

Kurt Nagel in collaboration with
Werner G. Faix | Ardin Djalali | Annette Horne |
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GENERAL MANAGEMENT TOOLS



SCHOOL OF INTERNATIONAL BUSINESS
AND ENTREPRENEURSHIP

STEINBEIS UNIVERSITY BERLIN



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3. AUFLAGE



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FOR OUR STUDENTS

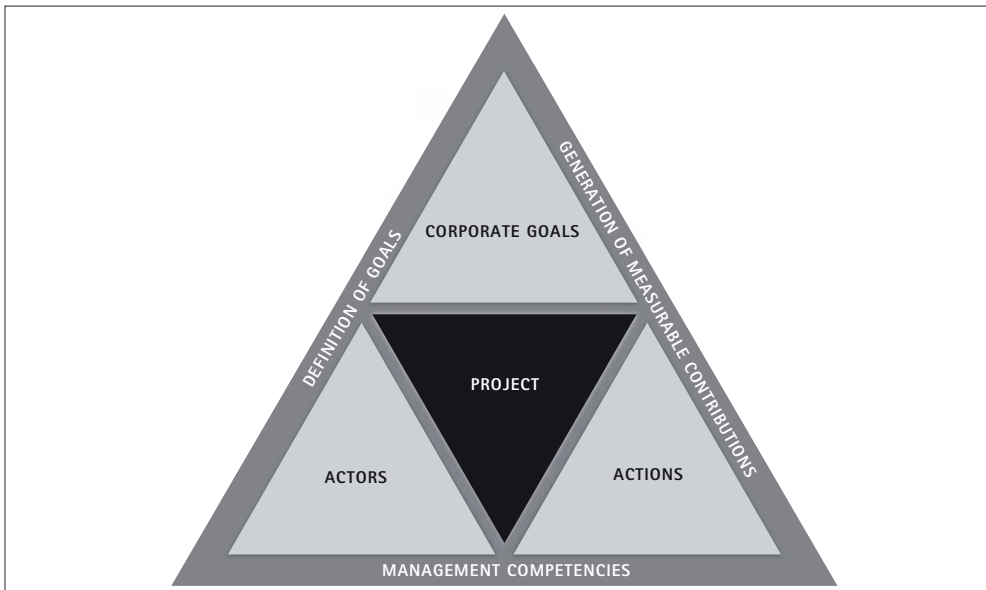
AUTHORS' PREAMBLE

The School of International Business and Entrepreneurship (SIBE), located in Herrenberg (near Stuttgart, Germany), is the international Business School of the Steinbeis University Berlin (SHB). Offering various degrees in the field of management, we focus on the successful transfer of knowledge between science and the economy. The degrees that are executed in the form of the Talent Growth Curriculum (Projekt-Kompetenz-Studium) are designed for companies and organizations and for competent, innovative and open-minded High Potentials.

Having offered MBA programs since 1994, our school currently has more than 1,000 students enrolled in MBA-, M.A.- and M.Sc. curricula and more than 2,000 graduates.

SIBE's target group is young graduates with a first degree and 0–5 years of professional experience. The Master of Business Administration aims at students with over two years of professional experience of all academic fields. The Master of Arts in General Management is open to students of all disciplines and does not require previous professional experience. In addition, we offer two consecutive degrees, the Master of Science in Innovation and Technology Management for engineers and scientists and the Master of Science in International Management for graduates of Economics and/or Business Studies.

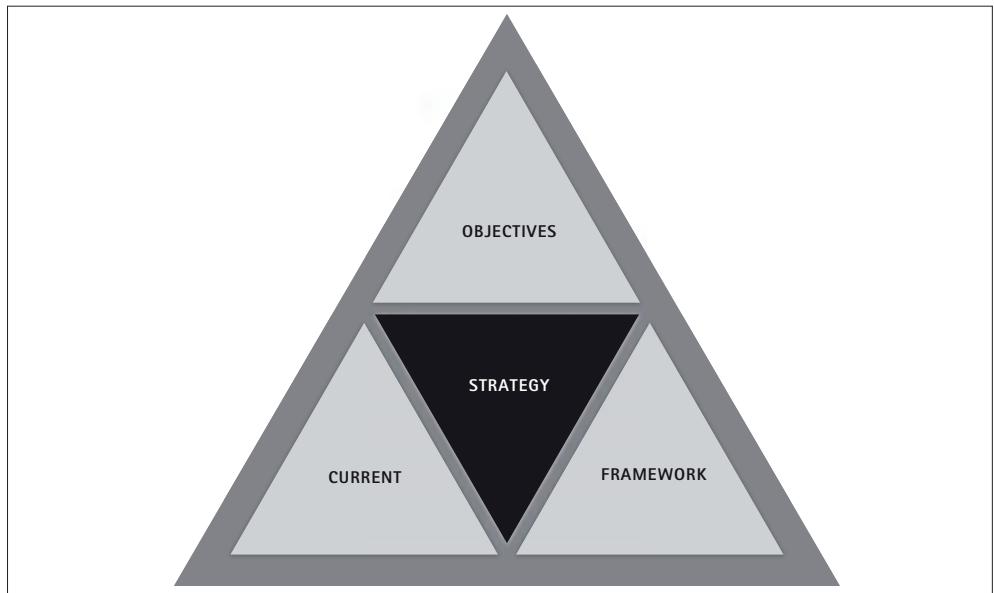
The following figure illustrates SIBE's understanding of management:



Management

According to this concept, managers (actors) must be able to use the corresponding strategies (actions) to generate measurable contributions to the achievement of corporate goals. The actors must likewise be able to define goals in an environment that is characterized by values and norms.

For successful management, a systematic approach based on the strategic triangle of business development developed by SIBE (see following figure) is highly advantageous.



The strategic triangle of business development

This book explains the strategic triangle and contains essential tools, instruments and methods for:

- Analyzing a company's CURRENT situation
- Analyzing a company's FRAMEWORK
- Developing STRATEGIC CONCEPTS for defining a company's chances and risks, objectives and strategies
- Defining business OBJECTIVES
- Developing STRATEGIES for achieving business objectives.

When correctly used and implemented, these General Management Tools help sustain the success of companies and their business areas.

In addition to the seminar materials, the book introduces the subjects covered in the seminars and provides additional preparation for them; it is also the basis for developing projects and reports.

Your task will be to create a clear, practical relationship (transfer) between the theoretically described methods and instruments and your company project. This transfer is the central function of the Talent Growth Curriculum (Projekt-Kompetenz-Studium) unique didactic concept.

The team of authors hopes you will enjoy working with this edition and wishes you the greatest of success for your Masters course at the Steinbeis University Berlin's School of International Business and Entrepreneurship (SIBE).

A BUSINESS DEVELOPMENT FOR GROWTH AND GLOBALIZATION

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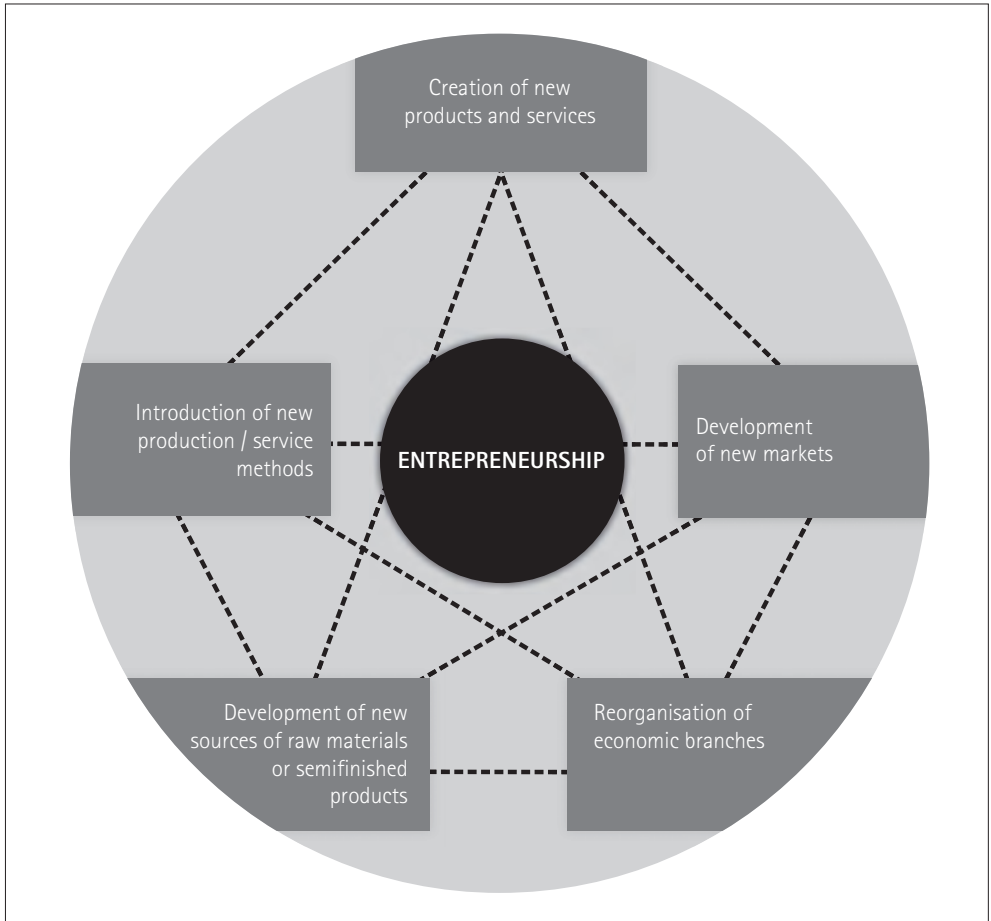
1 INTRODUCTION

Today, the chances for business expansion in a global world with numerous growth markets are greater than ever. Although many companies take advantage of these opportunities with acumen, others still have difficulties with the notion of growth. This chapter will provide a brief and practical overview of the business development process as it relates to growth and globalization.

In his theory of economic development, Schumpeter (1934/1997) pointed out that entrepreneurial activities are aimed at preventing a state of economic balance or in other words: business owners strive for growth. In support of this thesis, Schumpeter defined the five factors of entrepreneurial development (see Figure 1):

1. Manufacturing a new product, i.e. a product consumers are not acquainted with, or a new feature in a known product.
2. Introducing a new means of production, i.e. one which for all intents and purposes is unknown in the industrial branch concerned. This new means of production does not need to be based on a new scientific invention, and can coexist in an innovative manner with commercial sales of the ware.
3. Developing a new marketplace, i.e. a market in a country where the industrial branch has not yet been introduced, regardless of whether the market has previously existed elsewhere.
4. Exploiting a new source of raw materials or semi-finished products, regardless of whether this source has previously existed and was simply ignored or considered too difficult to utilize, or whether it must first be developed.
5. Reorganizing the branch, e.g. by creating or busting a monopoly (or trust).

The fact that prosperous companies do not permit economic balance means that companies which remain at a standstill automatically fall behind.



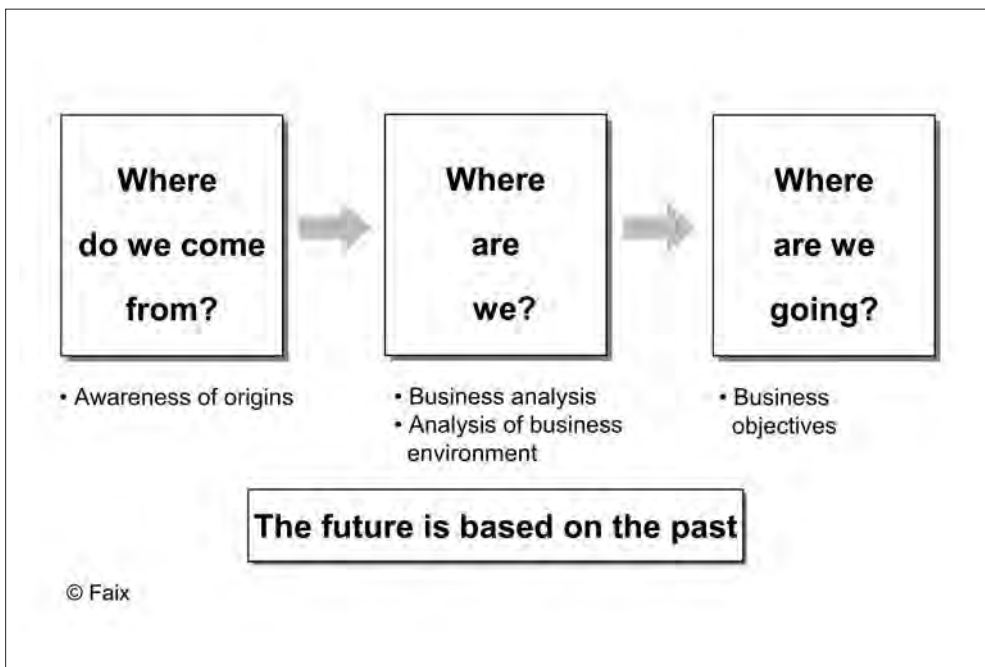
1 | Schumpeter's five factors of economic development (1934/1997)

If growth is to be sustainable, it must be oriented toward at least one of these five factors. The next chapter will focus on the successful development of such growth.

2 THE BUSINESS DEVELOPMENT PROCESS FOR GROWTH AND GLOBALIZATION

Business development (Bleicher 2004) is a continual process, i.e. every company has a past, a present and a future.

Philosopher Odo Marquard (Siemens AG 1994) said, »The future is based on the past«. This means that to plan the future, enterprises must thoroughly examine their past and present. Figure 2 illustrates why this examination is so essential for the business development process.

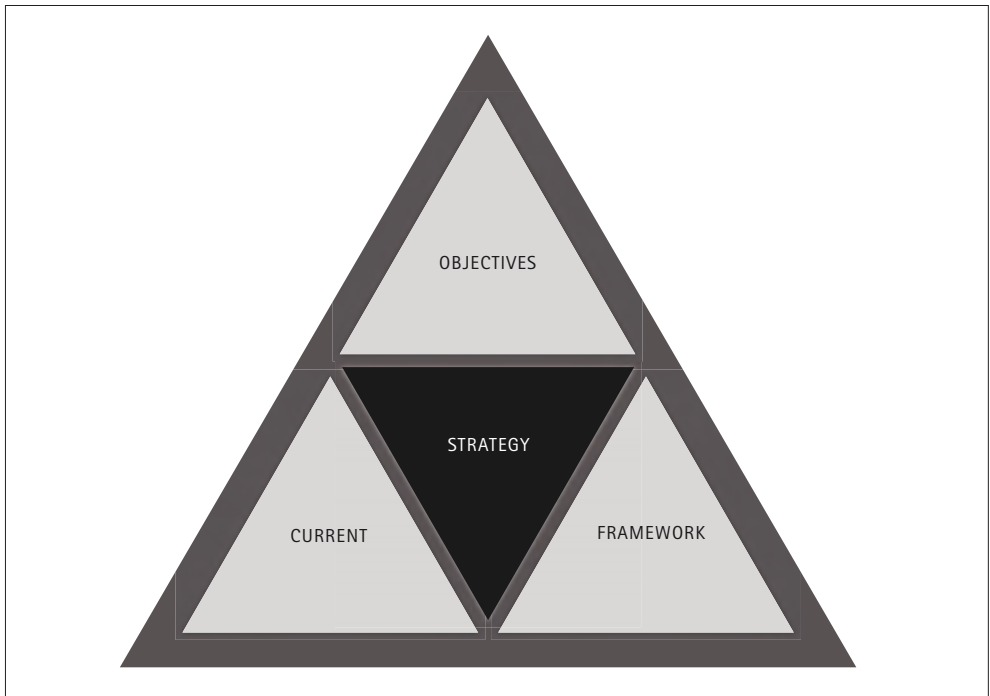


2 | Business development (1)

This shows that business development is always a dynamic process, one based on the four elements of business development (Faix/Buchwald/Wetzler 1994, Rasner/Füser/Faix 1999, Faix/Rasner/Schuch 1996):

1. The company's current situation («CURRENT» in Figure 3).
2. The underlying conditions or framework within which the company acts («FRAMEWORK» in Figure 3).
3. The desired condition of the company in the future, i.e. its goals and objectives («OBJECTIVES» in Figure 3).
4. The pathway for getting from the company's current situation to its desired situation, i.e. *how* it will reach its business objectives. This path is the company's strategy. In Figure 3 it is shown as an arrow pointing from CURRENT to OBJECTIVES, and labeled «STRATEGY».

