are the strongest and best tools. We have to accept dramatic changes in our clients' world. So there is only one direction for us: the one straightforward.

IT and Internet offer a much higher level of abstraction in a changing environment. The aim is to change organisations properly for much more productivity and unfortunately more unemployment (at least in the governmental bureaucracy).

Anyway a well-balanced age structure in organisations is as important as ever. There has to be a transfer of knowledge, culture, integrity and corporate identity.

The opportunity for worldwide operations is difficult to regulate (taxing, shifting burdens). Money itself has become an electronic information. It can be sent easily anywhere you want it to. Therefore money is no longer defined as property.

The use of Internet, Intranet, extranet and all these tools as a small part of the spectrum is not spread very widely. Social and cultural impacts are not really clarified. In this situation decision-makers face the problem of taking decisions about something they do not even know.

1.2 Questions

Internet and IT is meanwhile powerful enough to transform companies, jobs and organisations, even the government is forced to change. Virtual organisations will offer new opportunities in business and for jobs. Employees will be part of the managing process itself.

Ask yourself the following questions and reconsider the answers:

- *Does eCommerce form a significant part of the way you currently operate, now and in the future?*
- *Does eCommerce provides a mechanism for tackling your key issues and challenges?*
- *Does eCommerce offer a major advantage in competition?*
- *Do you think that eCommerce poses a serious competitive threat?*
- *Do you agree that in three years time eCommerce will have forced you to reinvent your business?*
- *Do you agree that you are pursuing eCommerce to offer new services to your existing customer base?*
- *Do you agree that eCommerce enables you to gain a better understanding of customers' desires and habits so helping you to anticipate customers' needs?*
- *Do you agree that eCommerce is bringing fundamental changes for the intermediaries in your industry?*
- *What impact on the success of your eCommerce initiatives has the speed of response to changes in customer demand had?*

Anyway you should fight always against these five mortal sins:

- waiting for better days
- waiting for the next generation
- however
- whoever
- without concern

1.3 Requirements to succeed

- new environments
- market liberalisation
- more and better WEB Sites
- internet is a prospering market
- legal activities

Therefore you have to retrain people. It is necessary to set-up post-educational training-behaviour. Due to Internet and IT accessibility to jobs is very easy on a worldwide scale and so it becomes more difficult to guarantee local jobs and welfare.

Everybody could access information anywhere and become a part of it. To ask if the Internet and IT will create jobs is not appropriate because nobody knows. There is no definitive answer. This process is similar to trial and error. The setting up of a teleworking environment has a strong impact in certain branches (e.g. retail-services, technical services). Therefore we have to give our clients a way to redefine the process, showing the best technologies and combining culture, processes and IT.

As a consultant and/or trainer you should build up a collective intelligence to meet future requirements. Teaching organisations and lifelong-learning are no buzzwords. There is a place for employees at the age of 40 and above. You should have the dream of experienced and future-minded consultants and/or trainers with the ability of conveying visions and using best practices. The first and most important step in any eBusiness-project is to find the right consultants and trainers. Then you have to teach them all you wanted them to know.

1.4 Services and Functions

There are three clearly defined interest groups:

- SMEs itself
- Consultants / Trainers
- Interest Groups such as the UEAPME and Governments

As mentioned above you have to support them all in introducing the Internet and IT for areas relevant to them (process, size, value chain,...). Your job is to create awareness and provide support in form of consulting.

You have to offer quality services in a way that "customer perceptions always exceed customer expectations"!

You should find out that it is important to be aware of 2 dimensions:

first

- focus on the customer
- process orientation (backwards from customer to supplier)
- working method and organisation (understanding the process)
- information and IT-technology
- performance indicators

second

- focus on the media (become aware yourself)
- shape and frames (prepare, develop and design services)
- change and transform (introduce and adopt ebusiness-processes into your organisation)

Both dimensions need attention in a well-balanced way. Keep all aspects of the first dimension in mind at the same time and execute the second dimension sequentially.

You also must understand the role of mental models in everyday life:

- understanding versus doing (educational problem)
- doing something automatically (my friend the waiter)
- learning something new (mental model of cooking)

There are some major points you have to consider too:

- doing business by using internet/IT is in some cases much faster.
- speed up the process as well.
- There is no alternative, like it or not.
- The competition is increasing.
- Knowledge-based learning organisations will be established. Do not underestimate enterprise-knowledge! It is an asset.
- New skills (human capital) have to be trained!

- Internet/IT will bring dramatic changes in social and company culture (best practices)
- Internet has an enormous impact on society and a great potential for improving the quality of life.

The process of intelligence could be divided into the following parts:

- asking the right questions
- collecting the information
- storage, retrieve and analyse the information
- dissemination of information
- secure the information
- important is the forming, updating and building of an information-model

The common access to information offers:

- efficiency to give information without the need of more people
- privatised authority (agency)

The ways of dealing with information:

- public access to official documents act
- data act
- official secrets acts
- register acts

Define:

- what is regulated by government
- the information that contains all objects
- an unique-identification systems
- your quality declaration
- the information for public access

People need to get any information any time from authorities and everything which is not secret is public e.g. population personal-number, company/organisations, vehicles, real estate.

The ways of distribution have to be safe and could be as following:

- directly by the authority via email,
- through online or gateway-services, which need agreements between the distributor and the authority, a database hosted by the online companies or computer to computer connections/gateways
- online or file transfer.

The culture of our future is the “on-demand-society. We have to start thinking in verbs and activities. Your main assets will be the production factors money, workforce, area, data and there are no limits to information-technology.

It is a good deal to think about “channel information control” (chic)

- What is the idea behind
- What is the approach
- What are the main objectives and key issues

To get an accepted system any web-based interface should be

- simple
- not bulky
- not time consuming
- automated and integrated
- open to other publication producers

The process of enabling e Business-opportunities is divided into phases

- Conceptual design
- Preliminary design
- Critical design
- Implementation
- Operation

1.5 Some examples of doing Business in an eEnvironment

These examples were taken from the Study of Andersen Consulting (http://www.ac.com/ecommerce/eEurope2000_markets.html) with additional URLs and figures.

Market exchange

Exchanges provide an industry spot market for products. They aim to match buyers and sellers to make markets. Usually industry vertical, they rely on transaction volume for liquidity in near commodity markets. Prices are most often low and they rely on leveraging greater efficiency than traditional supply chains. Sellers are typically charged a transaction fee based on the value of the sale.

A critical mass of buyers and sellers will be needed to dominate the market, and there is likely to be early-leader advantage. Early proliferation of exchanges can lead and has led in many instances to consolidation due to economies of scale.

<http://www.esteel.com/>
<http://www.letsbyit.com>

Transaction agent

Transaction intermediaries also match buyers and sellers but do so indirectly. They take orders from customers to buy or sell and then execute on their behalf, leveraging the volumes and negotiating power of their aggregation role. The agent charges the buyer and/or seller a transaction fee. This can be applied across many types of industries. In commodity type markets, models rely on lower prices to drive higher volumes to overcome controlled overheads compared to high value markets where a lower degree of price sensitivity allows quality matching and higher transaction fees and margins.

<http://www.europeaninvestor.com/>

<http://www.cheapflights.com/>

<http://www.tiss.com> or <http://www.flights.com>

<http://www.jobpilot.at>

Business trading community

These communities are usually designed for vertical markets. They provide comprehensive industry/sector information ranging from pertinent industry news to supplier and product directories and add further value through facilitating a focused industry dialogue and even an exchange for information.

<http://www.bfinance.de/>

<http://wko.at>

Market aggregation

Use appealing content and services to draw the attention of an audience in order to convert that attention to advertising and/or commerce transaction revenues.

<http://www.discovery.com/>

Search agents

Search agents locate hard to find information or compare prices for buyers according to criteria such as price, service level etc. They can have a number of different remuneration mechanisms from advertising revenue to taking a small percentage up of sales made on referrals.

<http://www.yellowpages.co.uk/>

<http://www.otb.at>

<http://www.yellowmap.at>

Advertising

Content and services are broadcast, (usually for free, but a fee on a subscription basis), in return for advertising messages, usually via banner advertisements. The economics require high traffic volume for mass markets or specific target volume for specialised audiences. The broadcaster charges advertisers for the banner advertisements, which can be the sole source of revenue. Value-added features seek to entice increased volumes including email and personalised information services.