The representation in Figure 3 was introduced by the author (Faix et al. 1994) as the «Strategic triangle of the transformation process» and can today be re-titled the «Strategic triangle of business development».



3 | The strategic triangle of business development (2)

2.1 BUSINESS OBJECTIVES AS THE DRIVING FORCE

Entrepreneurial goals play a central role in the business development process (Faix et al. 1996). Achieving one's business objectives is the essential force behind entrepreneurship, and thus, behind the company.

Many sayings get right to the heart of this:

- »Only he who knows the target can hit it.« (Greek saying)
- »Every company needs goals that are simple and clear and that hold it together.« (Peter F. Drucker)
- »Goals create facts.« (Hermann Simon)
- »He who knows not the goal can't find the way.« (anonymous)
- »If a man knows not what harbor he seeks, no wind is the right wind.« (Seneca)

Upon being asked about the secret to her accomplishments, the successful German businesswoman Anne Burda said, »...always having clear goals before my eyes...«

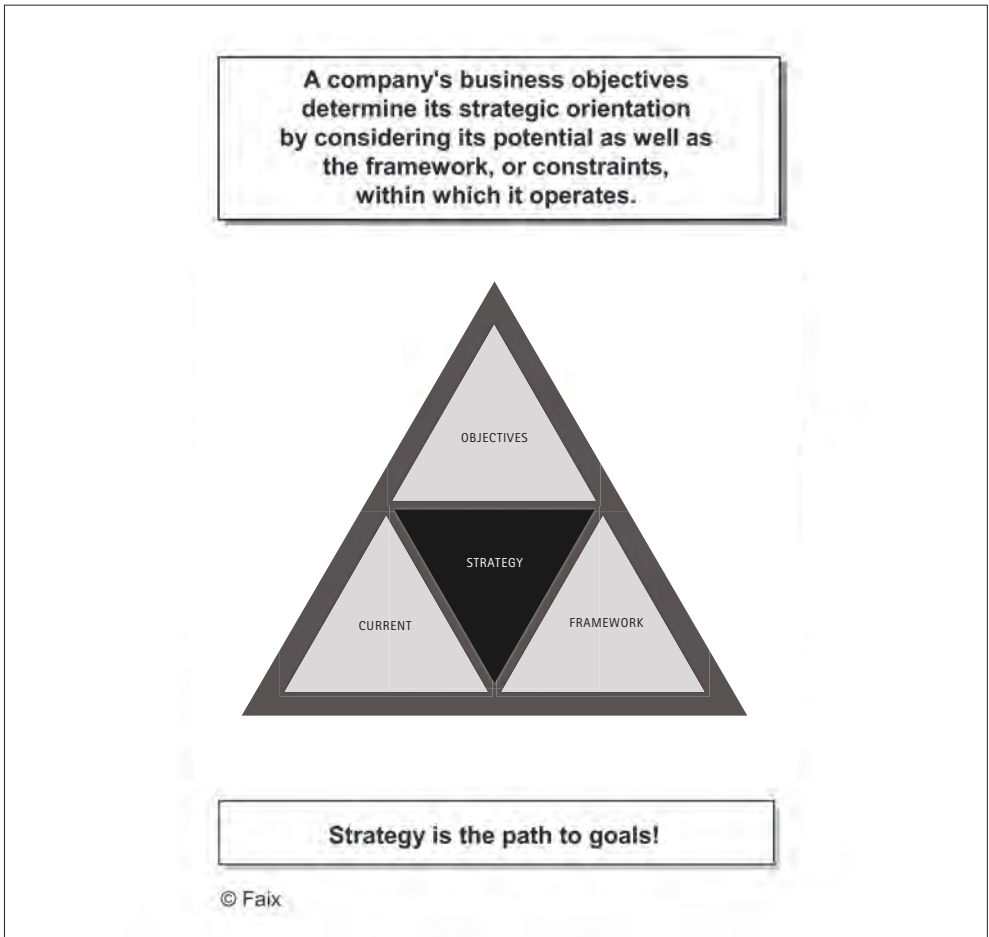
**The essential driving force
behind entrepreneurship
is the true desire to
achieve business objectives.**

Visions, missions, guiding principles
etc. are normally of secondary
importance to business objectives.

2.2 BUSINESS OBJECTIVES AND STRATEGY

Because discussions concerning management often do not clearly differentiate between objectives and strategy, we will define this very clearly: a company's business objectives determine its strategic direction under consideration of the enterprise's potential as well as the framework within which it acts. Strategy is the path to goals (see Figure 5).

Because there are normally many different methods of achieving objectives, corporate strategy is given a great deal of space in discussions, publications etc. This is simply the nature of things. Despite this, it must be vehemently noted that even the best strategy will never be successful if no objective has been defined!



Because there are so many ways to reach an objective, one of a manager's most important tasks is determining the right strategy, i.e. selecting the best path while considering the given conditions at a specific point (the company's current situation, framework and objectives). This implies that strategy is a concrete plan of action for accomplishing the objectives an enterprise has defined (see Figure 6). Strategy guarantees the company's lasting business success, if it has previously defined its objectives correctly.



Business strategy is a concrete plan of action for achieving the objectives defined by the company. This is the key to guaranteeing lasting business success.

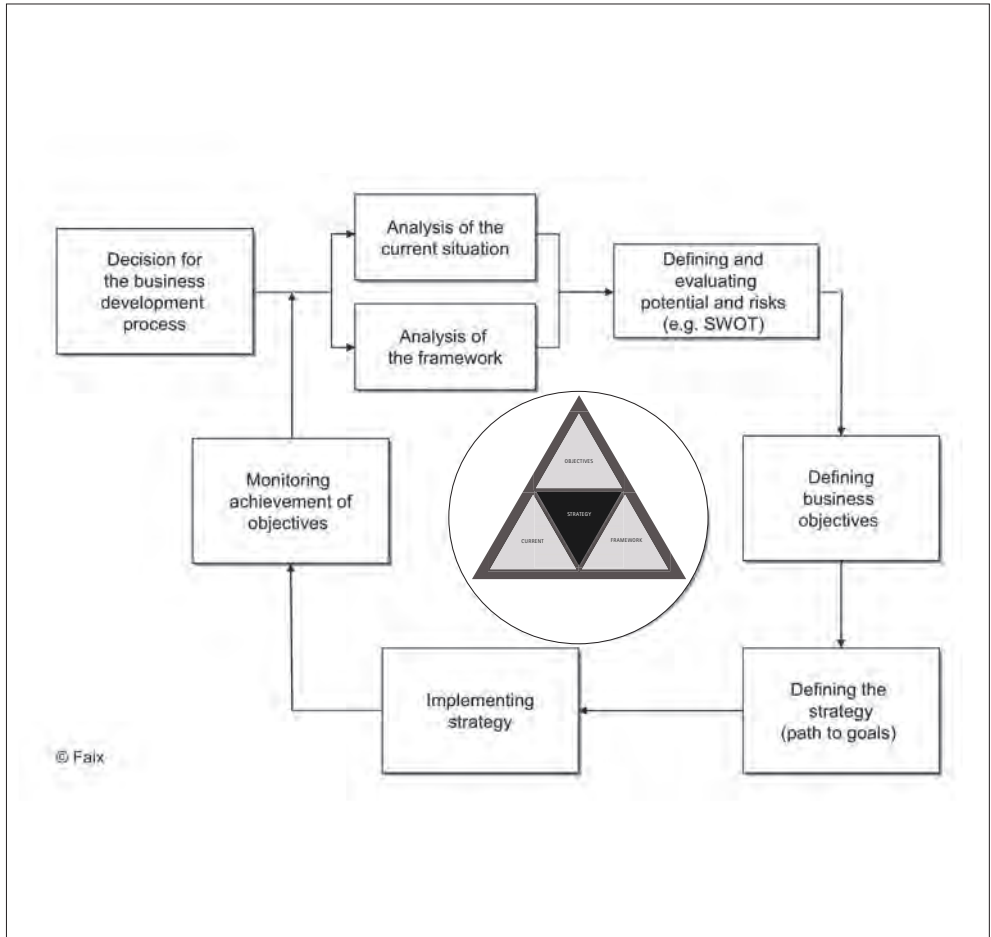
6 | Business strategy

2.3 ANALYSIS OF THE COMPANY'S FRAMEWORK AND CURRENT SITUATION

Adequate objectives and a suitable strategy for achieving these can only be defined after the company's current situation and the framework are known. Such analyses must be done in great depth, because all further decisions are based on them. In addition to the necessary depth, it can be advantageous to leave well trodden, conventional paths and opinions behind and view the company and its competitors from other angles.

2.4 THE EIGHT STEPS OF THE BUSINESS DEVELOPMENT PROCESS

The entire business development process can now be derived from the statements made thus far as well as from Figures 1-3. It is shown below in Figure 7.



7 | Business development (4) – The business development process

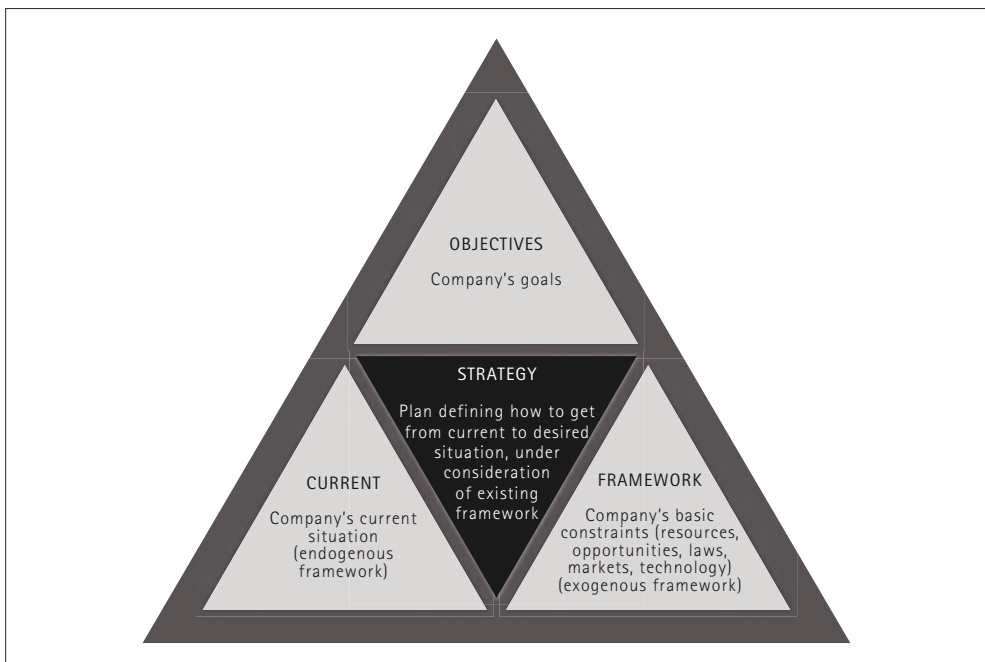
The business development process can be broken down into the following eight steps:

- Step 1: Deciding to use the business development process
- Step 2: Analyzing the company's current situation and framework
- Step 3: Defining and evaluating the company's potential and risks based on the results of Step 2
- Step 4: Defining the company's objectives
- Step 5: Defining the strategy, i.e. the plan for reaching the company's objectives
- Step 6: Implementing the strategy
- Step 7: Monitoring achievement of the objectives and
- Step 8: Reentering the process

Based on the above representation of the overall process (Figure 7: Business development (4) - The business development process), the next chapter will return to the individual elements of this process.

3 ELEMENTS OF THE BUSINESS DEVELOPMENT PROCESS

Figure 8 (Business development (5)) shows the strategic triangle of business development once again, now with explanations of the terms CURRENT, FRAMEWORK, OBJECTIVES and STRATEGY.



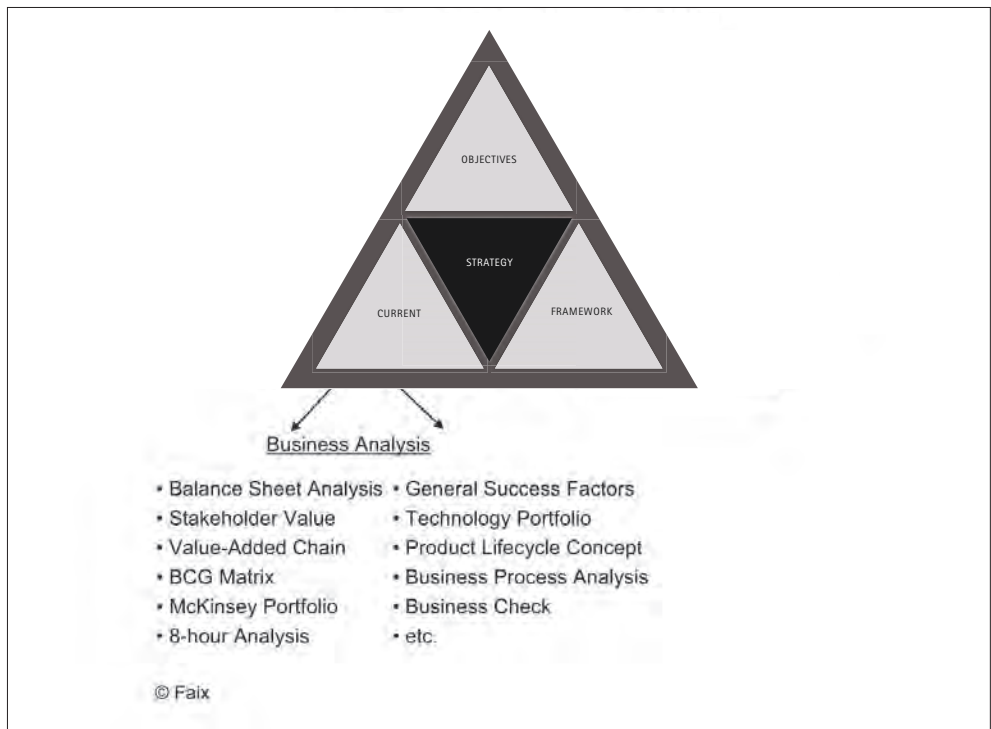
8 | Business development (5)

3.1 ANALYSIS OF THE CURRENT SITUATION

The first element in the development process is analyzing the current situation. The result of a business analysis should be the most clear, meaningful and precise representation of the company's current situation as possible (Macharzina 2003). There are numerous methods or

tools for this (Schawel/Billing 2004). Some essential, often used and thus proven analytical tools are (see Figure 9) the Balance Sheet Analysis (Schneider 2005), Stakeholder Value (Freeman 1984), the Value-Added Chain (Schneider/Hopfmann/Baur 1994, Porter 1985), die BCG Matrix (Hedley 1999, Baum/Coenenberg/Günther 2004), the McKinsey Portfolio (Schneider 2005, Baum et al. 2004), General Success Factors Analysis (Nagel 2003), the Technology Portfolio (Pfeiffer/Dögl 1999), the Product Lifecycle Concept (Hayes/Wheelwright 1979) and the Business Process Analysis (Gaitanides 1994, Gadatsch 2005).

Three to five of these tools should be used in the course of an analysis to produce meaningful results.

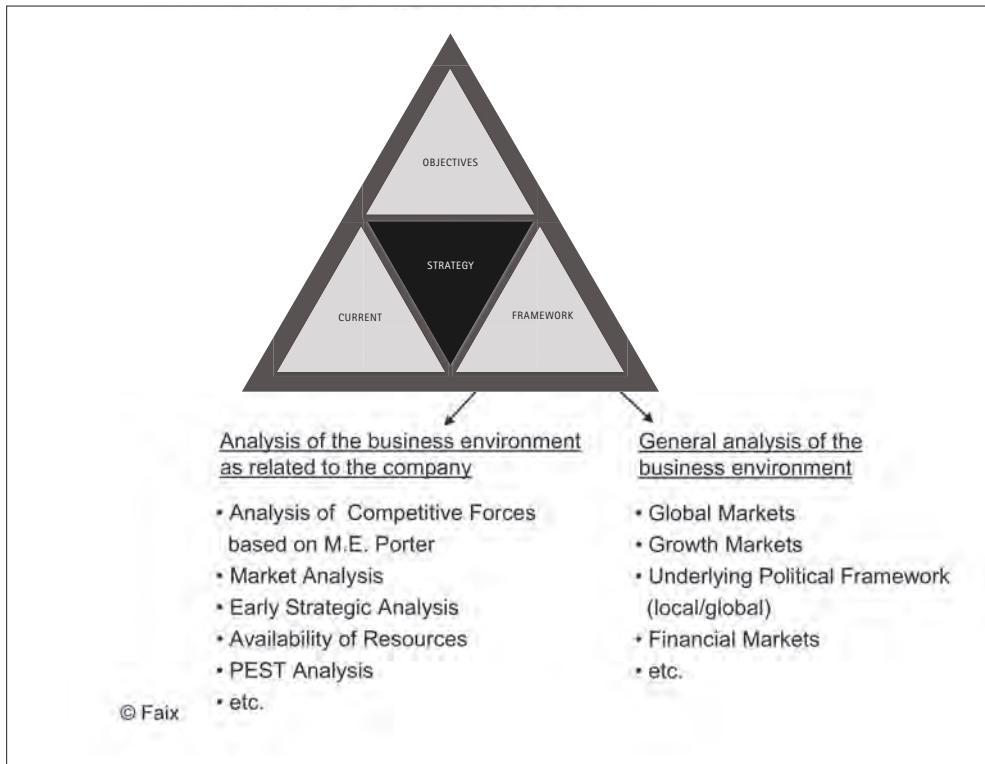


9 | Business development (6) – Business analysis

3.2 EXOGENOUS FRAMEWORK

After the endogenous business analysis, the next element of the business development process is analyzing the exogenous framework. In this context, we will discuss »Analysis of the business environment as related to the company« and »General analysis of the business environment«

separately. The essential analytical methods of both areas are shown in Figure 10: Business development (7) - Analysis of the business environment



10 | Business development (7) - Analysis of the business environment

Analyzing the company-related environment focuses on the company's current situation, i.e. its current situation in relation to its competitors. The most well known concept is Porter's analysis of competitive forces (1999). According to this model, rivalry between market participants is determined by five factors, including the negotiating power of suppliers and customers, the threat of substitute products, the number of competitors as well as threats from new competitors or products.

A general analysis of the business environment concerns itself with developments occurring at the economic and political levels (Dillerup/Stoi 2006). In the interests of such an analysis, only those factors should be considered that have or could have a general effect on the company's development - either positively or negatively. It is particularly important here to analyze a wide range of markets for both exports as well as purchasing, in order to recognize chances for the company

as early as possible (Lau, Zywitz, Faix, Schulten 2006; Faix, Zywitz, Schulten, Taboré-Straub 2003; Faix, Kisgen, Lau, Schulten, Zywitz 2006). Concrete events with an immediate effect on the branch, in contrast, are a component of the company-related environment. This shows, however, that the two types of analysis cannot be neatly separated from one another, as is evident in ambitious markets like China and India. For one, these markets present new chances, although companies in the countries themselves may also contribute to heightened competition. This could also be true for the structure of the respective branch. Another reason may be that economic policy and factors related to product technology play a role that affects the development of the entire economy. Examples include exchange rates, or product and brand piracy in China. Depending on a company's size and branch, political events may be significant for the analysis of its general environment as well (Ravenhill 2004).

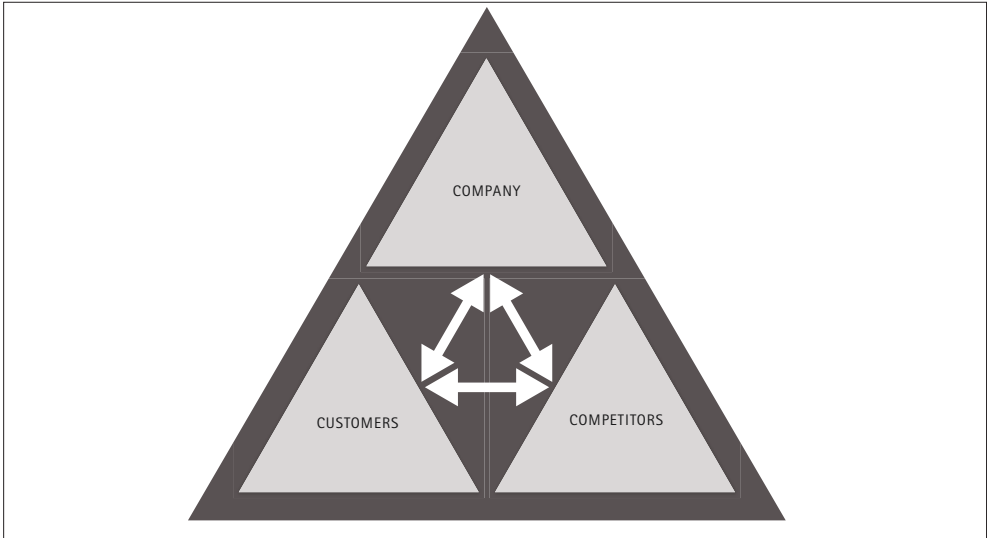
3.3 DERIVATION OF COMPANY POTENTIAL (STRATEGIC CONCEPTS)

After analyzing the company and its framework, the two analyses can be merged to derive basic statements concerning the company's potential and risks (Simon/v.d. Gathen 2002). One typical method for this is the SWOT analysis (Lombriser/Abplanalp 1998), a process that unites the two levels of analysis by representing the company's strengths and weaknesses as well as the market's opportunities and threats.

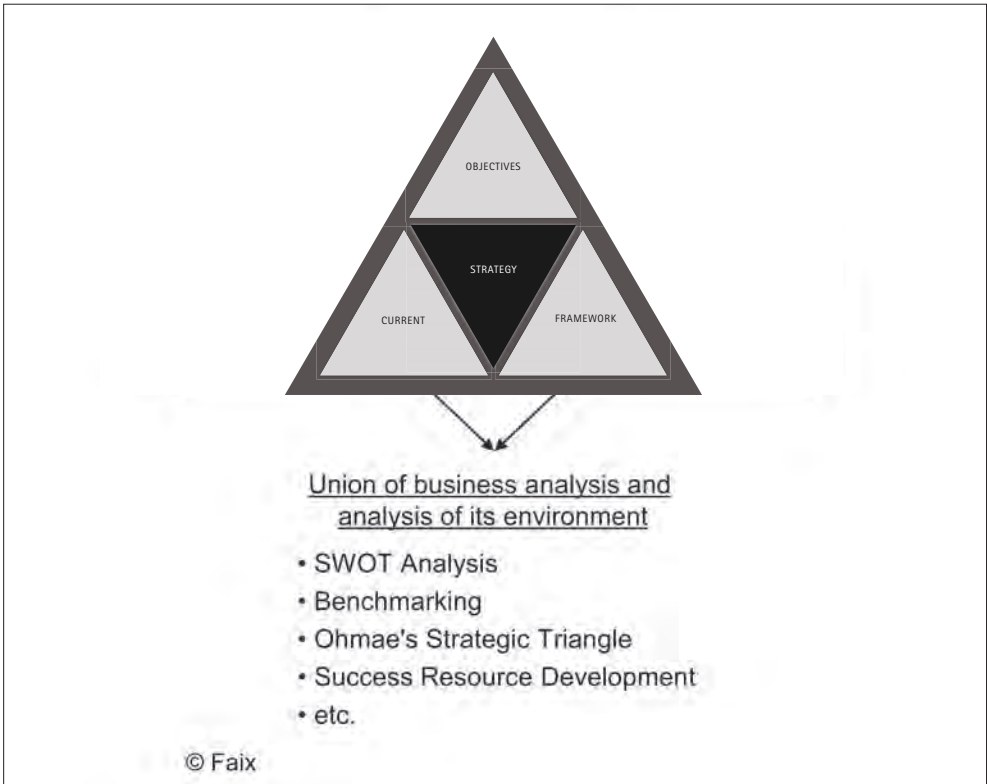
Another method is benchmarking, which strategically compares the company and its most important competitors. The desired outcome is identifying the company's deficiencies as well as developing measures for decreasing the distance to its competitors and creating a sustainable competitive advantage (Camp 1994).

Kanichi Ohmae's strategic triangle (1985) considers three factors when deriving business objectives and defining possible business strategies: the company itself, its customers and the competition (see Figure 11). The goal of company-related strategies is to strengthen the organisation itself in comparison to its competitors. The second factor in Ohmae's triangle are customers, who, according to Ohmae, can be the basis for any number of strategies. The goal of strategies based on competitors is differentiating the company's own products, services and performance from those of its rivals.

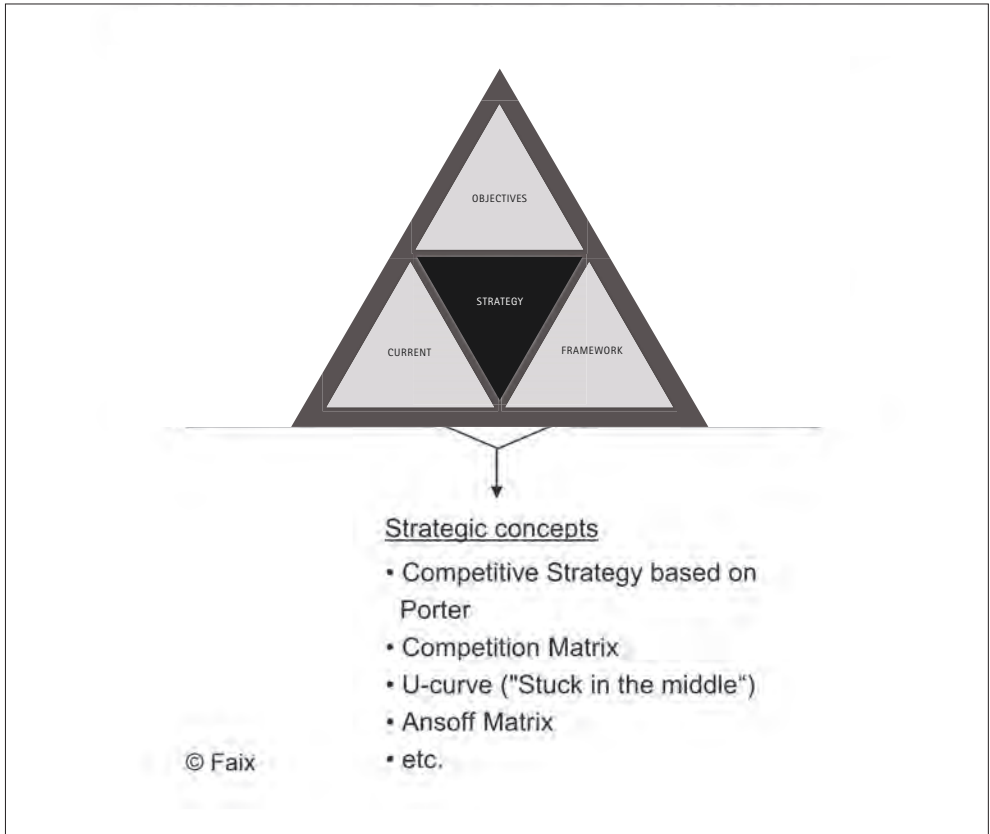
The essential methods for comprehensive analysis of a company and its environment are shown in Figure 12.



11 | Ohmae's strategic triangle



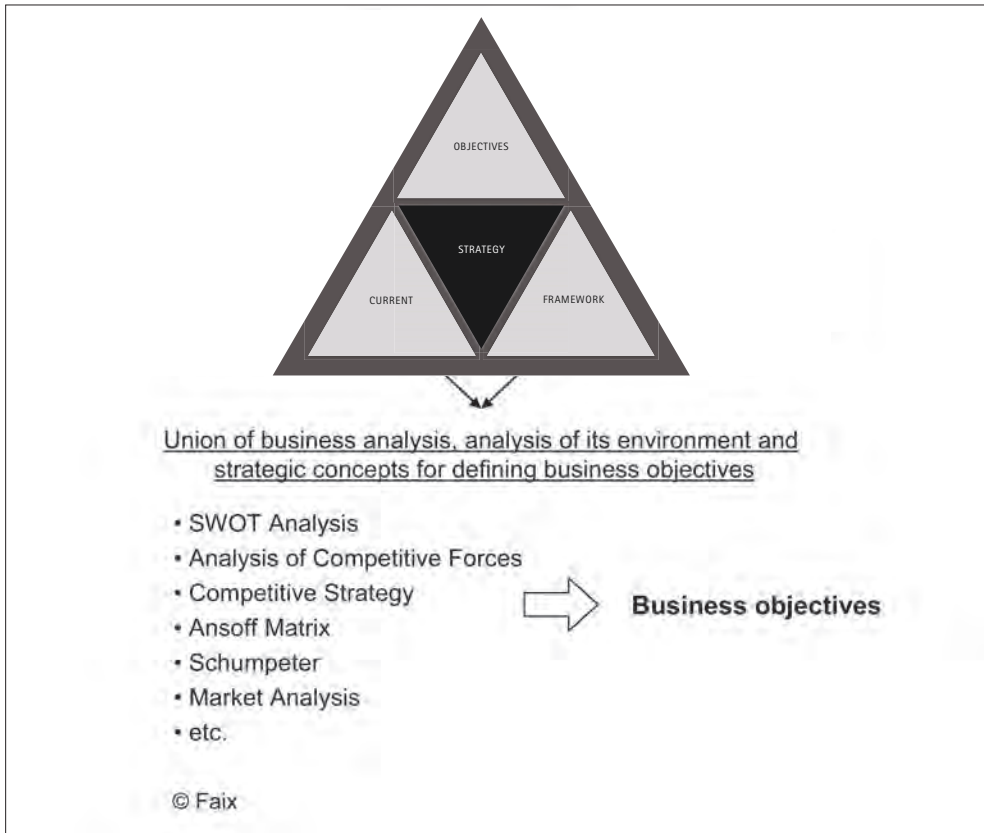
12 | Business development (8) - Analysis of a business and its environment



13 | Business development (9) – Strategic concepts that influence business objectives

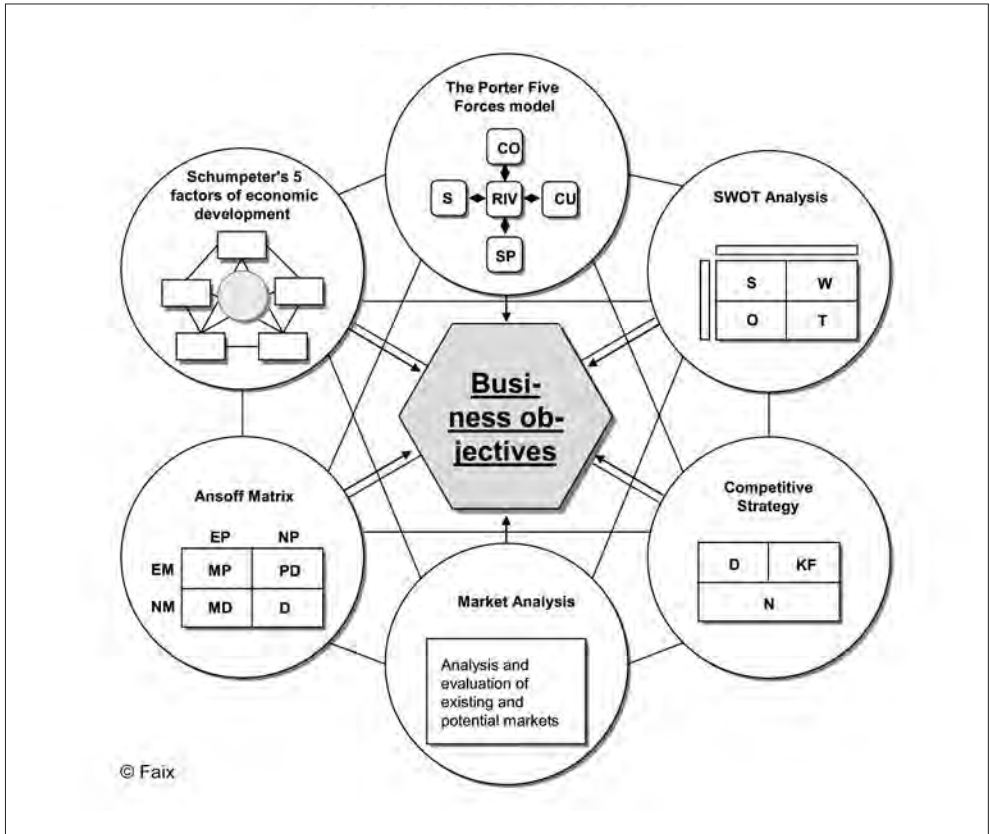
Concerning business strategy, a differentiation must be made between strategic concepts that influence business objectives (see Figure 13) and the actual strategy with the corresponding strategic instruments (see Chapter 3.5). Strategic concepts should be determined before defining business objectives because they can have a major influence on goals and strategies. This is the reason for the term »strategic concepts« - i.e. concepts with an effect and/or influence on strategy (Montgomery/Porter 1991, Simon 2002).