<http://www.webfreetv.at>

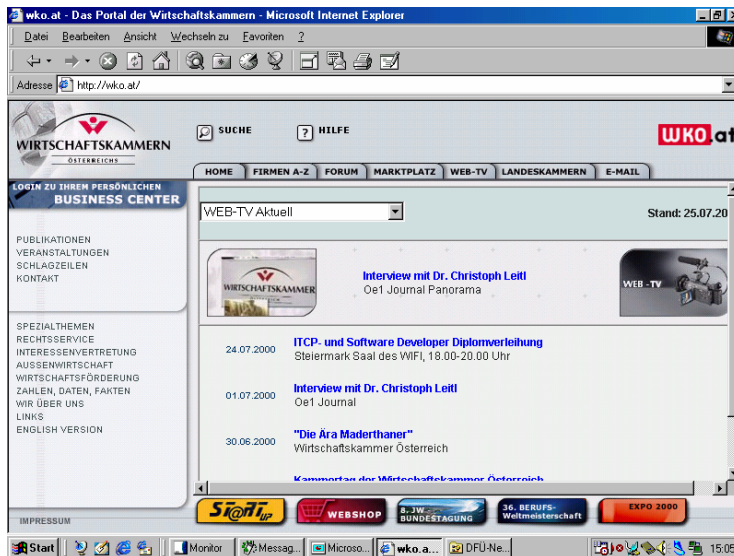


Figure 1-1: <http://wko.at> webTV opportunities

Free

The free model is usually intertwined with the incentive model and can be based on top of an advertising model. This model relies on high numbers of visits and/or revenue based transactions. It can also be used to gather information as in the infomediary model. When advertising is the only source of revenue, sustainability is dependent on volume.

<http://www.hotmail.at>

<http://www.gmx.at>

<http://www.websms.at>

Free for advertising

This model offers products or services free to end-users but requires them to view advertising and can even pay end-users to view advertising.

<http://www.alladvantage.com>

Subscription

This is a 'pay –for-access 'model. Success is dependent upon high value content, usually exclusive and frequently updated. This model runs against the traditional ethos of the Internet and usually has significant resistance to overcome. Making portions of content free helps to drive volume and can both draw in visitors and generate advertising revenue to supplement subscription revenues.

<http://www.economist.com>

<http://www.derstandard.at>

Mass-customised commodity

This offers 'have it your way 'options on top of competitive prices, convenient buying and fast delivery to win in commodity markets. To make the numbers work, push assets out, inventory turns up and make processes more direct.

<http://www.amazon.at>

Micro-payments

This can be either 'pay-as-you-go' or metered usage. Micro payments are charged in line with usage. These payments are small enough so as not to be prohibitively expensive for users and still amass attractive revenues for merchants through volume. This is only enabled where transaction costs are negligible; something hitherto unavailable to merchants but enabled by a growing number of payment solutions providers who aggregate transactions to the point where transaction processing costs are economically viable.

<http://www.qpass.com/>

<http://www.digicash.com/>

Registration

These are content-based sites that are free to view but require visitors to register. Demographic information, possibly with session tracking data, has great power for marketers.

<http://news.ft.com/>

Trusted intermediaries

The new role of trusted intermediary is emerging as traditional intermediaries find themselves displaced by new value propositions of innovative new competitors. Post offices for instance, have a strong reputation as trusted intermediaries for the carriage of letters and parcels. With the coming of eCommerce, some post offices have begun to redefine their role in the eEconomy by exploiting their unmatched reach of service, access and distribution networks, not to mention brand recognition, to offer a variety of new services to traditional clients, dotcoms, SMEs and others. These include: certification, registration and authentication, electronic mail address, mail box and mail filtering, secure electronic messages, financial services, eShopping, order management, payment, shipping, warehousing and secure links to government services.

<http://www.ksv.at>

<http://www.a-trust.at>

Infomediary

Infomediarities can operate as collectors or suppliers of useful information. Providing information including site comparisons and product and service comparisons will secure loyal visitors/ customers to the degree of the value of the information. On the other side of the coin, consumer behaviour databases are very valuable and can be sold on to other businesses. Detailed surfing habits and purchase preferences can be obtained from customers in return for incentives or free offers.

<http://www.updatekmu.at>

<http://www.manager-magazin.de/unternehmen/artikel/0,2828,104316,00.html>

<http://wko.at>

Expert

These sites provide expertise on a variety of topics. Commonly, a 'question and answer' interface enables people to get expert advice in response to their information needs. This can be through recognised experts in the relevant field or through collective forum information.

<http://www.askanexpert.com>

<http://www.vistaconcepts.de/htm/workshops/check.htm>

<http://www.businesswissen.de>

<http://wko.at>

Recommendation engine

Recommendation engines allow users to share opinions about the quality of goods and services. They can extend to commenting or even ranking sellers or buyers with whom they have interacted.

<http://www.inforocket.com>

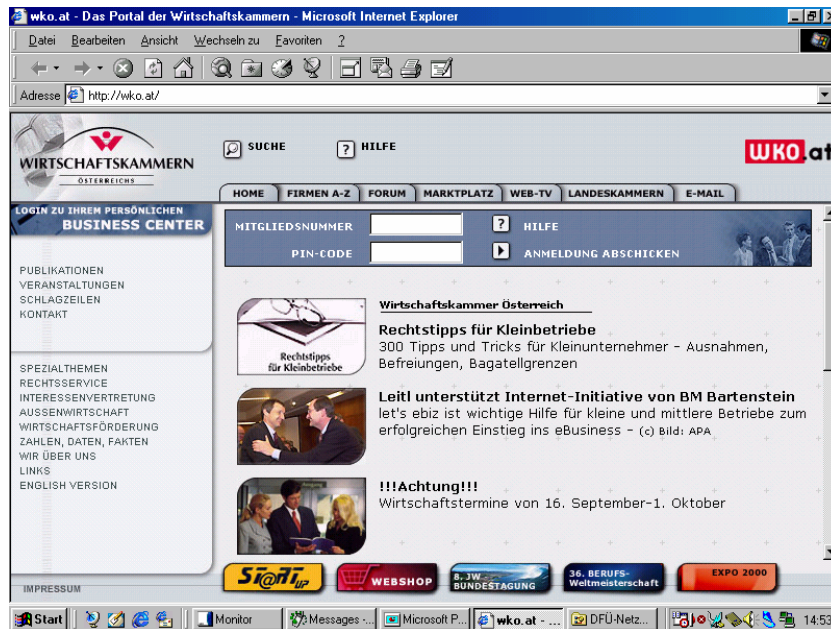


Figure 1-2: <http://wko.at> introduction page

2 Benchmarking – Only Fashion or a useful Management-Tool?

2.1 Introduction

2.1.1 Roots of Benchmarking

In the past years benchmarking has been one of the most discussed terms in business life. A topic which is often used by business consultants and economic experts, but regarding to SMEs benchmarking sometimes seems to be a „mystery“, something which maybe is useful for top-enterprises. Consequence is that these small and medium-sized enterprises are in danger to lack all possible advantages of a benchmarking process.

Where does „Benchmarking“ come from? There are several answers. "Benchmarking" is an old surveying term, first used in fact by the Romans. It was based on putting stakes into the ground and measuring distances and angles. It has since assumed a broader meaning.

Benchmarking is now a management tool, which widely distributed in the United States. Benchmarking as an instrument of leadership, it is not longer discussed, it is used as a standard-tool. Even the studies on the scientific methods of work organisation performed by Frederick Taylor in the latter part of the 19th century can be seen as an early use of a benchmarking concept.

When the benchmarking concept was developed, it was originally used in the industrial environment, important for the enterprise level. But since that other organisations such as government, hospitals or universities discovered the advantages of benchmarking to improve their processes and systems.

2.1.2 What is Benchmarking?

Benchmarking has been defined as a „continuous, systematic process for comparing performances of organisations, functions or processes against the „best in the world“, aiming to not only match those performance levels, but to exceed them“ (DG III, 1996). In other words benchmarking is a tool for improving performance by learning from best practices and understanding the processes by which they are achieved.