In the next essential step of business development, the relevant results from the analysis of the company, its framework, environment and the strategic concepts (see Figure 14) form the basis for defining business objectives. These goals are derived from the results of the SWOT analysis, the analysis of competitive forces, competition strategy,



14 | Business development (10)

Schumpeter factors and market analyses as well as the Ansoff matrix, for example. The Ansoff matrix is a concept for strategic growth focusing on how expansive company development takes place (Ansoff 1966, Simon et al. 2002). In other words, it is a product-market concept. Market penetration is the normal case for existing products and markets, although as a rule, the development of new markets for existing products follows. Placing new products on existing markets represents another growth constellation. In such a case, product penetration in existing markets is required. A completely new possibility for growth is company diversification. Here, however, a company must leave known business segments to look for market chances in completely new areas. If the results of the analyses discussed above are linked to strategic concepts to form a comprehensive process, business objectives can now be derived. This is shown in Figure 15.



15 | Business development (11) – Definition of business objectives

The analytical instruments and strategic concepts shown in Figure 14 (Business development (10)) and Figure 15 must be understood as examples. Depending on a company's situation as well as its planned objectives, other instruments may be used additionally or alternatively. We wish to show here that only a detailed analysis of the company's current situation and framework can lead to a well founded definition of objectives. In addition, these goals should be defined so that they represent a (major) challenge, but are still feasible, comprehensible and able to be supported by employees and managers alike. Now, we have all the prerequisites for taking a closer look at business objectives.

3.4 BUSINESS OBJECTIVES

Clear goals are more important than analyses, concepts or environmental conditions because they provide a fixed point around which all involved can orient themselves at any time. This orientation is an essential success factor for a company's development. In today's age of globalisation, increasing networking and high mobility of capital, knowledge and people, there are countless opportunities for growth. Having clear objectives helps selecting precisely those opportunities that are suitable for a company's own development.

Before we examine the different dimensions of objectives, however, we need to take a closer look at the criteria an objective must meet.

3.4.1 CRITERIA OF OBJECTIVES

The literature contains numerous criteria which must be present for something to be considered an objective (Horváth 2004). The SMART method provides a succinct outline of these criteria, as it enables objectives to be examined in operational terms.

Specific: is the objective clearly and precisely formulated? Is it stated in writing? Is it clear how things will be when the objective has been achieved?

Measurable: can the objective's success be clearly measured?

Action-oriented: is the objective stated in terms of positive changes that should occur? Negatively formulated directions, i.e. those that state what should not occur, are unsuitable.

Realistic: the objective can be thoroughly ambitious, but it must be feasible. It is nearly impossible to motivate employees with an objective that seems impossible to reach.

Time-based: does the objective have a specific time-frame? Is its end-point defined? What are the milestones that must be achieved along the way?

A »SMART« objective is one that meets all five criteria.

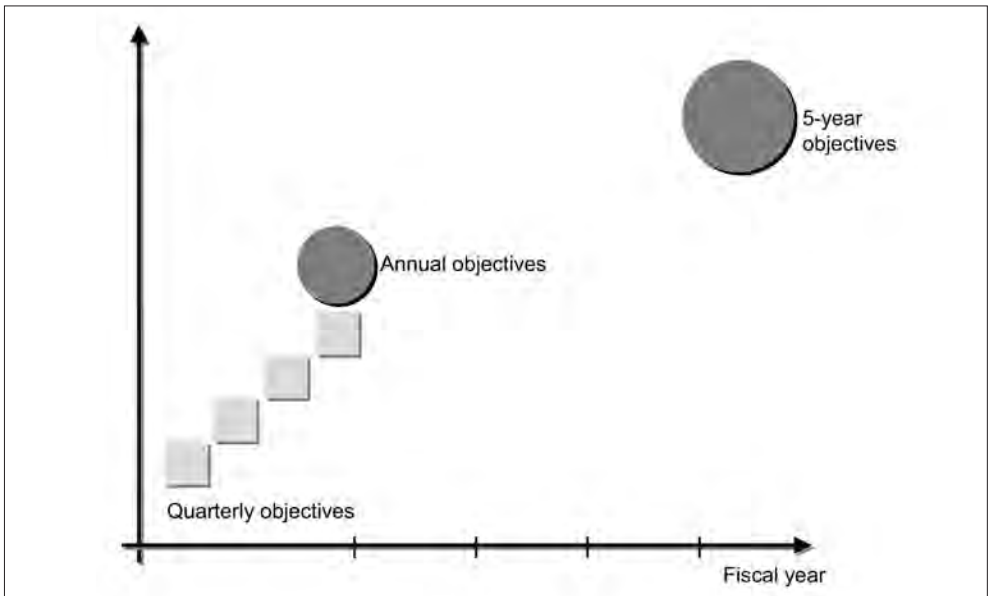
| Not SMART objectives | SMART objectives |
|---|--|
| »We will significantly increase sales.« | »We will increase our retail sales by 20% during the next 12 months.« |
| »I've decided to eat less in the future so that I won't be so fat.« | »I will lose 3 kg in 30 days and go jogging 30 minutes each day in order to be happier.« |

Setting deadlines leads directly to a time scale for objectives in the business development process.

3.4.2 BUSINESS OBJECTIVES ON A TIME SCALE

When setting a time scale for fulfilling business objectives, it is important to choose one that is long enough for the targets to fulfill their orientation function. On the other hand, however, objectives must also support the fulfillment of shortterm and long-term tasks.

Figure 16 shows how both of these requirements can be met. The long-term orientation (5-year objectives, annual objectives) are symbolized by circles. The squares (quarterly objectives) indicate short- and medium-term orientation. Starting from the long-term objectives, first the annual objectives and then the quarterly objectives are defined.

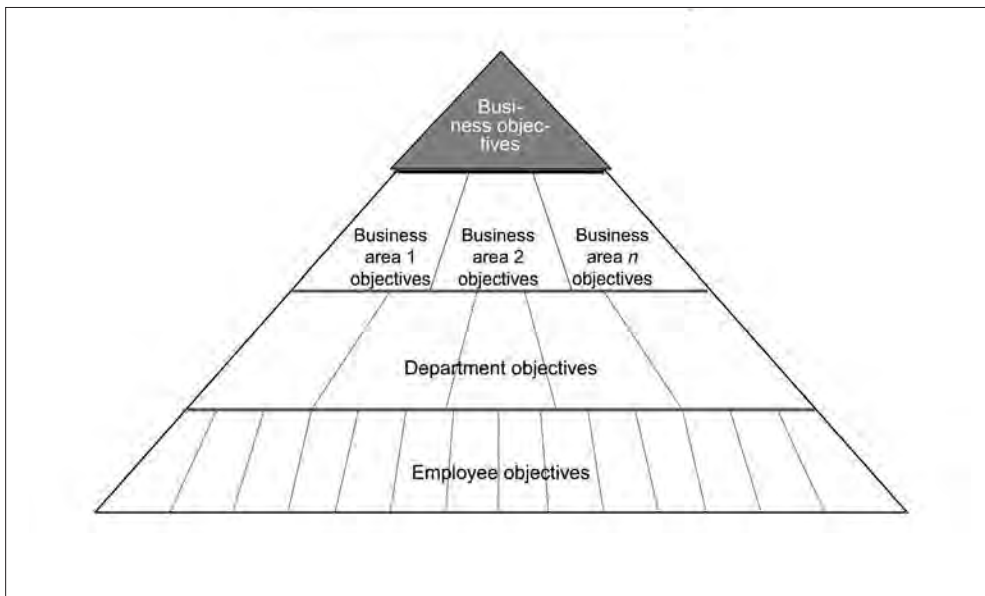


16 | Business objectives / Time scale

The selection of the best time scale for objectives depends on the respective target group. This is clearly shown by the business objective pyramid.

3.4.3 BUSINESS OBJECTIVES FOR SPECIFIC TARGET GROUPS

In addition to the dimension of time, objectives can also be categorized according to target group (Meier 2001, Stroebe/Stroebe 2003). Analogous to the derivation of objectives according to time, i.e. from long- to medium- and short-term objectives, objectives can be broken down based on groups such as business areas, departments and employees (see Figure 17).

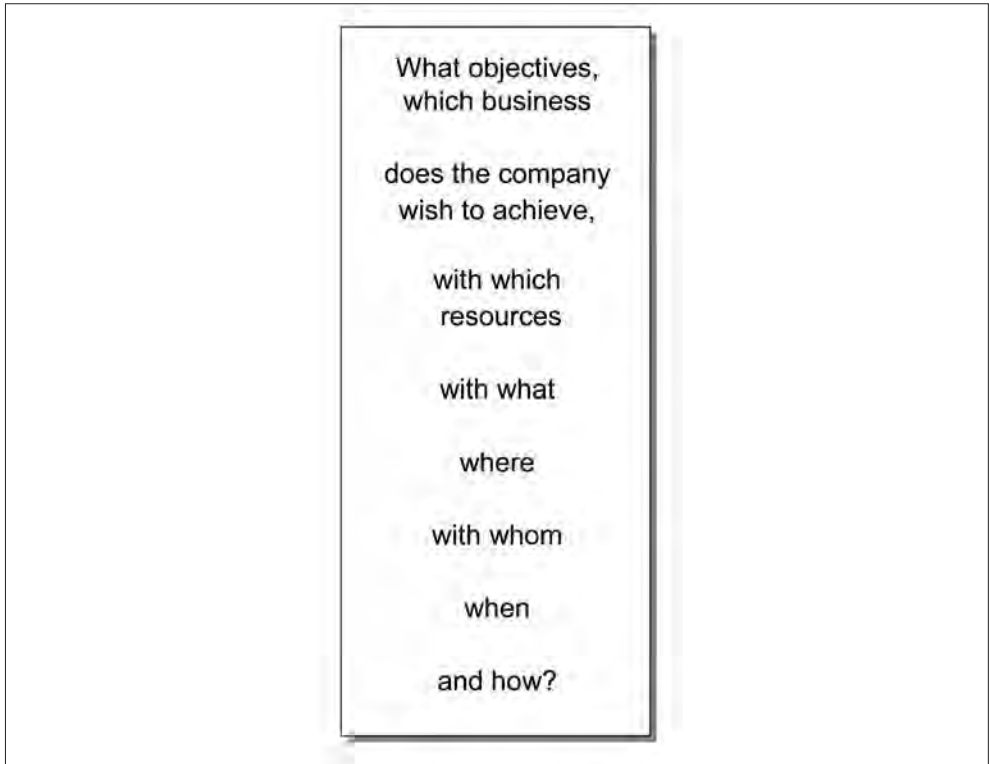


17 | The business objective pyramid

In addition to internal target groups, external target groups (stakeholders) can also be considered (Freeman 1984). Stakeholders are groups such as customers, suppliers, investors and the public. In contrast, shareholders are a very specific subset of stakeholders, because as investors, they carry the entrepreneurial risk (Rappaport 1996). The business objectives pyramid can thus be expanded to include stakeholders. In the further course of this discussion, we will now focus on the company's longterm objectives (= business objectives).

3.4.4 WHAT ARE BUSINESS OBJECTIVES?

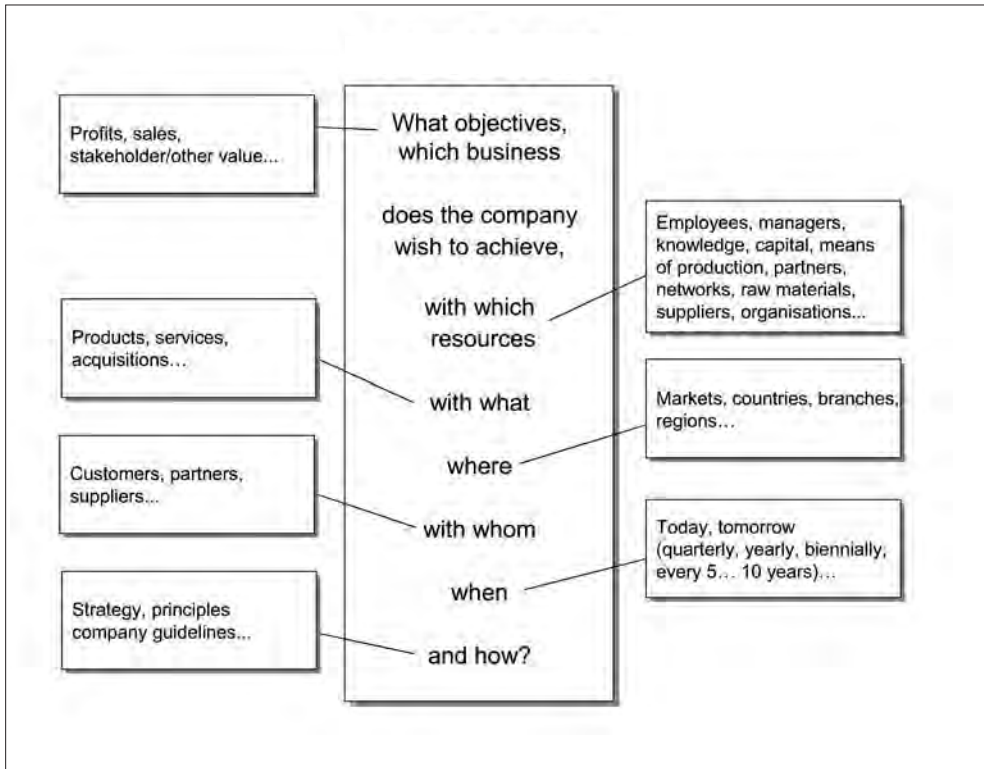
For the purpose of business objectives, the first criterion of the SMART rule, Specificity, must be more precisely defined. The appropriate questions to ask here are what business, with which resources, with what, where, with whom and how it should be achieved (see Figure 18: Business objectives).



18 | Business objectives

The overview shown above states the questions that must be answered to define a business objective. Gathering answers supports the definition process by enabling the ideal target state to be described in detail (Horváth et al. 2004). The result of considering all of these questions is the definition of a coherent objective, which is of major importance in implementing and communicating it.

Figure 19 provides a brief explanation of the individual questions.



19 | Business objectives with explanations

Key figures such as profits and sales help a company specify its objectives concretely. These goals can be reached with the available resources (Wernerfelt 1984, Barney 1991), including employees, capital or the knowledge that exists in the company's organisation. Utilizing these resources results in creation of the company's output, which essentially consists of its products and services. But creation of output is not possible solely with the company's own resources, meaning that stakeholders such as partners or suppliers must be involved as well. The »where« in regard to the business objectives stands for the markets, branches and regions where the company operates. The target system is based on the time scale described above in Figure 16. The last questions in the figure above include the »how«s, meaning the definition of strategies as well as the company's principles and guidelines.

3.4.5 BUSINESS OBJECTIVES BASED ON EXISTING BUSINESS

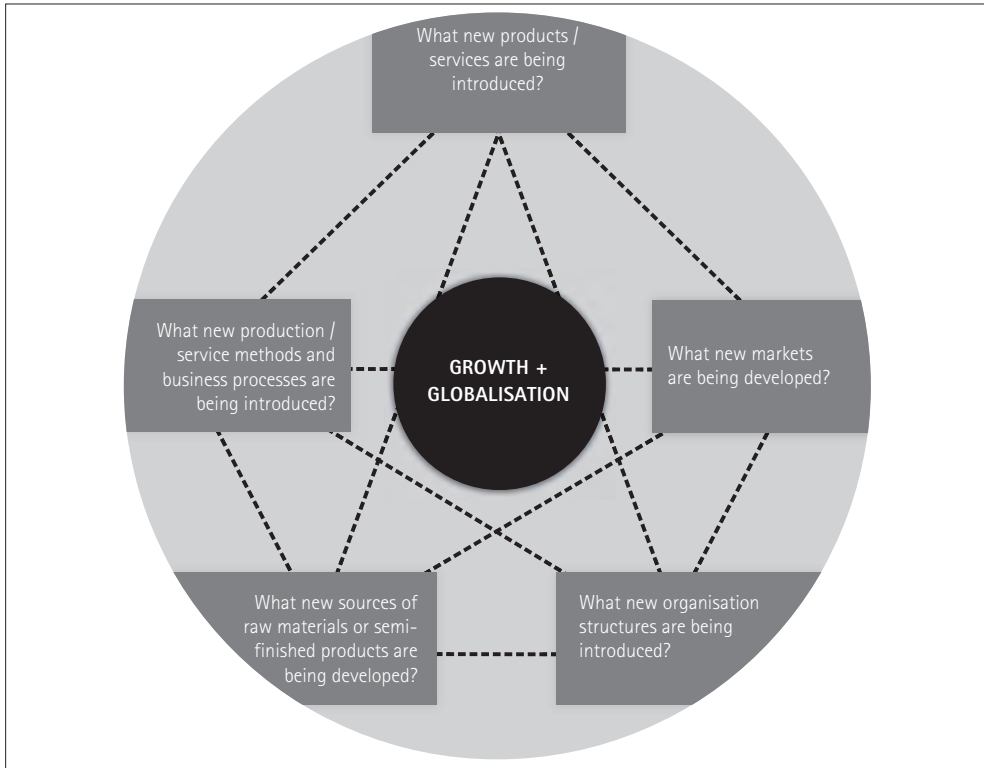
Companies generally define their objectives based on existing business. (The future is based on the past). The results of one business period are used as to set objectives for this type of business in following periods. Growth targets will be defined for the existing business depending on the company's underlying framework.

Example: we wish to achieve 10% higher sales in business area xy with our existing products in our current markets.

3.4.6 BUSINESS OBJECTIVES BASED ON SCHUMPETER'S FIVE FACTORS OF ECONOMIC DEVELOPMENT

According to the Schumpeter's theory of economic development (1934/1997) and the five factors of entrepreneurial development it defines, five questions related to growth and globalisation can be derived. These are shown in Figure 20 and are as follows:

1. What new products/services are being introduced? In which existing markets will they be positioned? What growth can be attained by this?
2. Which new markets are being developed? Will existing and/or new products and services be introduced to the new markets? What growth will result?
3. What new organisation structures are being introduced? What acquisitions make sense? What joint ventures are planned? What growth will these measures bring?
4. What new sources of raw materials or semi-finished products will be developed? In which existing and new markets will these sources be developed? What advantages can be derived and what growth can be accomplished?
5. What new production / service methods are being introduced? Where and in which markets are these being introduced? What advantages can be derived and what growth can be accomplished?



20 | Business objectives based on the five factors of economic development

3.4.7 BUSINESS OBJECTIVES BASED ON THE COMPANY'S NEEDS PYRAMID

Similar to Maslow's pyramid of human needs (1954), a pyramid of needs for companies can also be formulated (see Figure 21). This pyramid of needs consists of three levels (Rasner et al. 1999):

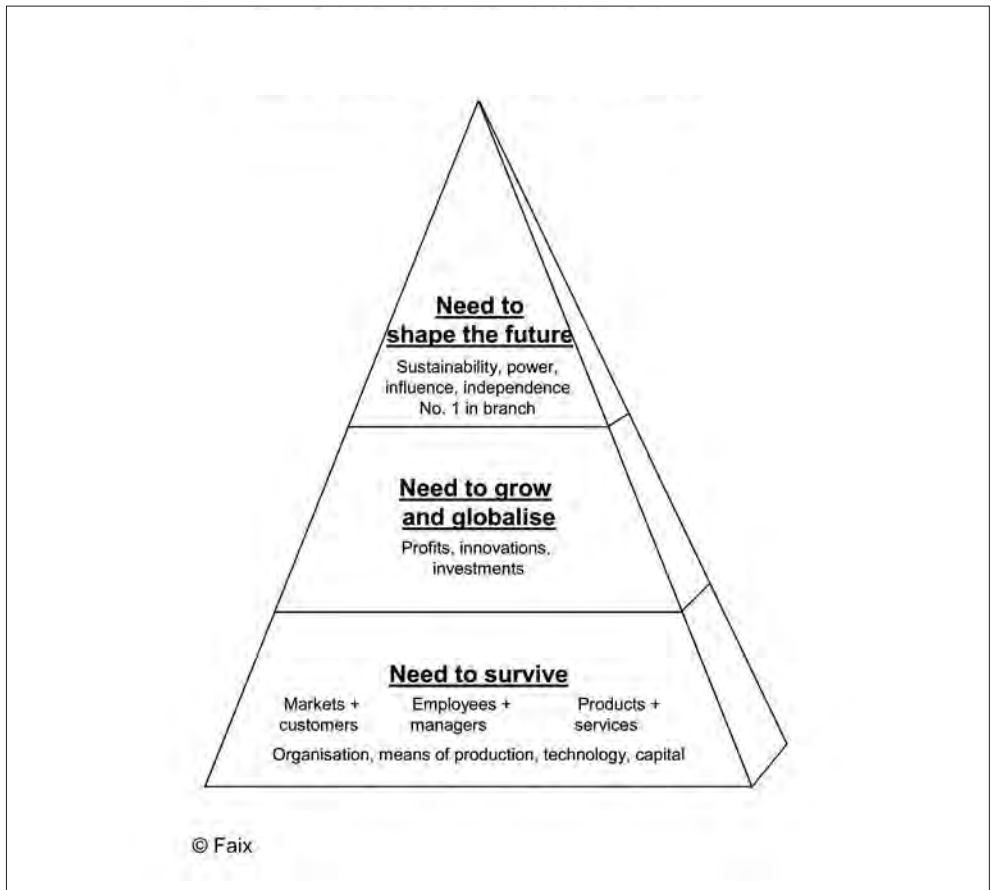
1. Need to survive
2. Need to grow and globalise
3. Need to shape the future

These three levels can be seen very vividly when we look at the *New Economy*. At the beginning of the *Internet hype*, there were numerous *start-ups*, all at the bottom level of the pyramid. These companies tried to establish their innovation or idea on the marketplace, recruit employees, acquire customers and make sales.

Only a fraction of these companies made it to the next level, however, but those who did made increasing profits and promoted the further development of the Web with their innovations.

Only very few companies (e.g. *Google*, *eBay*...) are at the third and highest level today. Now, we see *Google*, for example, trying to develop its power and influence in numerous new ways as well as increasing its supremacy in new markets (e.g. *Google-Maps*, *Google-Mail*).

The objectives a company defines for itself depend on the level it currently finds itself on.

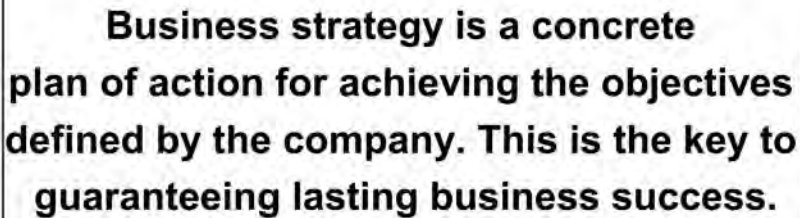


21 | Business objectives based on the company's needs pyramid

Business strategy is the next element of the business development process we will examine.

3.5 BUSINESS STRATEGY

As described above, there are generally many new paths to reaching a business objective. Defining the best way to achieve business objectives efficiently and effectively is one of the most important tasks of management. This means that based on a company's given circumstances (current situation, framework, business objectives), defining the suitable strategy is the fourth element of the strategic triangle of business development (see Figure 8) (Burr/Musil/Stephan/Werkmeister 2005). Business strategy is shown in Figures 6 and 7 and is a concrete plan for accomplishing the objectives defined by the company. In this regard, corresponding to the business objective pyramid (Figure 17), there are overall business strategies, business area strategies, department strategies, and finally, strategies each employee can use to achieve his/her goals. Such diversity of strategies should not produce conflicts, however, but merge harmoniously into an overall strategy, just as many individual objectives come together to form an overarching business objective. This guarantees sustainable business success (see Figure 22).



Business strategy is a concrete plan of action for achieving the objectives defined by the company. This is the key to guaranteeing lasting business success.

22 | Business strategy

Strategies are classified according to the hierarchy in the business organisation (Macharzina 2003). At the highest level, the company must define its markets and the products with which it wishes to realize its objectives. This also determines the company's core competencies, i.e. the core abilities an organisation needs to generate its products and services (Prahalad/Hamel 1990). The strategy for handling competition is decided at the business area level (Porter 1983). The functional strategy level primarily targets the individual functional areas within the organisation. The path toward achieving objectives (implementation) is supported by various strategic instruments. An instrument such as »Management by Objectives« defines concretely how the goal can be arrived at. Strategic instruments are analogous to street maps that show the route to the desired destination. Figure 23 shows the essential strategic tools.



23 | Business development (12) – Strategic instruments

According to the logic behind the strategic triangle of business development, i.e. that strategy is the means to achieving objectives, marketing and sales management, finance management etc. are part of strategy.

We will now take a brief look at several of the many strategic instruments that exist (Simon et al. 2002, Hungenberg 2004). »Management by Objectives« is used to define common goals within an organisation (Fuchs-Wegner 1987). As a result, employees or teams are given a pre-defined range of action. To increase employee motivation to achieve the defined objectives, they can be given a share of the profits. Precise definition of an objective also enables its success to be measured.

Objectives also play an important role in the Balanced Scorecard (Fink/Heineke 2006, Horváth et al. 2004), a comprehensive key figures system that not only integrates quantitative objectives, but specifically considers qualitative figures as well. Integrating all business objectives into one complete

management tool ensures better acceptance within the organisation, because the achievement of objectives can be better measured and those concerned have a better all-round view of the system.

Company knowledge is increasingly considered as an important resource (Amelingmeyer 2002), which makes it more important than ever to implement comprehensive knowledge management in order to augment the knowledge of both employees and the organisation. Knowledge and abilities flow into the process of creating products and services, which can provide a competitive advantage over competitors.

The use of individual strategic instruments depends on a company's preferences as well as situation. In addition, experiences with individual strategic instruments must be gathered.

The selection of a strategic instrument can also depend on the desired objective as well as the level of the needs pyramid the company is currently on. The company's culture and competencies affect this choice.

4. GENERAL FACTORS FOR BUSINESS SUCCESS

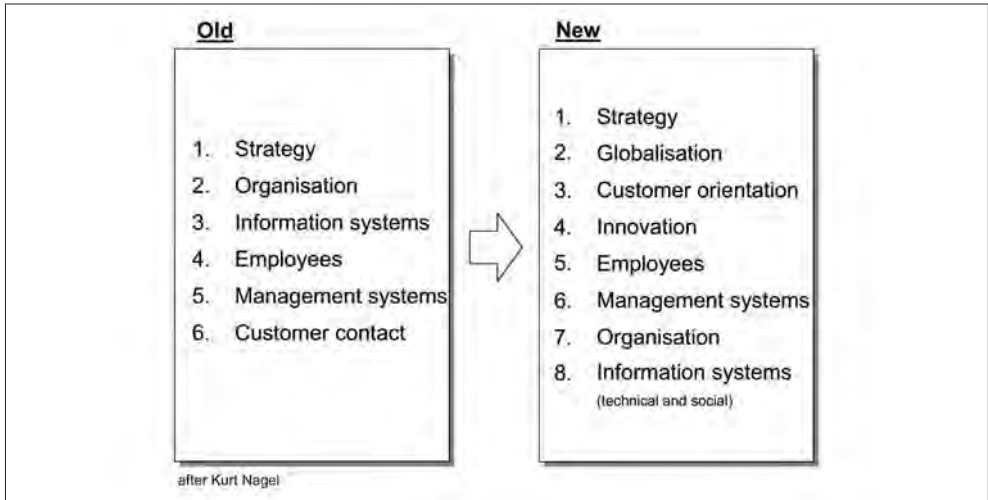
The business development process described above includes important aspects of economic action. But economic success depends on observing general factors for success as well.

The study of business economics contains numerous concepts on success factors. The following considerations will be based on Kurt Nagel's approach (1995). According to Nagel, general success factors are strategy, organisation, information systems, employees, management systems and customer contact.

In an age when the world economy is becoming increasingly complex and globalisation is growing, however, these six factors know longer suffice. They must be supplemented by the following new factors: objectives, growth, globalisation, customer orientation instead of customer contact, and innovation (Vgl. Keck, Sailer, Faix). This is shown in Figures 24 and 25.

The extent to which these general success factors is applied will differ depending on the branch as well as the level of the company's development (needs pyramid). It is important to note that these success factors cannot be viewed in isolation, however, as they are all interdependent. This is why all must be considered in a successful business development process, but in differing depth, however.

The success factors »growth« and »globalisation« will now be discussed briefly in order to illustrate their significance for business development.



24 | General factors for success

The ascendance of the emerging countries has led to the fact that there is no longer a triadic arrangement of three growth centers (North America, Europe, Japan), but a situation with numerous other countries (DB Research 2005/Faix, Kisgen, Lau, Schulten, Zywitz 2006). These include not only China and India, but also Russia, Brazil, Thailand, Turkey and Indonesia. A number of additional countries might be seen as new growth centers as well.

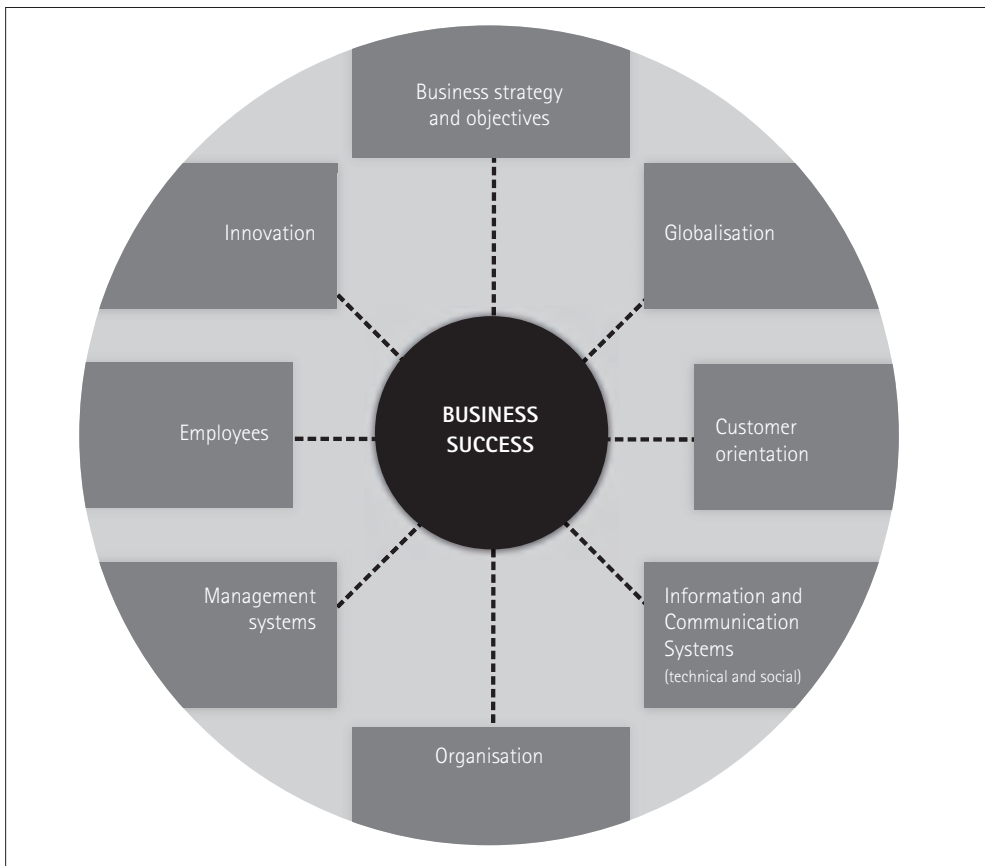
According to the needs pyramid for companies, not only large companies, but now also small and mid-sized ones must grow internationally in order to gain market shares. This has become necessary because markets in the industrial countries are highly saturated. Often, market growth is only possible abroad. Development of new market potential has thus become an important success factor in order to succeed in the framework of global markets (Kutschker/Schmid 2004, Welge/Holtbrügge 2003).

But the globalisation of product/service manufacture is not only necessary on the sales and distribution side, but also in regard to purchasing and production. Acquisition of modules, components and parts is globally organised, because increasingly, many suppliers in many countries can guarantee the required quality. This enables purchasing to be bundled and managed at the worldwide level in order to benefit from all price advantages. Such procedures are also enabled by sinking transport costs (Perlitz).

The relocation of production to countries with lower labor costs is being vehemently discussed in many industrial countries. Market saturation makes costsavings increasingly important because the potential for sales on local markets is stagnating. Chances enabled by globalisation are being used along the entire value-added chain in order to purchase and manufacture more economically, and to develop new markets.