Benchmarking allows to analyse and improve key business processes, eliminate waste, improve performance, profitability and market share. Benchmarking's strength is that it allows decisions based on facts not only on intuition. Modern benchmarking tools have been developed to allow visual representation of results. A company can now see where its score place is in relation to a national, a sectoral or a European comparison of companies.

Key words in benchmarking are: comparison, learning, transfer and improvement.

A tip for better understanding: A Benchmark is a milestone, a key figure that is part of benchmarking. „Benchmarking“ is a process with the objective of improvement by learning from others.

2.2 Level and Types of Benchmarking

In literature there will be found a lot a various definitions for benchmarking and also a lot of criteria for types of benchmarking. For a better understanding we will introduce just two main important explanations for benchmarking (see **Figures 2-1/1 2-1/2**).

Framework Benchmarking	Sectoral Benchmarking	Company or enterprise-level Benchmarking
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Figure 2-1/1: Levels of benchmarking

Framework Benchmarking: Benchmarking of framework conditions applies to those key elements which affect the attractiveness of a regions as places to start up and to do business – which in turn affect the business environment in which companies have to operate. The legal and the economic framework are important. Some of these elements can be benchmarked on a national, international regional level such as costs (labour, financing,) or labour skills and administrative infrastructure, educational systems amongst others. A typical source could be the OECD.

Sectoral Benchmarking can be seen as a natural extension of a company benchmarking in that many of the principles can be applied to that set of enterprises that make up an industry (sector) and for which similar types of best management practices are important for competitiveness. Examples for this would be studies on the performance of the automotive industry, the electronics or the steel industries. These studies are typically international and large scale, focusing on particular areas of interest for the given sector.

Company benchmarking is above all a management tool directed at the continuous improvement of processes in companies. To define processes to be improved, to identify best practice (sometimes world-wide but more often best in class) of these processes, to assess gaps in the own performance in comparison with these best practices and to understand the reasons for this situation. Then of course the transfer and implementation must follow. These are the steps, which should allow a company to increase performance and to improve its competitiveness.

Internal Benchmarking	External (competitor- orientated) Benchmarking	Functional Benchmarking
-----------------------	--	-------------------------

Figure 2-1/2: Types of Company or enterprise-level Benchmarking

Regarding to this company benchmarking three main types of strategies can be applied: Especially for bigger companies (corporate groups) the **internal benchmarking can** achieve good results in terms of improving time, productivity and quality by analysing, comparing and learning within the company.

The **external and competitor-oriented benchmarking** is characterised by an external comparison of benchmarks and processes with a benchmarking partner within the industry, the branch, the sector who is at the same time a competitor in the market. That means of course a lot of confidence and respect for each other, important criteria which is necessary for a successful benchmarking project.

Functional benchmarking but the very new aspect in this method is that benchmarking is not confined to competitive information. It seeks innovation by looking outward, outside the boundaries of the own industry. Best practice for business processes can be found outside the industry sector in which a company operates. Often it is neither necessary nor desirable to confine a benchmarking exercise to competitor companies.

2.3 The most important steps in benchmarking

At enterprise level, benchmarking is a management tool for supporting management strategies. Main target is the improvement of competitiveness through identification and adaptation of best practice at process, organisation and management level. A benchmarking procedure involves four main steps:

1. Understanding of the company processes in detail
2. Analysis of the processes of others (other companies)
3. Compare the own performance with that of the others
4. Implementation of measures, which are necessary to close the performance, gap.

A central question in starting a benchmarking project is how to structure the procedure and what can be measures in which way. Therefore a „Face-to-face“-Comparison can be helpful, which means that two companies are ready to share experience, business processes and secrets as well as key figures. Such a benchmarking project can be very successful and lead to a high level of improvements in performance of both partners. But it must be seen, that such a process has a duration of 9-12 month, combined with a lot of input in terms of engagement, financial and human resources - for SMEs sometimes a high barrier to start an extensive benchmarking project. So a 2-Step procedure in running a benchmarking project can be helpful.

This lead to another important aspect regarding to developing a benchmarking projects that is to distinguish between a diagnostic versus a process benchmarking (see **Fig. 2**).

Diagnostic Benchmarking	Process Benchmarking
Main Question: WHAT does my Benchmarking Partner (and/or the Best in Class) achieve?	Main Question: HOW does my Benchmarking Partner (and/or the Best in Class) achieves the results?

Figure 2-2: Diagnostic versus Process Benchmarking

Diagnostic Benchmarking is – as a first step - an approach, which provides a relatively simple introduction to benchmarking. It offers structured, cost-effective feedback and requires only a minimum of resources to implement. It enables companies to improve their performance by identifying critical competencies, strengths and weaknesses – and then to learn from the best practices in making the necessary improvements.

After that „diagnosis“ the – more expensive and intensive – process benchmarking can be added which helps a company to find innovative solutions and offers a means of transferring them into business. When correctly applied, a process benchmarking fosters a learning culture in which knowledge is shared. Both the diagnostic and the process benchmarking cannot be seen completely independent, the effects and connections sometimes efface the border.

The application of benchmarking by a company involves a number of stages, which are illustrated and explained in **Figure 2-3** below.

		TO CLASS
DIAGNOSTIC	HOLISTIC	PROCESS
STARTING	ON THE WAY	MATURE
A Company first applies diagnostic benchmarking to explore the relative performance of different functions in the business. This diagnostic phase is normally a short duration analysis. It is often based on a questionnaire, which asks a manager to rate against a set of business criteria.	The second stage, holistic benchmarking, involves examining the totality of the business. This is used to identify key areas for improvement. It is more in-depth than the first diagnostic phase. It examines all areas of the business and addresses qualitative aspects by looking at systems and processes and provides quantitative information based on trends and ratios.	In the third mature stage, the company graduates to process benchmarking. This focuses on seeking to improve specific processes in order to achieve world-class performance. Process benchmarking is conducted by project teams. The first step is to specify a process (or interconnected processes) to be studied. Next a benchmarking partner with superior performance in this process being examined is identified. In this way the performance gap is established and the elements which have led to the gap are understood. On this basis improvement plans can be implemented.

Figure 2-3: The application of benchmarking by a company

2.4 Several aspects to Benchmarking and SMEs

2.4.1 Is Benchmarking a controlling tool?

In accordance with previous definitions, benchmarks are "measuring devices", figures that are in close connection with controlling. Most probably this has been the reason why benchmarking was the first instrumented to be accepted and applied as a management tool in this field.

Nevertheless benchmarking is more than just a comparison of figures, more than the specification of target values – it is about anticipating and learning and not about checking results of calculations. Controlling merely encourages and stimulates a meaningful benchmarking process, but cannot specify concrete targets as a free orientation for the respective functional units.

In addition to that, benchmarking comprises not only the field of figures. It might as well be applied to steps in assembly processes, in administrative procedures, or in procurement, and thus it goes definitely beyond the range of task of a controller.

2.4.2 Barriers to Benchmarking

"It is a comforting thought that carefully structured benchmarking most likely will not end in legal disputes, but this fact by itself will hardly encourage competitors to co-operate". This recognition is one of the reasons why a neutral "Clearing point" like for instance the Economic Promotion Institute of the Austrian Federal Economic Chamber (WIFI) has started to work on the topic of benchmarking. Entrepreneurs like to take advantage of recognised external and neutral support, as offered by some enterprise associations.

It is a major step to share specific company data with potential competitors – if the benchmarking partner is active in the same industry. Also in the case of cross-industry benchmarking, i.e. not with a direct competitor, the entrepreneur has to overcome a barrier, which we may nearly term "traditional".

2.4.3 Is Benchmarking suited for SMEs?

It is obvious that the benchmarking methods and variants applied by large enterprises can be applied by SMEs only with difficulties (see **Figure 2-4**). The reasons for that include the length of the projects (between 6 and 12 months), the relatively high costs, the involvement of staff members for the whole duration of the project, as well as the very costly and slow partner search.