These considerations also conform to some of Schumpeter's factors (see Figures 1 and 20). The development of new sources of semi-products corresponds to globally organised purchasing. Further conformity can be seen in relation to the development of new markets. A company's international growth is primarily necessary to attain economies of scale (Milgrom/Roberts 1992). These are achieved when unit costs sink by increased production within a predefined period of time. Above all, attaining economies of scale reduces the encumbrance of fixed costs. To accelerate this effect, new markets must be developed in order to increase production. New capacity can also be gained through acquisitions, however (Picot 2002).

International growth is thus an important phase of business development. Many small and mid-sized enterprises have chosen this path in order to benefit from the opportunities of globalisation (Simon 1996). Globalisation is thus not only the domain of large corporations, but is increasingly being taken advantage of by all companies (c.f. Chapter VI, »Going International«).



5 CONCLUSION – MANAGEMENT OF GROWTH AND GLOBALISATION

A successful business development process always begins with a well founded analysis of the company's current situation and framework. The results of this analysis together with the strategic concepts enable the company's potential to be defined:

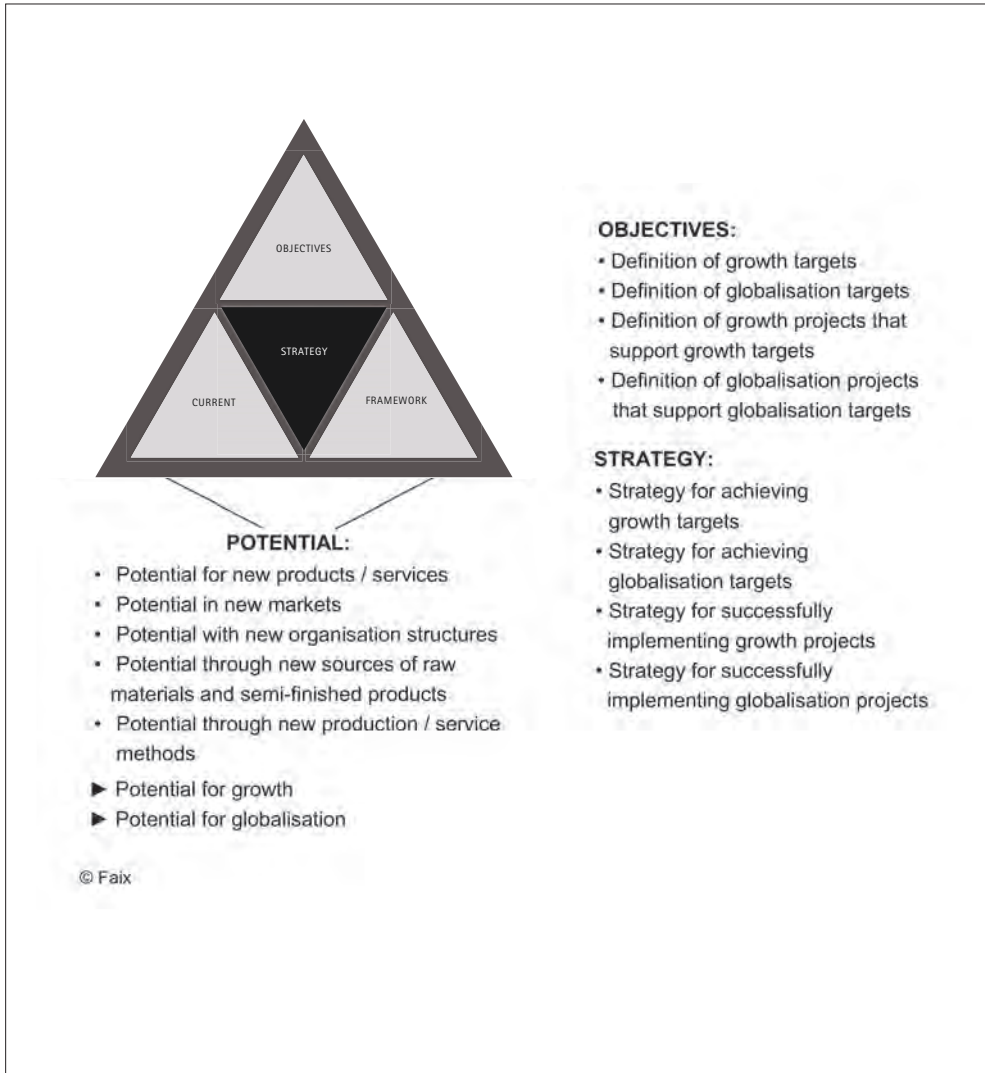
- Potential for expanding business operations with existing products and services in existing markets
- Potential for new products and services
- Potential for both existing as well as new products and services through the development of new markets
- Potential from new organisation structures, new partnerships, new joint ventures and new acquisitions
- Potential from the development of new sources for raw materials and semifinished products in the company's existing markets, but above all, from the development of new sources for these in new markets and countries
- Potential from the development and use of new production / services methods.

These all suggest where potential for growth and globalisation lies (see Figure 26).

To recognize the chances and opportunities of potential, growth and globalisation projects outside the usual business operations can and should be developed. Staffed by creative, innovative and success-oriented employees and managers, such projects can concretely identify chances for growth. With the corresponding growth-oriented management, successful new business areas can be developed and new markets developed (Laurie, Doz, Sheer 2006; Harvard Business Review 1998). This book provides examples of such projects.

Business objectives can be derived from the types of company potential listed above and from the evaluation of potential - for the short, medium as well as long term. After defining the target, the path towards achieving it, i.e. the strategy, can be determined.

Every element in the business development process (current situation, framework, objectives, and strategy) fulfills an important function. Considering all four elements in the business development process is an excellent basis for business development when growth and globalisation are desired.



It is essential to get the business development process going and always keep it up to date. Once rolling, it ensures that a company constantly questions itself. When the strategic concepts presented here are applied, the company can critically reflect on its own behavior, which leads to the development of new objectives a new, sustainable growth.

APPENDIX

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B STRATEGY MANAGEMENT

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1 TENDENCIES IN BUSINESS MANAGEMENT

AIM(S):

The first decades of this century will be marked by turbulences. This piece of work seeks to clarify the fundamental development tendencies of business management and offers concrete suggestions for achieving success in careers.

CONTENT:

- 1 The value of flexibility, speed, innovation and Jointentrepreneurship
- 2 A general view of fundamental tendencies
 - I. Strategic management
 - II. Financial management
 - III Information and organisational management
 - IV Personnel management
 - V Procurement and production management
 - VI Distribution management
 - VII Self management
- 3 Future projections

INSTRUMENTS:

- General presentations
- Graphic illustrations of individual tendencies

APPLICATION(S):

- Orientation assistance for coming years
- All areas of business management

BENEFITS:

- Understanding fundamental developments
- Categorising major topics

REFERENCE TO FURTHER APPLICATIONS OF INSTRUMENTS:

- General presentations: comparing weak points with changes
- Graphic methods: mainly with the structuring of topics/topical complexes

1 THE VALUE OF FLEXIBILITY, RAPID REACTION, INNOVATION AND JOINT-ENTREPRENEURSHIP

The classical understanding of business management is at the moment upside down. What used to be right is at the moment being questioned for its credibility. This is affecting all areas: experience, concepts, methods, prognoses, value appreciation and finally, changes in the environment. This turbulent situation is growing rapidly. Those who had experienced successes would only be able to keep such only when the following conditions are constantly met.

- Flexibility
- Rapid reaction
- Innovation and a
- Joint-entrepreneurship

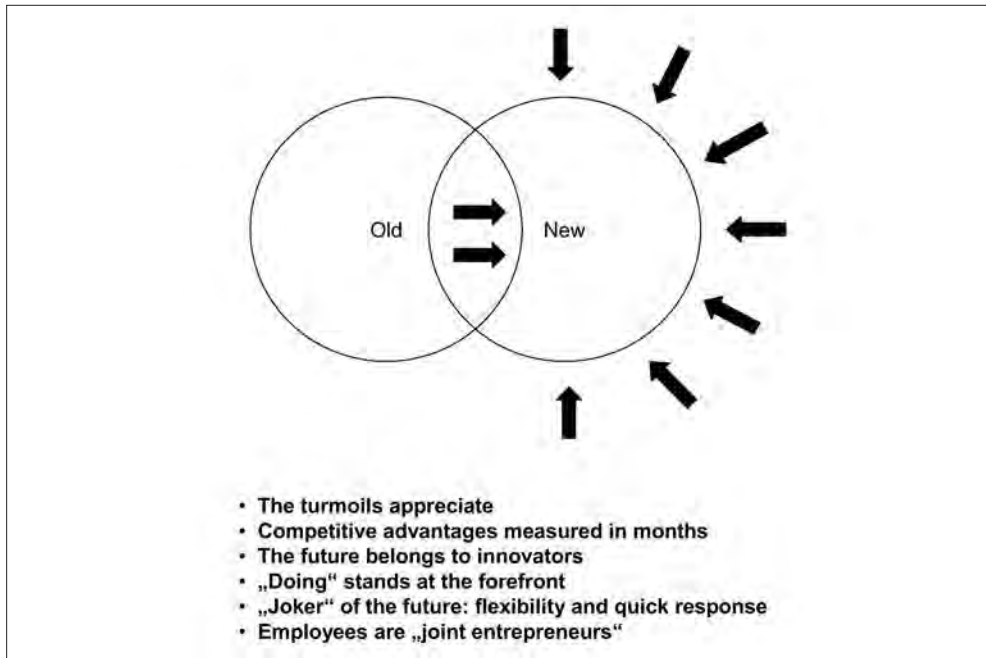
There is a consensual recognition for the need for flexibility. Supporting this need there are contentions such as:

- The classical organisational structure was made cumbersome by its numerous hierarchies. The so called »Pyramid« in such a structure has been replaced by the so-called »Onion« with less stages of decision.
- The classical thinking in »departments« and »competencies« is problematic. At a time when numerous barriers are being removed in Europe, it would be impossible for any firm to »divide«, a practice which creates nothing more than an atmosphere of departmental egoism. The sterile practice of areas of jurisdiction has had no other effect on employees than that of making them »permanently closed«, insensitive to others.
- Flexibility presumes thinking processes. These processes cannot be limited only to business but also optimally extended to the distributors and customers in a process of integration.
- In classical organisational structure, it was impossible to achieve flexibility, as e.g. job descriptions. All that these structures stand for are contrary to flexibility.

They represent attributes like

- static,
- outdated contents,
- insufficient use of employee's potentials,
- lack of participation by those affected and
- rigid corsets.

An important joker in the first decades of this century would be the ability to make rapid decisions.



27 | Paradigm change

The environment is also experiencing dramatic changes. This applies among other things to

- Direction of orientation,
- Level of influence,
- Environmental and company dynamics,
- Self determination and external influence,
- The extent of knowledge of events and
- The ability to predict the future.

Ecological law says that a species can only survive if the speed at which it learns is equal to or more than the speed at which changes take place within its environment. This law is applicable to businesses. An analysis of the rapidity of change, both internal and external is indispensable

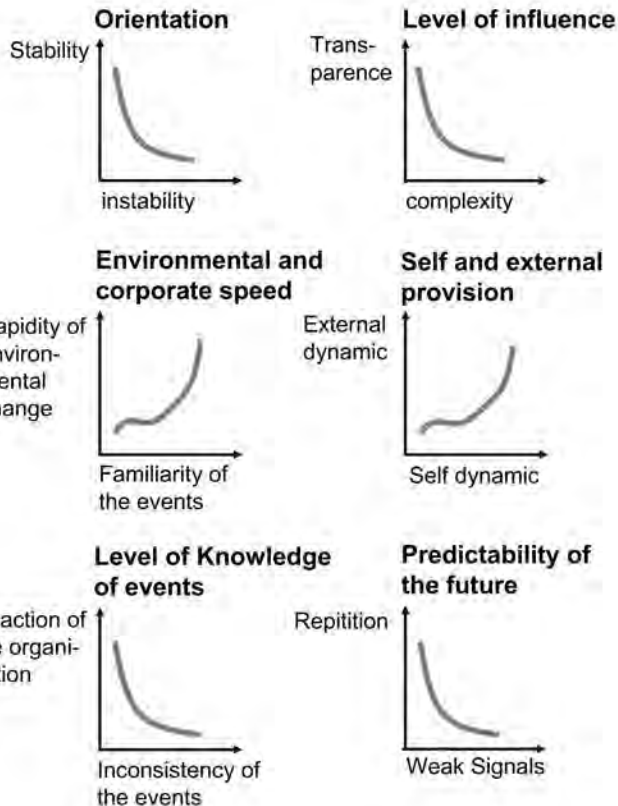
The drama surrounding rapidity in decision-making emanates from the following comparisons, which in turn are representative of numerous examples of speed as an ingredient for success. The process of rapid reaction doesn't just take place in the physical form but in the head as well. It's all about taking decisions faster. Tom Peters, one of the most popular gurus of successful management writes: »nine out of ten decisions are wrong because they were taken too late«. As long as individual managers spend a great deal of their time rollicking on their seats and attempting

1. Reduction of time for development

| Company | Product | Development time |
|----------|------------|-------------------------|
| Honda | Vehicles | 5 years-----> 2.5 years |
| AT & T | Telephones | 2 years-----> 1.0 year |
| Navistar | Trucks | 5 years-----> 2.5 years |

2. Reduction of processing time for orders
(From order entry to its execution)

| Company | Product | Processing time |
|------------------|-----------------|-----------------------|
| General Electric | Circuit breaker | 3 weeks-----> 3 days |
| Motorola | Signal receiver | 3 weeks-----> 2 hours |
| Brunswick | Fish traps | 3 weeks-----> 1 week |



to justify such seats with countless verification processes, instead of taking well calculated risks, rapid decision as an ingredient for success cannot be achieved.

Michael Porter, a competition strategist known world-wide, strikingly elucidates: »whoever fails to act today would be forced in the future to adopt transformations dictated by others«.

In achieving rapid decision making, information and logistical systems play an important role. If productive strength used to be the capital, nowadays it is information, knowledge and creativity of the employee combined with the leadership quality of the business which determine success.

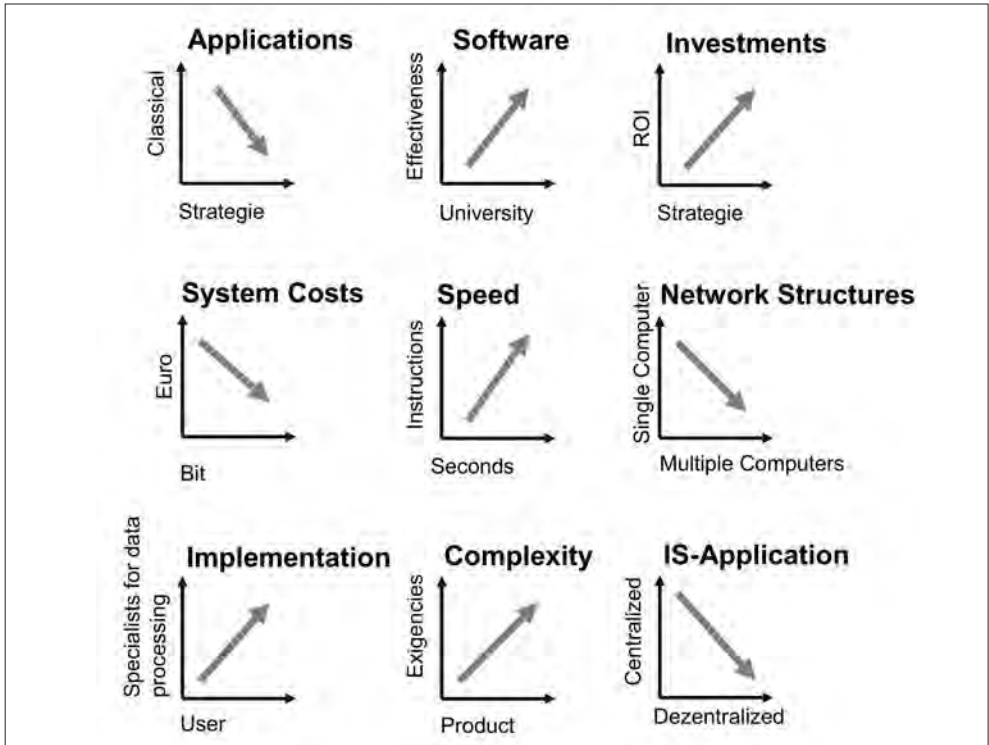
Information technology has penetrated every sector, everyone is communicating with one another and a very high degree of transparency has been achieved. A reinforced array of responsibilities, tasks and competence is taking place.