➤ Resources:	<ul style="list-style-type: none"> - limited financial possibilities - limited staff capacities
➤ Methodological know-how:	<ul style="list-style-type: none"> - lack of benchmarking know-how - mostly not familiar with questionnaire technique - knowledge deficit concerning tools for process visualisation

➤ General benchmarking problems:	<ul style="list-style-type: none">- availability of data- high competitive pressure- lack of trust to pass on data- lack of management support- mental barriers
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Figure 2-4: Causes for possible difficulties of SMEs when applying benchmarking methods

In spite of all these factors benchmarking is a very suitable management tool also for SMEs. The findings obtained in the course of a less complicated diagnostic benchmarking project form an excellent basis for improvement measures supporting the continuation of business in the market.

In addition to the above-mentioned possible difficulties of smaller enterprises it must be emphasised that SMEs do have the potential to improve their processes using benchmarking. This is due to the fact that the processes of SMEs are more transparent than those of large enterprises.

Moreover, their structures are less complicated and clearer, which makes SMEs more flexible and adaptable than large companies, a fact that is quite advantageous for the benchmarking process and facilitates a speedy introduction of "best practices"!

2.4.4 Key aspects in the enterprise

To achieve positive acceptance of benchmarking by managers and staff members from the beginning it should be used exclusively for designing the future and not for analysing or solving past problems. Benchmarking is not an end in itself but an effective trigger of a comprehensive process of change. Another major element in the preparation of a benchmarking project is to inform all employees on the project, its organisation and aims from the outset. The timely involvement of all those concerned, i.e. of the staff and all the colleagues, is vital for the later implementation of improvement measures. Permanent information and a presentation of the obtained results in front of the peers should be prepared and carried out carefully.

Another key milestone for the success of a process benchmarking project, however, is the awareness that such a process takes a long time, both as far as human resources and as far as the project period is concerned. A minimum framework of 9 months has to be reckoned with. Also, it should be possible that an (external or internal) employee assists the project as her/his main responsibility. This is important to guarantee the continuity of the process as well as punctuality (the meeting of deadlines).

In general it may be said that the following key aspects have to be taken into account in the framework of a benchmarking project: the concrete project definition, the involvement of the staff members, a comprehensive search for information, the exact planning of the benchmarking process, the analysis of deviations, the communication of the results and the implementation of the results on a related action plan and a controlling system basing on it.

2.4.5 What may be used as a benchmarking object?

It is one of the most difficult decisions in an enterprise to decide what exactly should be subjected to a benchmarking process to increase competitiveness. Often a diagnostic benchmarking project as a first step is a good solution to deduce strengths and weaknesses from a structured positioning by means of benchmarks, which then show concrete starting points for improvements (see **Figure 2-5**), i.e. for process benchmarking projects.

Customer requirements Products Services	Critical success factors Customer satisfaction Delivery service Unit costs Return on equity
Manufactured products Machines Spare parts	Bought parts Components Material flow systems
Services Repair service Financing	Processes Incoming orders Customer demand/problem-solving Stock management Rendering of accounts/collection procedure

Figure 2-5: Examples for benchmarking candidates

2.4.6 Conclusion

Although many companies are performing well, there are very few companies, which are realising their full potential. Case studies of companies, which are currently performing well, indicate that they continue to benchmark since they may not be performing as well four years hence. So benchmarking is not just useful if things are going wrong, but for all the time: there are always opportunities for continuous improvements. In fact, benchmarking is not a means on its own but a part of best practice. It is only by 'applied benchmarking'-ensuring that benchmarking reports do not just collect dust on the shelves but are actually used-that shortcomings can be addressed, the necessary changes implemented and the gaps in performance with market leaders closed.

2.5 Working areas for enterprise-associations in the field of benchmarking

A main target in the work of an enterprise association should be the permanent efforts to make the local enterprises familiar with modern management techniques like the topic of the benchmarking method. Furthermore the achieving of co-operation agreements with renowned international experts and using their well-founded know-how for the benefit of the enterprises is an important objective regarding to support the companies in increasing their productivity.

2.6 The European Perspective: Meeting the challenges of an information society with Benchmarking

In the information society the European enterprises are faced with a rapid change regarding to globalisation, new technologies and market-driven demands. Furthermore their work is additionally influenced by growing quality requirements from the part of customers, changed value-orientations of their employees, as well as by legal regulations, and, not least, transfers of ownership.

The consequence is an intensive competitive pressure on SMEs within the European Union and especially also for those in economies in transition.

The information society framework sets two important challenges to successful European enterprises: At first the rate of innovation must be increased and secondly the enterprise culture has to become more dynamic. What is responsible for success? The capacity to transform information into knowledge more rapidly than the competitor – therefore a permanent innovation sensibility is a key factor. On the other hand the European entrepreneurs need – especially in comparison to the United States – a new progressive approach to risk, reward and failure.

The European Union has put great effort into creating conditions in which economic actors can profit from opportunities arising from the rapid change.

Benchmarking can play an important key role. By providing a mechanism for identifying (worldwide) best practice and for learning from it, benchmarking can accelerate the rate of response to the mentioned changes in market conditions.

At European level the new established Enterprise Directorate General shows its commitment to an integrated approach to innovation and enterprise as the basis for Europe's competitiveness. And the Commissioner for Enterprise promotes benchmarking as an important tool to meet the challenges of the information age. Therefore a major initiative was launched to benchmark Europe's innovation and entrepreneurship performance. The action plan has four main points:

1. The current level of progress of European and national policies in promoting innovation and fostering entrepreneurship will be diagnosed.
2. Indicators and benchmarks will be established and used to measure innovation and enterprise policy performance, progress and practices.
3. Priorities for action will be identify on this basis.
4. Progress on measures implemented by Member States to address innovation and entrepreneurship priorities will be monitored and reported.

The EC is convinced that such an initiative is essential to give Europe's enterprises support to meet the challenges of the information society.

ANNEX A: Important Benchmarking Networks and Links

EUROPEAN BENCHMARKING FORUM

<http://www.benchmarking-in-europe.com/>

<http://www.benchmarking-in-europe.com/initiatives/frame2.htm>

Company Benchmarking Initiatives

At Company level the Commission's objectives are to encourage the benchmarking take-up amongst industry, in particular for SME's, as a quality tool for continuous improvement of companies' performance and consequently for increasing competitiveness, and to promote increased synergies between a large number of initiatives and activities developed throughout the Union.

Bearing in mind that benchmarking at company level is above all the prime responsibility of companies themselves, the Commission services have been supporting some initiatives, from them one is known as the "**Benchmarking for Success**" initiative (managed by Forbairt / IRL). Under this initiative, a European Benchmarking Network (EBN) has been created composed of about 200 members representing government, industry, companies large and small, academia, benchmarking service providers and consultants, and quality organisations from all Member States. These are organisations, which have intended to play an active role and to contribute to the development of a European approach to benchmarking. They have informally agreed to promote and support the existence of a framework and model for benchmarking in Europe and to adhere to the European Benchmarking Code of Conduct. Acting as a quasi-informal network, the EBN is provided with a forum to develop ideas, concepts, actions and initiatives in a cost-effective way.

Acting as a steering group to the EBN, the **European Benchmarking Forum (EBF)** is driving the process forward providing a focal point for activities across the Community and a means of developing synergies between them. Recently, and with the objective of fostering alignment and rapprochement between the different initiatives on benchmarking in Europe, the EBF's scope has been extended to include representatives of the different benchmarking levels, framework conditions, sectoral and company levels. The EBF has produced support and dissemination materials in the form of a set of inter-active CD-ROM's and a book ("Benchmarking FACTS (Facilitated Assessment & Comparison Tools) - A European Perspective"). They provide explanations, information, and examples of benefits, resource libraries and databases, and access to an interactive sample-benchmarking tool.

The European Company Benchmarking Forum (ECBF)

The working group constituted informally to support the development of the project, is formalising the European Company Benchmarking Forum to progress this work, thereby providing a focal point for the further development work required, assuring a successful outcome to this initiative.

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Telephone: +353 1 808 2000, Fax: +353 1 837 9338

GLOBAL BENCHMARKING NETWORK

(<http://www.intecc.co.uk/proactive/Benchmarking/index.htm#6>)

The GBN is an alliance of 24 leading Benchmarking Centres worldwide whose aim is to provide best practice information.

The published Newsletter "The Benchmarking Review" will regularly lead you to such companies and encourage the sharing of best practice!

CONTENTS of the newsletter: Benefit from the experience of others - each issue contains features and sections written by experts to guide you through the various channels of business improvement. Also included are:

- Case studies of benchmarking best practice
- Winners of benchmarking and best practice awards
- International news
- „Benchmarking Association“ reports
- Activities and spotlight on the Global Benchmarking Network
- New products and services
- Diary of Events
- Interviews and commentaries

BUSINESS BENEFITS: By learning from the experience of others you will be able to introduce and measure your own improvements. You will find that through its unique analysis "The Benchmarking Review" will analyse, interpret and identify the implications of best practice. And, by means of tips and case studies, it will demonstrate how the benefits can be transferred to your own business.

Issue-by-issue you will see how organisations around the world are using benchmarking successfully to improve their performance. You too will be inspired to sustain your benchmarking efforts or at long last initiate them!

Contacts: Secretary General of the Global Benchmarking Network: Tom Brock teb@staturb.demon.co.uk

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3 New Technologies for Company Development

3.1 Introduction

We are living in a global economy and there is ever-increasing pressure on SMEs (small and medium-sized enterprises) to continuously monitor and improve competitiveness in the context of the international commercial arena. Although there is a large body of knowledge available in universities, research institutions, development agencies and consultancy firms, SMEs often find it difficult to get access these keynotes and thus enable them to run their business using a more structured and planned developmental approach.

The goal is to provide long-time profit to SMEs who encounter serious competition at home and abroad to improve competitiveness by using new technology in a strategic and structured way. In today's competitive environment, a company must continually progress forward. Otherwise there will automatically be a state of decline.

Strategic thinking is very important for making technological investments within a wider economic framework. As a matter of fact investments in technology must always be commercially justified.

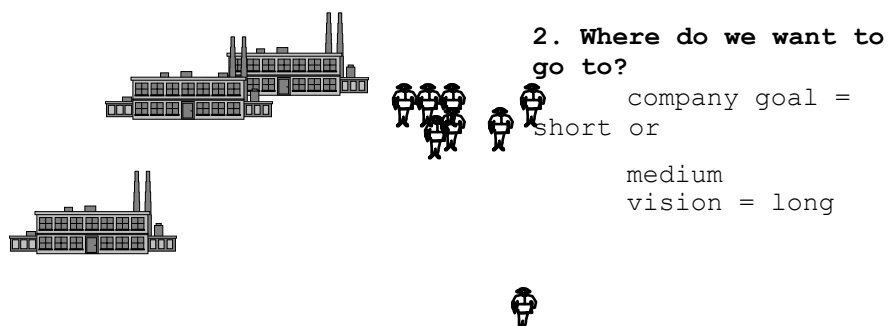
3.2 The Concept of Strategy and Strategic Management

At present there is no unambiguous, generally accepted definition of the concept of business strategy. It is therefore important to clarify what in this case is meant by strategy. Following definition can be used:

“A strategy is a general plan for the way the company will deploy its competence and resources in order to achieve its overall goals”.

A strategy states how the company will deploy its competence and resources to meet market needs to earn money. It is therefore important to define what the company can do, what it cannot do, as well as the means at its command and this imposes constraints on its potential for development. The company's competence and resources must be assessed against the demands made by the market and the competence and resources of competitors.

Strategy involves positioning in relation to markets and competitors to give competitive advantage to the company. It is important to give customers increased satisfaction of their needs, and/or satisfy the customer's perception more effectively than the competitors.



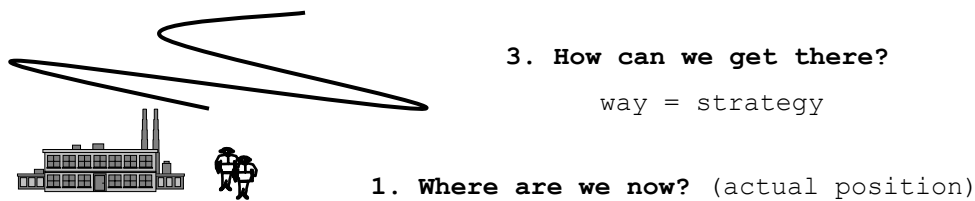


Figure 3-1: Strategic Management

The main goal in business is to increase the value of the company to their owners. In most cases this can be expressed by the return on capital investment. Return on investment (ROI) is in turn a function of earnings created by the company in comparison to the capital employed to achieve this. Return on investment is therefore affected both by earnings and capital utilisation.

In a strategy you have to pose certain sub-goals to state how the company will achieve its main goal. Naturally these sub-goals are more operational and are tied to the “functions” of the company. One sub-goal, for example, could be to become the market leader. Becoming the market leader is not a goal in itself, but it is likely to give the company a position that creates more value in relation to its competitors, and thus has a better return on investment than usual in industry. “Don’t do it as good as you are able to! Make it just better than the others!”

In other words, sub-goals are means of achieving the main goals.

Strategy is a general plan to state the general direction in which the company is to move. It is also a slight positioning of how the company is to move in the required general direction starting from the actual position.

There will often be several possible general directions and thus several ways of reaching the goal. This means that a strategy is a deliberate choice. Strategy is, in other words, not something that comes by itself, but something that management takes an active decision on. It depends on the way management perceives and defines its activities and its surroundings. The plan is a guiding framework for all the decisions that are necessary to determine the nature, direction and rate of development of the enterprise.

In general a strategy will have a long perspective, reaching to the vision of the company. Companies will nevertheless change strategy at regular intervals as the need arises. (see **figure 3-1**)

Strategic management involves the drawing up and implementation of a strategy. The task itself therefore becomes a process. In drawing up a strategy it is important to have a good methodology for analysis and discussion in management group. If there is an initiation of strategy, it is important to arrange process so that it creates commitment and follow-up in the organisation. Strategy must be detailed for each of the functional units of the company in the form of measures and budgets. As a result the company will know whether it is moving in the right direction, routines for following up on the plan must be established. Deviations from the plan must be analysed, and the strategy must be adjusted if the assumptions on which the plan is based change radically.

3.3 The Strategy Process

Every company must have customers. In a competitive situation it needs to offer products and services that are more attractive than those of the competition, and must at the same time do this more effectively than the competition to fulfil the aim of the company to earn money.

The problem is that both the market and the competitors are in constant flux and so the company must constantly think ahead.

An important point for posing a strategy is that the company has a map of the territory in which it competes. This means that it knows its own and its competitors' positions in the market. In addition, the company must realise driving forces behind developments in the competitive situation, and the positions that competitors and the market are likely to have in a few years. This analysis of the company's environment reveals opportunities and threats.

Another important starting point is the fact that the company knows its own strengths and weaknesses. In strategy context these are significant in relation to environment - they are interesting and important. Analysis of strengths and weaknesses compared with opportunities and threats are important for the company's strategy formulation. Such an analysis is often called a "SWOT analysis" (Strengths, Weaknesses, Opportunities, Threats). It can provide an answer to how the company should use its strength to exploit the opportunities, and can consciously improve its weak points to reduce the threats by environment.

In formulating a strategy, the management will often discover a need for further analysis. It is therefore important to start work of actual formulation quite early and to work parallel with collection of data and analysis. This figure outlines a model for use when drawing up a business strategy.