It gets to the interconnection of independent, organisational units. Commercial informational units emerge above operational units (business). Management is confronted with new dimensions of investment decisions with the associating risks. The feeling is growing towards »must-investments«.

At no other time was the effect of technological advancement so noticeable than today and it penetrates all branches. The pushing demands for more quality, adaptability and productivity in the area of information calls for a full exhaustion of currently available technological potentials. Dictated by the demands of a constantly increasing business competition, advantages must be created through effective information and communication systems. This development forces a firm to equip and back up its employees with necessary technical appliances. The introduction of information systems in a company is compulsorily accompanied by an overhaul of the entire labour structure. This is probably the reason why employees partially have the initial problem of accepting the new situation. They seem reluctant to explore the advantages that come with the systems, even though its use effectively relieves them of their tasks.

In »Tendencies in information processing«, it would be shown that not only the physical speed of processing influences rapid reaction. The decentralisation of information and data processing has taken a giant leap in the past decades.

More and more people are joining the list of future innovators. Innovations are not restricted only to products but also strongly reflected on markets, target groups and processes. Existing concepts are being questioned and changed. Innovation flourishes in an environment of trust and of positive attitude towards it both by employees and employers. It evolves in humans heads. Important here is the need to apply both sides of the brain. While the left side of the brain logically, analytically, rationally, linearly, consistently and conservatively processes sensory impressions, the right side operates integrally. It creatively and imaginatively uses experiences acquired from the left side. The »logical« left and »creative« right sides must be simultaneously activated in order to achieve the best possible innovations.

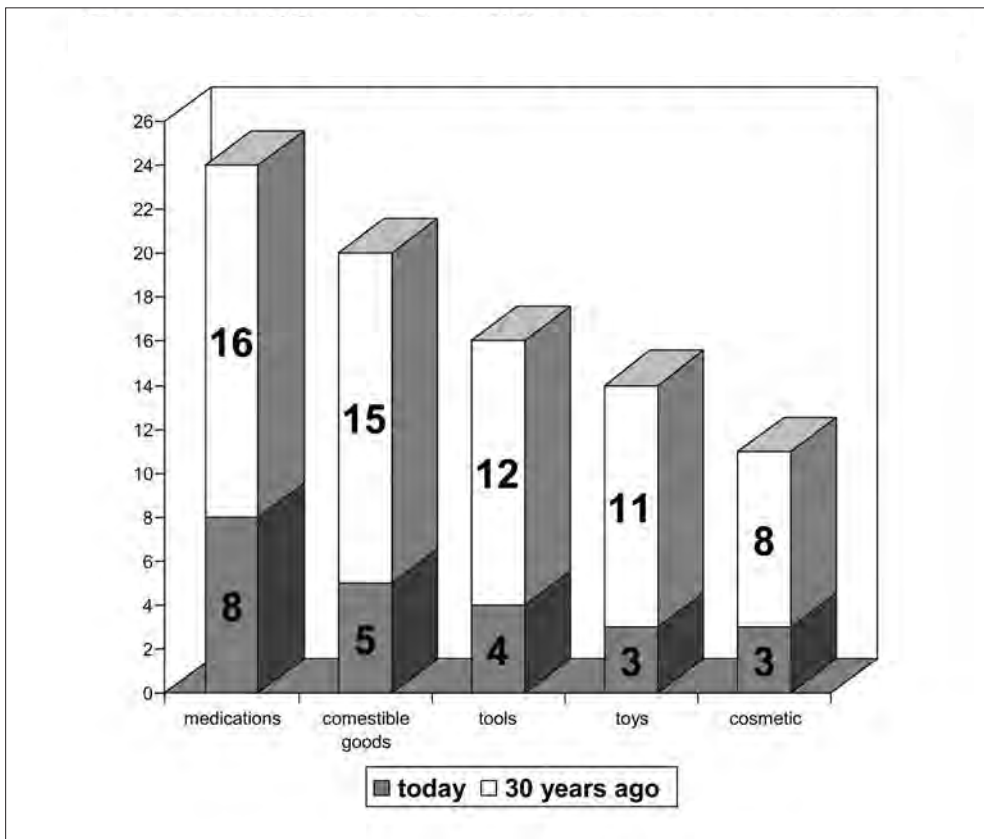


29 | Tendencies in information processing

Tom Sommerlatte, the Managing Director Europe of Arthur D. Little bears testimony to innovation and productivity competition through his impressive comments. The next two illustrations are taken from his contribution to high performance in organisations. The illustration »Product life cycles 30 years ago and today« elucidates how the life span of products in most branches has been shrinking. The life span of numerous products has been reduced by a third or even a quarter. This remarkable shortening of products life span has had a grave impact on corporate management. A fundamental change in comparison with the past would be to assume a leading position in innovation. It probably made sense in the past as an imitator to penetrate available markets with a strategy of differentiating oneself from the innovators - through cost advantages. Today, such imitators have remote chances of success as illustrated in »The innovator-imitator relationship with different product life cycles«. With a shortened product life cycle, the imitator's market is considerably restricted.

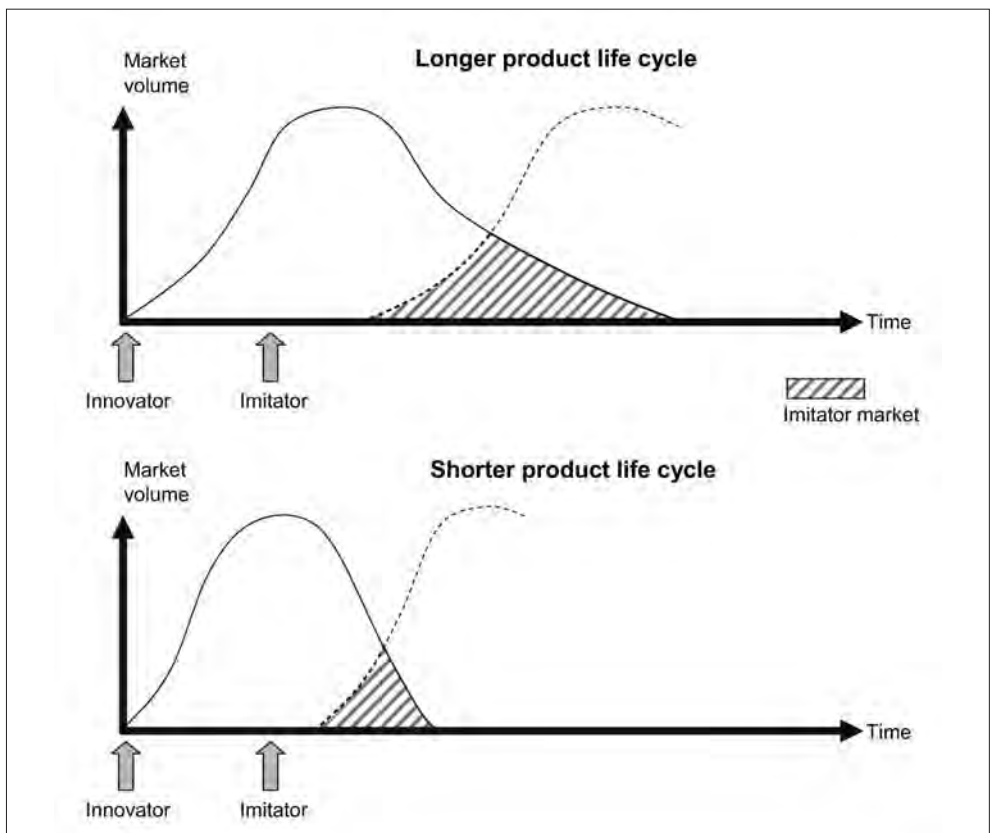
The optimal solution of personal responsibilities is as important as a target-oriented interference taking on primary responsibilities. (see »Goals of corporate management«).

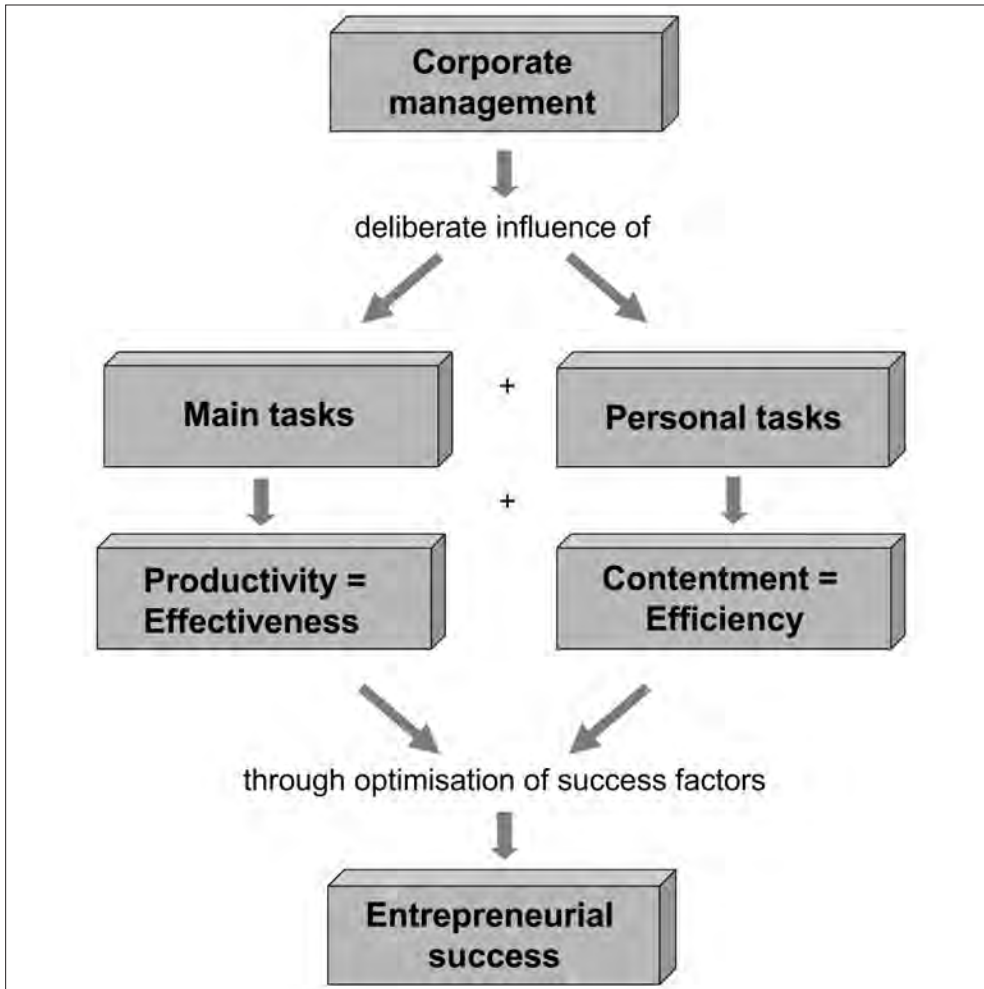
The employee of the future must think and act corporate. Future oriented businesses are today more than ever dependent on innovations, development of new ideas, products and technologies. Organisations require employees, whose competences trigger the modernisation processes, making the firm more competitive. In addition to this is the need for team work among all workers, reduction of unnecessary hierarchies, and a networked, cybernetic thinking. However, in order to make an optimal use of these capabilities, it is advisable to analyse one's abilities and weak points. It is important to reflect on one's strength. Many people possess remarkable knowledge and skills, most of which remain unused because their readiness to perform suffers due to lack of positive mental attitude to their tasks. A positive mental attitude is however the needed ingredient for accomplishments and results.



Many firms that were used to successes in the past are now confronted with hard strong competition that threatens to squeeze them out of business. They hardly have any chance to prevail in such a competitive environment. This makes it clear that it is hardly possible to make profits using old concepts until future problems are resolved. It is only outstanding companies who have always recognised human potentials as future resources that must be cultivated and deliberately promoted. In the future, finances and machinery would become passive merchandise, while human capital, perceived as investment, would be the active gushing source. This gushing source can be fully utilized in business environment only through the inclusion of highly motivated people. Human potential is the bridge between the demising industrial age and the emerging information age.

Contentment and motivation of the employees play a major role in the success of a business. Expectation attitude of employees inclines more and more towards self-actualisation in the labour world. Change in value is stepping in. Intensification in the standards of quality of life and self-actualisation has become a generally declared goal. The higher need for recognition than





32 | Goals of corporate management

possession has become the strongest moving force for human performance. Whereas economic principles made specialisation in areas of activity essential in the past, the situation has been reversed through technologically influenced new orientation structure. Decentralisation of decision making, creation of clear and manageable units, adoption of action-oriented working groups, strengthening of ability of selfcontrol and the integration of the different working areas are the starting points for the present and the future.

Furthermore, only *such* firms where employees recognise the fact that their performance at work not only contributes to the overall development of the company but also to personal development, would be successful

2 A GENERAL PRESENTATION OF THE FUNDAMENTAL TENDENCIES

In the following, a synoptic illustration of the fundamental tendencies in corporate management will be presented. The structure derives from the seven chapters in this work.

- I Strategic management
- II Financial management
- III Organisational and information resource management
- IV Personnel management
- V Procurement and production management
- VI Supply management
- VII Self management.

The first orientation is provided by »Tendencies of corporate management«.



I – STRATEGIC MANAGEMENT

| Current characteristics | Future characteristics |
|---|---|
| 1. Discrepancy between self portrayal of the firm outwardly and the real practised value system. | 1. The guiding principles are emphasised and are being felt in all departments and by the employees. |
| 2. The meaning of long-term strategies contemplated only in occasional cases. | 2. The necessity for long-term strategies is indisputable. |
| 3. An orientation strategy consideration is mainly short-term. | 3. Clear long-term strategies. |
| 4. In preparing strategies, there is a limited use of »tools«. | 4. The use of tested systems and techniques in the preparation and implementation of strategies. |
| 5. Selective goal and controlling systems. | 5. Comprehensive, stringent goal and controlling systems. |
| 6. No set targets for the employees. | 6. Inclusion of the employees in the preparation of targets. |
| 7. Due to none or vague understanding of the critical success factors of the firm, the various branches pursue different performance targets. | 7. The collective orientation on the critical success factors enables concentration on the major areas of activities. |

II – FINANCIAL MANAGEMENT

| Current characteristics | Future characteristics |
|---|--|
| 1. Accounting is still often the institution for data preservation. | 1. Accounting assumes control character. |
| 2. Investments are still being prioritized in line with classical calculations. | 2. Must-investments gaining more in importance. |
| 3. Questions about »what happens, when....« exist only abstractly in the head. | 3. Computer-aided decision making is order of the day. |
| 4. Possible conflicts in financial targets get limited attention. | 4. Solving target related conflicts is of more relevance. |
| 5. Great attention paid to classical financial rules. | 5. Risk-conscious and flexible oriented financing becoming more and more relevant. |
| 6. Financial orientation is based on specific and selective criteria. | 6. The quest for an optimal financing taking several factors into consideration. |
| 7. The capital structure is considered only on short and middle terms. | 7. There is the quest for an optimal long-term capital structure. |

III – ORGANISATIONAL AND INFORMATION MANAGEMENT

| Current characteristics | Future characteristics |
|--|---|
| <p>1. Organisational and information systems only conditionally considered in a firm's strategic orientation.</p> <p>2. The organisational structure is</p> <ul style="list-style-type: none"> – function-oriented, – subdivided under several hierarchies, – less market and customer oriented, – identified through jobdescriptions and a catalogue of competencies. <p>3. The organisational structure supports thinking in departmental line and promotes departmental egoism.</p> <p>4. In the organisational structure, there is the concentration of efforts on the identification and elimination of weak areas, aspiration to achieving a high level of standardisation.</p> <p>5. Domination of operational applications.</p> <p>6. Data</p> <ul style="list-style-type: none"> – seen only in individual cases as resources, – often difficult to collate, – contain inadequate tasks and information awareness, – exist mainly on paper. <p>7. The realisation that effective organisational and information systems could create high exit barriers for customers and a high entry barrier for the competition could not be enforced.</p> | <p>1. Organisational and information processing highly essential to the firm's strategy.</p> <p>2. The organisational structure is</p> <ul style="list-style-type: none"> – process-oriented, – burdened with as minimal as possible hierarchic levels, – highly market and customeroriented, – identified with consensually agreed upon targets as well as sub-contracting. <p>3. An effective process organisation orientates the employees towards more superior goals.</p> <p>4. The process organisation</p> <ul style="list-style-type: none"> – optimises both the internal and external processes – is known for its optimal relationship between standards and individual orientation. <p>5. Strategic solutions to problems stand in the background.</p> <p>6. Information</p> <ul style="list-style-type: none"> – generate competitive advantages, – could be constantly retrieved just like in a live broadcast, – experience an optimal classification of top-management and the employees, – are processed without the need for papers. <p>7. Organisational and information systems generate benefits for customers and create »valueadded« as a means of differentiation from the rivalry.</p> |