3.4 Assessment of Business

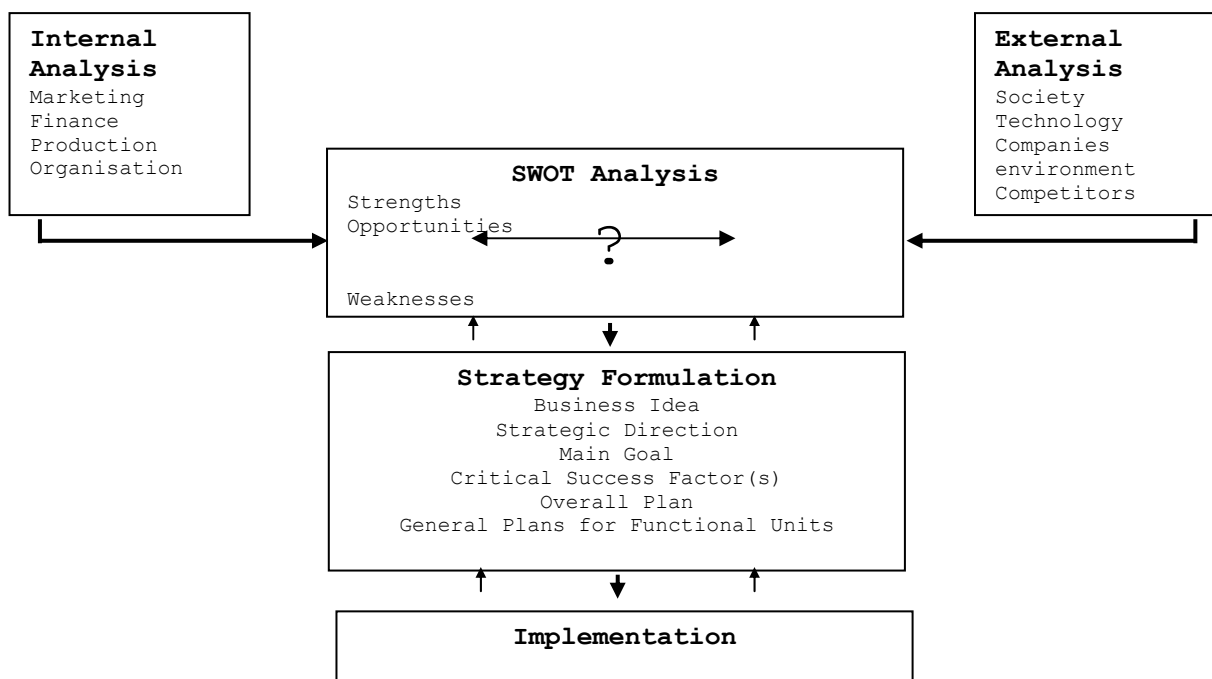


Figure 3-2: Strategy Model

3.4.1 Assessment of External Factors

(see figure 3-2)

Society

The external framework formed by society in which the company operates imposes clear limitations and will be a crucial determinant of the company's business activities. These external factors cannot normally be influenced by the individual company. The external environment can be described in terms of political, economic and social factors:

Technology

Understanding technological trends is important if the company is to "catch on to the right technology at the right time". The creative use of technology can lead to new or substantially altered products, new manufacturing processes and better management and control.

It is important for the company to survey technological developments, to understand what will happen in the course of the next few years, to know the kind of applications new technology will have, and what effect this technology can or will have on the market in which the company competes.

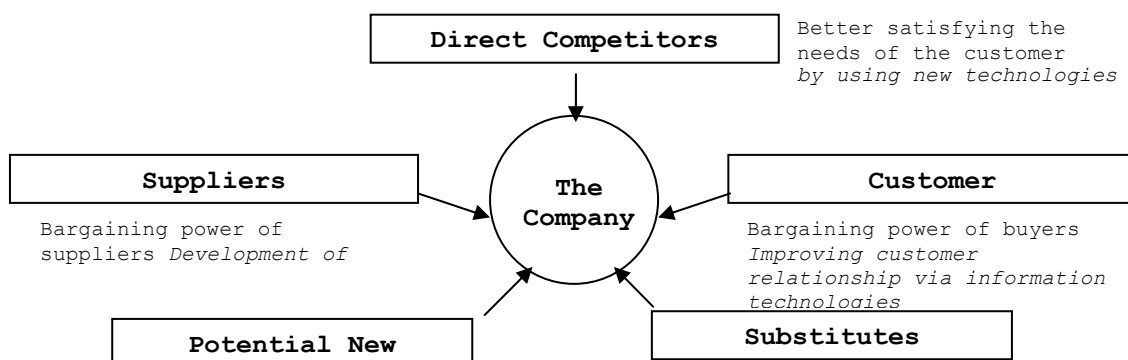
Companies' environment

Competition within a market, in terms of both type and intensity, depends on five main forces as illustrated. (see figure 3-3)

To take the "offensive" in relation to these forces, it is important to be thoroughly familiar with the ones prevalent in the industry in which the company competes. It is also important to predict how these forces will affect the company during the next few years. With such an understanding the company can adapt better, and can also exploit the potential offered by the competitive situation.

In relation to the company, for example, customers are strongly placed if there are few of them, or if individual orders are large. Losing a single customer or a single big order will have great negative consequences for the company that will as a result be the weaker party in a bargaining situation. This is the case for many SMEs.

Correspondingly, the bargaining power of suppliers is great if they supply a product part on which the company is completely dependent in its own business activities, and if there is a lack of alternative suppliers.



The threat of new entrants
Are there new technologies which

The threat of substitutes from other branches
Which technologies could create added value?

Figure 3-3: Five Forces of Competition

Analysing business following key questions should be addressed:

1. What is the company's market? Can it geographically be divided (districts, countries, continents etc.), demographically (population groups, age groups etc.), in business terms (companies of a certain size, in certain industries etc.) or in other ways?
2. What kind of rivalry between existing competitors is there within the business today and what tendencies are there for the years to come?
3. What are the bargaining position of the suppliers and customers, and what tendencies are there for the years ahead?
4. Are there any threats of new entrants with capacity to break into the market - i.e. how high are the entry barriers in that business?
5. What substitute products contrary to company's products could meet the same customer needs?
6. What political, socio-economic, social and technological trends are of greatest importance for the competitive situation in that industry, and how does the company intend to exploit/protect itself against?

Competitors

In strategy context we analyse competitors for three reasons:

1. To find out what their plans are
2. Which Technologies (new materials, material processing, information-technology,...) do they use?
3. To find out how they will react to our measurements, and what consequences there will be for us.

Of course we cannot directly obtain this information. We instead must interpret data and information we had collected. The methodology is in many respects like detective work. On the basis of many small clues the detective can eliminate the suspects until there is only one left. We do not know the truth but can infer what it is likely to be.

By analysing the competitors systematically we can come a long way without any kind of espionage. By simply collecting the items of information one can find in annual reports, interviews, articles and the like, we can elicit clear pictures of what we are actually looking for. Often a systematic arrangement of what the company itself already knows will be just what we need.

When we analyse the measurements or anticipated counter measurements of competitors, it may be useful to consider probability, risks and timing of such measurements.

In our work on strategy we often meet several alternative plans for approaches to competition. By systematically reviewing the counter measurements with which competitors are likely to meet potential plans we will often discover which strategies are best. If the competitors do not react to our measurements, and simultaneously we manage to take a substantial market share to maintain profitability we have identified a successful strategy

Customers

The starting point for all business activities is the existence of customers who buy the company's products and services. It is therefore quite fundamental for creating a strategy to understand the customers' problems and needs, both now and in future. It is not the technical quality of the products as such that determines whether the customers buy them, but the way the customers perceive this quality. Basically to understand buyer's behaviour we must also understand the psychology behind it.

The first requirement for the company is to know who the customers of today are, and who the potential customers are. Once the company has a systematic description of its present and potential customer, to ask the following question can be helpful:

"Why do we have the customers we have?"

The next question concerning buying criteria is which importance the customers attach to the buying situation, and what importance they will attach to in future. The customers will of course vary their emphasis, but very often there will be clear tendencies.

There is for example a clear tendency for most people to assign great importance to travelling time and the choice of means of transport to and from work. The cost of transport today comes far down their list of priorities. Thus, if a public transport company is to compete with private cars, it should first and foremost work on transport time, since it is most people's perception that the car is much better suited by this criterion. If public transport companies manage to reduce travelling time it will lead to a much better return than a reduction of fares.

Segmentation has become a key concept in modern marketing. The company has to find a segment or niche where it enjoys competitive advantage.

It is important how the customers perceive one company (or product or service) in comparison to the competitors. First the market must know of the company's products, and the products must be available where the market wants to buy it. In today's over-saturated markets this can be a considerable problem in itself. But it is not enough to be known and accessible. The customers must also prefer the company's products and services. For a decision making process one has to argue - and if necessary document - that its products are better than those of the competition that are important in the area. It is important to know how the market assesses the company's products compared to those of the competition in terms of the buying criteria most meaningful to the customers.

In situations where long-term customer relations have been established, it is important to keep this clientele. It is easier to sell to existing customers than to new ones, as satisfied customers are the company's best advertisement. A list of high-priority customer problems gives the company useful information for its strategy work.

3.4.2 Assessment of Internal Factors in the Company

(see figure 3-2)

Marketing

An important starting point for the analysis of the company's marketing is to gain a true picture of the profitability of product and customer groups. It is important to emphasise profitability, not just turnover. By profitability we mean the contribution of the product group or customer group after separate costs (investment) have been distributed as accurate as possible over the products. The important question that then arises is:

"Where does the company earn its money (which customers, products and sales outlets)?"

The results obtained by the company are directly dependent on how effectively it works on marketing. Important questions are which target groups the company must reach, the availability of the company's products to these groups, how competitive they are in comparison to those of the competitors, and whether the company is pursuing the right pricing policy.

Effectiveness and results in sales and marketing are in turn linked with the company's systems for managing this functional area. It can therefore be useful to check whether the reporting routines and controls established provide support to the overall goals of the company and whether they provide feedback in the form of operational information.

In addition to the analysis of current profitability and efficiency, the company must assess its future efficiency and profitability in regard to the products and markets with which it works. The companies must therefore constantly work on product and market development.

Finances

In strategy work financial aspects are important in several ways. The most important ones are: Financial scope, Profitability and Control systems.

It is important to know how much financial scope the company has to invest in new areas. You can see this in the first instance from the balance sheet, which shows how much equity capital the company, has compared with its debts. Another criterion is liquid assets - first and foremost money in the bank. If you have money in the bank you can act quickly if something interesting turns up; and you have the "backbone" to stand a period of relative decline. The ability to finance new projects is partly a matter of the company's financial Situation, but is also very dependent of the company itself. The ability to raise funding is crucial.

Profitability is another central topic in connection with strategy. A survey of the areas of the company that are doing well and those that are doing badly is the starting point for any strategic discussion. Figures like these should be correctly studied and you should try to estimate the direction further development will take. It is important to find out why profitability is the way it is. Are there problems with productivity in the company, or does the explanation lie in inadequate turnover and poor pricing?

The company's control and monitoring of earnings, costs, receivables and stocks gives important indications of its competence in these functions. Important questions here are what managements control parameters are, and whether management is getting the right information at the right time for making decisions.

Production

One of the most important indicators for competitiveness of the company is development of productivity. It is first important to compare productivity figures to corresponding figures for the competitors. It is secondly important to study the development of productivity over time and to analyse the reasons for the current level.

Flexibility or the ability to adapt production can be an important competitive parameter in some markets.

New technology can make companies more competitive by reducing unit costs among other ways. The problem for the company is that new technology costs money, and production volumes may be too low for the efficient utilisation of the technology. In the analytical work there is often included an analysis of the technological level compared to competitors regarding existing possibilities.

Efficient production is directly dependent on control systems and good demand forecasts. Bad forecasting means overstocking if the forecasts are too high and extra costs in the form of overtime and poor customer service if they are too low.

Organisational Structure

Motivation of personnel and their attitude to their own work is probably one of the most critical success factors in a company. Motivated employees work more and work better. Motivated, positive acting employees are also important image assets in their surroundings, and this can in turn be important for the company's recruiting and sales.

Those factors affecting employee's motivation on a day-to-day basis can be referred to as environmental factors. The extent to which one is satisfied or dissatisfied with these factors determines much of the sense of well being in the company. Examples for these factors are job assignments, relations with one's immediate superior, job security, the pay system and belief in the company and its products.

The company does not only need motivated employees, it also needs people with the exact competence. You can obtain an indication for the level of competence by looking at the level of wages and salaries. Another indication of low competence is a high staff turnover rate. If an employee stops working for the company knowledge of the company and its work is taken away which often takes a long time to rebuild again.

3.5 The Process of Implementing New Technologies

Formulation of Goals

"Where does the company want to be in five years?"

The main goal in business is as already mentioned to increase long-term value of the company to the owners. In most cases this can be expressed in the form of return on capital. But the owners may also have non-financial goals with the company. Entrepreneurs may, for example, be more interested in creating a business and realising their own ambitions than in earning money. On the other hand the company has to make a profit or it will not survive. We therefore focus an aspect on business economy. In referring to strategy formulation and technology implementation the settings of following main goals have to be considered:

Profitability, Productivity, Competitive position, Corporate culture, Technological initiative.

As we often can see management sets goals that are excellent if realised, but the organisation does not work to achieve them. It is, of course, difficult to set good goals, but the following criteria are worth to be considered:

- Will the goals be accepted?
- Are they measurable?
- Do they motivate personnel?
- Do we have the proper technologies?

Goals, therefore, must be ambitious (but achievable), specific, and relevant. To satisfy each of these criteria, the main goals must be separated into sub-goals and form a coherent goal hierarchy.

Buying criteria and Product-Market-Combinations

After having defined the goal, the product has to be described as well as service, market and technology areas in which the company is involved. Point out the buying criteria your product/service provides to your customers. (see figure 4)

- | | | |
|---|---------------------------------|-----------------------------------|
| • Purchase price | • Quality-image | • Competence of the supplier |
| • Reputation, image | • Usability | • Special design |
| • Special adjustments on customer needs (customisation) | • Compatibility | • Low operation/maintenance costs |
| • Delivery times, reliability and punctuality | • State of the art | • Technical image |
| • Closeness to the supplier | • Special after sales service | • Lifetime Production |
| • Ease of installation | • Standardisation/compatibility | • Operational Reliability |

Figure 3-4: Examples of buying criteria

Next step is to create Product-Market-Combinations (PMCs). (see figure 5) Who is buying which product and why must be known. Define the PMCs via the buying criteria of your customer is necessary. A 20-year-old single may buy something completely different than a 50-year-old father with family – he has other buying criteria for the same product. (Some like a coffee hot some cold.)

		Product 1			Product 2		
Market 1	P-M-C-Nr.:	today	in 3 y.	P-M-C-Nr.:	today	in 3 y.	
		Turnover(€/J)			Turnover(€/J)		
	Cost covering(€/J)				Cost covering(€/J)		
	CC(% turnover)				CC(% turnover)		
	Important buying criteria:				Important buying criteria:		
	1:				1:		
	2:				2:		
	3:				3:		

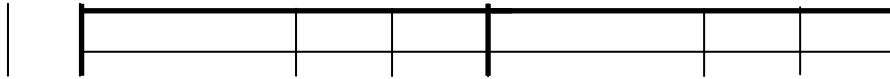


Figure 3-5: Creating of Product-Market-Combinations

After this defining the PMCs have to be compared with the corresponding PMCs of your competitors. (see figure 3-6) Similar procedure has to be set for all 5 Forces of Competition. (see figure 3-3)

Product-Market-Combination:.....						Priority:.....	
Buying criteria	Priority for the customer	Our company	Competitor Nr. 1	Competitor Nr. 2	Competitor Nr. 3	Comparing to the average	
		+ 0 -	+ 0 -	+ 0 -	+ 0 -	+ 0 -	
		+ 0 -	+ 0 -	+ 0 -	+ 0 -	+ 0 -	
		+ 0 -	+ 0 -	+ 0 -	+ 0 -	+ 0 -	
		+ 0 -	+ 0 -	+ 0 -	+ 0 -	+ 0 -	
		+ 0 -	+ 0 -	+ 0 -	+ 0 -	+ 0 -	
+ good/better 0 medium/equal - bad/worse						Overall	+ 0 -

Figure 3-6: Comparing of the PMCs

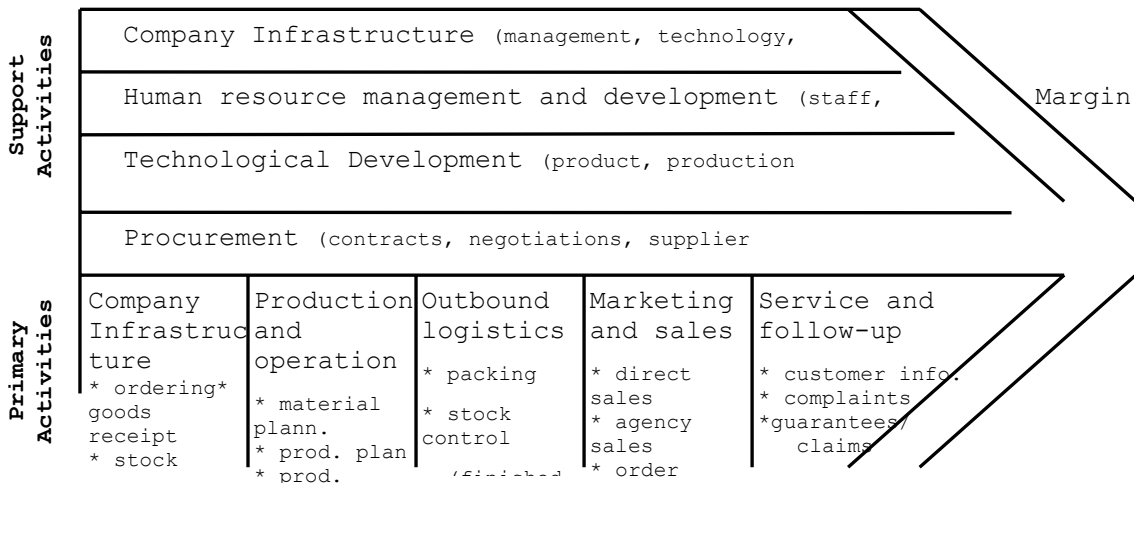


Figure 3-7: The Generic-Value-chain

A value-chain shows the company’s primary activities and support activities as a “linked” chain from supplier to customer. (see **figure 3-7**)

It is divided into activities which are part of the direct product manufacturing process (primary activities) and activities which provide support for the primary activities (support activities). To illustrate this, the support activities are drawn horizontally in relation to the primary activities. Each primary activity to a greater or lesser degree “draws on” the support activities in its work.

Primary and support activities can both be further subdivided into sub-activities (as shown by the points below/beside the name of the activity in the figure). By this a hierarchical breakdown of the activities in the company’s value chain is obtained. One must however be careful not to go too far with the breakdown, as the degree of detail can quickly become unsuitable for further analytic work. For a typical strategy, technology implementing and planning process it is sufficient to describe features one level below the actual primary or support activity.

In a “standardised” value chain specific terms are often used (inbound logistics, operations (manufacture), outbound logistics etc.). It is however important to define established company’s own terminology and reality before getting down to an earnest analysis. This makes it easier for the individual participant to relate the value chain to everyday reality, and quickly see it as a useful instrument for describing work – both how it is done today and how it perhaps could/should be done.

Linking goals, buying criteria and the value chain

An analysis points out the forces of competition in business and the strategy selected by the company (cost leadership or differentiation oriented towards a broad market or niche). A clear need emerges to analyse the company’s individual components and to identify where there is most to be gained by increasing the customer’s perception of the value of the company’s products and services.

Using the value chain the activities can be accessed one by one in the light of overall competitive and strategic considerations, and identify areas for high priority effort and/or technological investment. By comparing the value chain with the established goal hierarchies and buying criteria one can set up a matrix. (see **figure 3-8**)

The most important function of activity analysis is not to break down or describe the company’s activities as such, but allow to use the description to discover issues and options which can then form the basis for the establishment of goals, strategies and action plans. The issues/option list is therefore a key technique for “extracting the essence” of the activity analysis.

		Value Chain																				
		Inbound Logistics		Operations (manufact.)			Outbound Logistics		Sales/ Marketing		After-Sales Service/ Follow-up		Infra-structure		Human Resource Administr.		Technology Develop-ment		Purch-asing			
Goals	Goal 1	X			X			X	X		X	X			X	X	X	X		X		
	Goal 2		X	X		X				X			X					X				X
	Goal 3		X		X	X	X			X		X				X	X		X		X	
	..																					
Criteria	Criteria 1			X		X			X	X		X			X				X	X		

Criteria 2			X	X			X		X	X	X		X		X			X		X	X		X		
Criteria 3	X	X				X	X					X		X		X	X	X				X		X	X
..																									

Figure 3-8: Linking goals, buying criteria and the value chain

By this we have indicated where we have to make changes and where we have to implement new technologies for increasing our competitiveness.

Technology Strategies

In general, there is considerable scope for innovation by the use of new technologies. This may be relevant for three main types of innovation: Products, Production process and management control.

There is no need for new technology if this does not improve the company's profitability the short or long term. Technology can primarily lead to better profitability by:

Creating company's value more efficiently, and increasing the "value" of the products or services from the customer's point of view.

Remember:

The goal is not to have the world's best product at the lowest price, but to be just as much better than the competition.

Product

The point of departure for evaluating new technology in relation to the product or service the company sells is the buying criteria of the market. It is particularly important to focus on a better fulfilment of customer needs . For example, developments in research and new technology may lead to radical changes. Electronic data processing is a good example for how inventions and discoveries cause fundamental changes in the requirements and wishes of the market. The company must constantly seek to be better than the competitors in terms of the criteria that determine customer choices, and to be good enough in terms of the others.

In evaluating technology in relation to products, we have to think about the total product (and service) the customer buys. The way the product is delivered (time and place) may, for example, be just as an important criterion as features of the product itself. For instance, several companies have invested in terminals for their customers to make ordering routines simpler and more manageable - and at the same time this "locks" the customer into the supplier's system.

Important questions in this case are:

"Can new technology substantially increase the value of the products to the customers?"

"Can new technology in delivery substantially increase the value of our services?"

"What plans do the competitors have for new product or delivery technology?"

"What new technology can become important in our industry in the next few years? What will happen?"

Production Process

New technology in the actual production process may aim:

- At more efficient resource deployment, or
- to increase the value of the product.

Here too the starting point is the company's general business strategy. Technology is only relevant to the extent that it can improve the company's profitability by improved competitiveness.

Technology alone rarely lies at the root of the problem. Human factors - knowledge, motivation and management - are often at least as important. It is therefore often the combination of problem solving solutions that produces results. Technology-related measurements that the company finally chooses to implement have to be solidly based on a business assessment of the company's competitive situation and strategic position.

Management and Control

New technology for controlling company finances and various other functions is a matter of managing information. Information technology is therefore crucial in this context.

Investments in new technology in connection with control systems will almost always have the basic aim of making value creation to make the company more efficient. Some relevant investments in technology to control the functions in the company are shown in **figure 3-9**.

Functional Unit	Technological Control System
Sales and marketing	Stock and distribution
	Budget control
	Market information
	Sales planning and follow-up
	Formulation of quotes/tenders
	Ordering/cancelling
	Dealer support
Production	Production planning
	Production control
	Quality control
	Computer-aided production
	Supplier control
Product development	Computer-aided design
	Production-integrated systems
	Component databases
	Knowledge databases
Administration	Invoicing systems

	Payroll and accounting systems
	Budgeting
	Cost control
	Project planning and management
	Office automation

Figure 3-9: Technology Investment in Control Systems

Implementation of Technology

After having analysed and formulated strategy for technology implementation the job of relating the strategy to the company's operations begins. Companies may go different ways by handling this part of strategy work. In general, however, a higher degree of interaction between top management and other levels in the organisation during the actual drawing-up and implementation of the strategy now exists than time ago. Working procedure can thus be regarded as an interactive process. Some of the advantages of such an approach are:

- For the staff being involved they are also motivated and can see the benefits of actual strategic planning.
- Total knowledge about and insight of the organisation is exploited more efficiently. More relevant problems emerge and more constructive, realistic solutions may be seen.
- Employees are, as a rule, more concerned with the overall goal of the company improved profitability – and thus productivity tends to rise.
- Power and role conflicts are often clarified in such a process.

Studies from all over the world show that companies working with strategic planning have clear profitability advantages, and that those working interactive on implementation also achieve better profitability in the longer term. A new strategy can also have consequences for the structure, management and corporate culture of the company. A structural transformation may involve reorganisation of management and of individual divisions. In certain situations this means that some employees will become redundant or must be transferred. Of course this is a difficult and unpleasant task, both for those who have to implement the changes and those they affect. If the company is to make radical changes it may often be necessary to replace all or part of top management. First personal qualities of managerial staff may arise to be unsuited to the new strategy. Some people are typical "growth managers", while others are best at "consolidation" or "restructuring". Secondly social links of managers to staff may make it difficult for them to carry out necessary measurements.