IV – PERSONNEL MANAGEMENT

| <u>Current characteristics</u> | <u>Future characteristics</u> |
|---|---|
| 1. Rigid management structure. | 1. Networked management systems. |
| 2. The management style rests strongly on the will of the boss. | 2. The management style is employee-oriented and the delegation of tasks, authority and responsibility prevail. |
| 3. Rigid remuneration systems. | 3. Individual remuneration systems. |
| 4. Employees work according to the rule, mainly reacting employees. | 4. Employees become »Jointentrepreneurs« in the firm. They act with own initiative and creativity. |
| 5. Eligibility according to classical employment procedures. | 5. High level conformity of employee's and firm's expectations with one another. |
| 6. Qualification through selective advanced training measures. | 6. Strategic-oriented policy of advanced training. |
| 7. Motivation is being demanded. | 7. A higher level of personal and extrinsic motivation. |

V – PROCUREMENT AND PRODUCTION MANAGEMENT

| <u>Current characteristics</u> | <u>Future characteristics</u> |
|--|--|
| 1. Concentration on local suppliers. | 1. International suppliers and international contract formulations-norms are order of the day. |
| 2. Product innovation stays in the background. | 2. Process innovation gaining in relevance. |
| 3. The chain of benefits include activities within own firm. | 3. The chain of advantages between suppliers, manufacturers and customers are created. |
| 4. Logistical services rendered only for self consumption. | 4. Rampant surrender of logistic activities to other companies. |
| 5. Aspiration for higher productivity. | 5. Productivity becomes an important success factor. |
| 6. Only selective integration of products in overall package. | 6. Systems solutions stay in the background. |
| 7. Higher quality standard is considered as the basis for competition. | 7. Zero-mistake quota is standard. |

VI – SUPPLY MANAGEMENT

| <u>Current characteristics</u> | <u>Future characteristics</u> |
|---|--|
| 1. The supply organisation has a limited influence on the development of products and services. | 1. Basic impulses for development given by the supply organisation. |
| 2. Customer's wishes are simply processed. | 2. Contact to customers sought. |
| 3. Optimising own processes. | 3. Customer-oriented organisational structure. |
| 4. Customers hardly participate in innovation processes. | 4. Involvement of customers in product development. |
| 5. Occasional consideration of environmental influences. | 5. Highest acceptance of the environmental situation. |
| 6. Interpersonal relationship is almost non-existent in salesman-customer relationship. | 6. Stronger emphasis on interpersonal relationship with customers. |
| 7. Optimising the triangular product-salesman-customer relationship. | 7. Optimising the triangular product-salesman-customer relationship expanded through the inclusion of axis »environment« |

VII – SELF MANAGEMENT

| <u>Current characteristics</u> | <u>Future characteristics</u> |
|---|---|
| 1. Personal strategies and goals often non-existent. | 1. Ability to recognise important position of goals also in personal spheres. |
| 2. Chaos reigns in the area of self organisation. | 2. Efforts towards optimal handling of tasks. |
| 3. The relevance of information is also recognised in the personal spheres. | 3. Information creates strategic competitive advantages. |
| 4. Potentials can only be sparingly utilized. | 4. More emphasis on individual self-steering. |
| 5. Usual communications level. | 5. Positive contributions and a higher level of integration. |
| 6. Work-place opportunities seldom used. | 6. External goals are made ones. |
| 7. Emphasis on winner-loser mentality. | 7. Emphasis is on winner-winner game. |

3 FUTURE ASSUMPTIONS

In the following, a few trends will be outlined.

INCREASE IN OVERSUPPLY OF SUBSTITUTE PRODUCTS.

- Declining birth rate in the USA, Europe and Japan.
 - Number of consumers declines in the next 2 generations by about half.
 - Purchasing power in the new markets of China, India and South America is not growing fast enough to compensate for the loss in the triad.
- Explosion of supply
World production has tripled between 1970 and 2000. Commodities that are simple to produce would soon deluge the world.
- The number of suppliers has dramatically increased through the influence of the internet and globalisation.

THE FUTURE BELONGS TO INNOVATORS.

- Investments in local markets can only assure limited returns.
- Investments in new markets promise greater profit chances.
- Investments of the future will include
 - Product and service innovations,
 - Innovations in problem solutions,
 - Innovations in process optimisation,
 - Innovations in partnership and alliances

FULFILLING CUSTOMERS' EXPECTATIONS IS A MUST.

- Customers are becoming more critical of normal daily business transactions.
- Timely observation of contractual agreements such as delivery deadline, quality and function has become a 100%-must for any supplier of services and products.
- Permanent questioning of customers about their needs and concerns enables an up to date knowledge of such needs. This makes it hard to lose customers to the competition.
- Should there be complaints from customers, this would be a reason good enough to conduct promotional sales.

INFORMATION TECHNOLOGY ACCELERATES GLOBALISATION.

- Access to all sorts of information on the internet from the comfort of one's home.
- Customers enjoy greater transparencies concerning price, quality, technical data, delivery time etc of products.
- Offers and services are readily compared online.
- Technology is transferable world wide. This has assisted computercontrolled machines in the production of quality products in the whole world.

SUBSTANTIAL CHANGES IN AGE-STRUCTURE.

- The population of people younger than 30 years in Germany will decline with about 20% by 2010.
- The age groups 40 and 60 years will increase by about 20%.
- In the age group 70 and 90 years, there will be an increment of about 35%.
- By 2010, around 20 million people will be older than 60 years in Germany.

THE KNOWN PRE-SALE, SALE AND AFTER-SALE PHASES MELT INTO SUPPORT SERVICE CONCEPT.

- Most firms are trying to dissolve the sales phase.
- After-sales support service is increasing in prominence.
- Only those firms that share with their customers in the benefits and advantages of the so called winner-winner-game will be successful.
- Only when all the phases cross one another and come out as a single support service entity could there be a knock-on effect on the firm thereby creating an inspiring support service.

THE SALE OF ADVANTAGES IS GAINING IN IMPORTANCE.

- As far as substitute products are concerned, price has become the deciding factor for customers. As a matter of survival, it is necessary for a firm to differentiate itself from its rivals.
- Whoever cannot offer any benefits can only sell rebates!
- Please list your unique selling propositions general value added arguments and specific value added arguments for each group.
- Please make sure that you make no offers that leave your company without value added arguments. You must point out the price benefits of your services during all price negotiations.
- Go so far that your customer not only recognises the benefits to himself, he must also recognise what this means for him in real money.

THE EMPLOYEES ASSUME MORE RESPONSIBILITY.

- Each workplace is an »Enterprise«. Each employee is a »Jointentrepreneur«.
- It is being demanded of the employees to use own initiatives, be proactive, participate in decision making. This constitutes the basis of responsibilities for the employees.
- Aside from professional, social and methodical competences, corporate competence is becoming more important.
- Each employee must be able to answer the question: »how would I act if it were my business?«

COOPERATIONS AND ALLIANCES ARE ON THE INCREASE.

- There is the accepted notion of synergy, instead of dying alone.
- Co-operation on products (for example: purchase, production, sales) improves the costs and proceeds sides.
- Co-operations on offers made to target groups improve long-term market chances.
- Co-operations on the optimisation of purchasing and sales processes create long term competitive advantages.

The general level of influence of the environment epitomizes both chances and risks for the firm.

What level of influence is considered as relevant and worth of more detailed analysis differs from one firm to the other. This depends however on the branches and sizes of respective firms. The analysis must be so comprehensive that it is possible to identify external influencing factors.

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

2 COMPETITION ANALYSIS:

METHODS FOR THE ANALYSIS OF EMPLOYEES, CUSTOMERS AND SUPPLIERS

AIM(S):

Competition analysis serves as the analysis of the employees of today and tomorrow, customer analysis and the threats posed by competition.

CONTENT:

- 1 The relationships between competitive, product, strategic, innovation and success factors analysis
- 2 Methods for competitors' analysis
- 3 Methods for customers analysis
- 4 Michael Porter's methods of analysis

INSTRUMENTS:

- Methods for competitors analysis
- Methods for customers analysis
- Portfolio analysis
- The analysis of the five forces of the competition model

APPLICATION(S):

- Analysis of competitors
- Analysis of the customers
- Analysis of the fundamental forces of competition

ADVANTAGES:

- Recognition of own strengths and weaknesses
- Analysing the strengths and weaknesses of the workers
- Collation of customers problems
- Target-oriented decisions

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Methods for customers' analysis: transferable to information technology and distribution departments
- Methods for competitors' analysis: analysable by the financial and customer relations departments

1 THE RELATIONSHIPS BETWEEN COMPETITIVE, PRODUCT, STRATEGIC, INNOVATION AND SUCCESS FACTORS ANALYSIS

The illustration »Development and implementation of strategies« clarifies the classification of competition analysis (Figure 1).

Competition analysis could serve different purposes. At the background are such things as:

- Employee analysis,
- Development in the markets,
- Analysis of the consumers of today,
- Expectations of future customers,
- Status and tendencies on distributors markets,
- Development of the branches and sub branches respectively,
- Threats from competition,
- Influence of technology on the markets respectively,
- Global competition.

The development of strategies demands apart from an analysis of strengths of the competition, also a detailed **product analysis**. This is carried out nowadays with the aid of portfolio analysis (Figure 2). It shows clearly with which products a business generates most of its turnovers and which chances the products of today would have in the future. These lead to considerations such as:

- Can successful products with high market potentials guarantee future turnovers?
- Is there at the moment an appropriate segmentation of the complete products packets, considering »offspring products«, »stars«, »milk cows« and »discontinued products«?
- What profits/profit margin would the individual products bring?
- What does the present market share look like and what does the future promise as far as changes are concerned?

The illustration, »Development and implementation of strategies« allow us to see that the **fixation of strategic orientation** (Figure 3) occupies an important position in the overall concept. In view of this module, it would be imperative to answer the following questions:

- Which of the following strategic orientations is all dominant for the company?
 - Cost leadership,
 - Differentiation (value added),
 - Niche strategy.
- How could the »value added« be experienced?
- Are different strategic orientations also valid for individual product branches?
- Are the
 - Employees, / - Customers, / - Suppliers and - The public aware of the above mentioned fundamental strategic directions?

Besides a market, product and strategic orientation analysis based mainly on discrete data analysis and logical conclusions, there should be a discernible method through which future innovation analysis based on vision could be determined. It is becoming always impossible to forecast the future through current trends and trends from the past. This makes development of new innovative products absolutely important. However, this must reflect on all levels of innovation approaches:

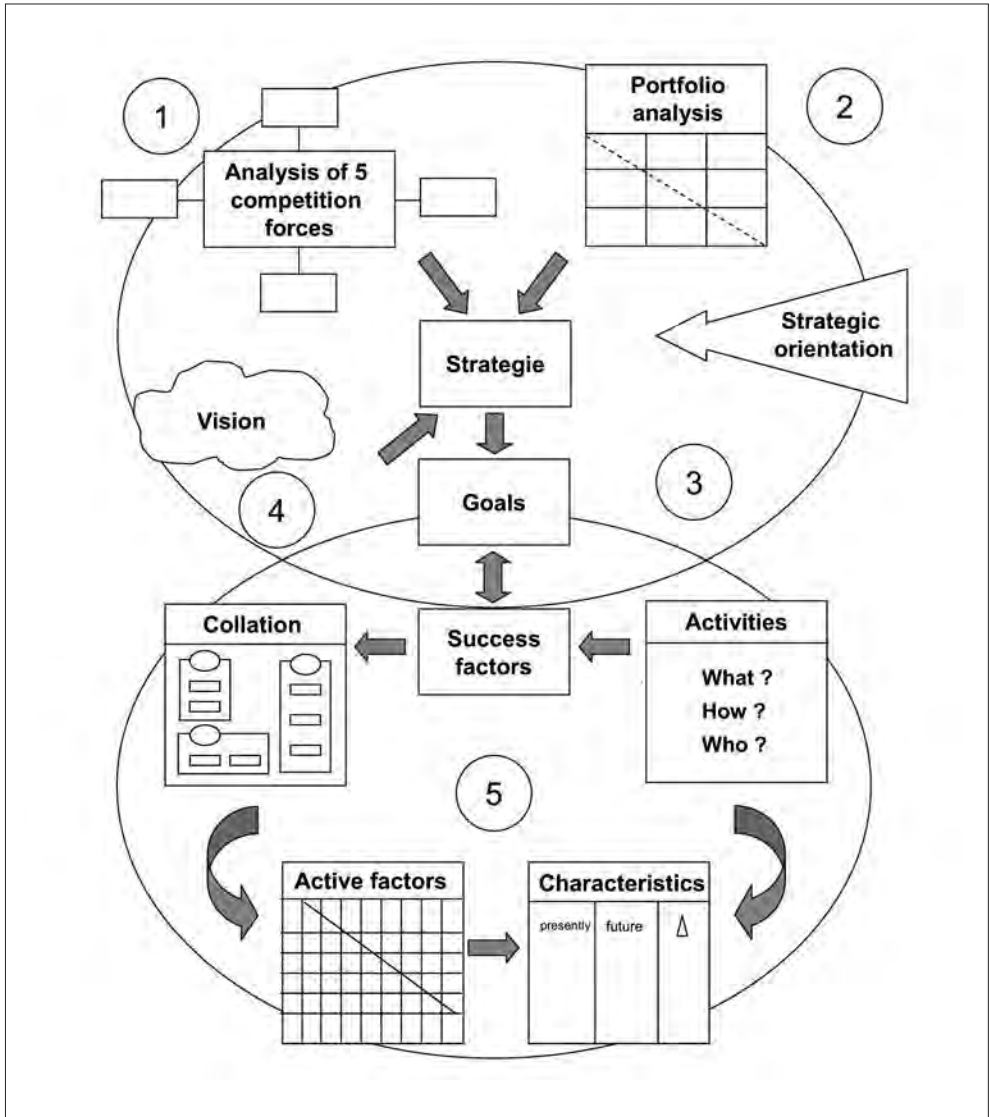
- Market innovations,
- Product innovations,
- Process innovations.

In this regard, the following questions must be analysed:

- Which market innovations stand out?
- Are competitive advantages achievable through improvement of process?
- Are competitive advantages achievable through a strengthened ecological orientation?
- How could the »Exit barriers« for customers in the spirit of winner-winnergame be further enhanced?
- Which product innovations stand out?
- How quickly enough can we realize our innovations in order to achieve a »Tempo-leadership«?

Competition analysis, product analysis, analysis of the strategic orientations and innovation analysis form the foundation for the preparation of strategies. The aim of a clear strategy lies in finding a position, from where a company could best protect itself against the forces of competition or at the least, be able to positively influence this. Under normal circumstances, a strategic plan should span a period of three to five years. Strategic orientations are derived from set targets.

In the implementation of set targets, **success factors** play a great role. They basically influence achieving set objectives. Therefore it is important to know the success factors of a company and to know how distinctive these factors have become today, how this may reflect in the future (e.g. in one or two years) and with which activities the difference, delta, could be resolved.



34 | Development and implementation of strategies

All five steps concerning the approach towards the preparation of strategies are addressed under the section »Development and implementation of strategies«. Each step will be treated in a separate contribution. The main work contains contributions to the first (»Competition analysis«) and second (»Product analysis«). In the other following contributions, the third (»Strategic analysis«), fourth (»Innovation analysis«) and fifth (»Success factors«) steps will be treated.

2 METHODS OF COMPETITORS' ANALYSIS

This analysis provides you with a general idea about the strengths and weaknesses of the competitors. Position this against your personal strengths and weaknesses, then you would be in a position to better prepare strategies and targets for the future and you can, in a target-oriented way, improve on success positions. The concentration of one's strengths on the competitor's weaknesses provides a clear competitive advantage for one's business. A statement by the Chinese strategist Sun Tzu, better describes the important position the analysis of business rivals occupies: »Know your enemy and know yourself and even in a hundreds of battles you will never peril«.

As far as competitors' analysis is concerned, quite a great number of businesses have considerable weak points. An analysis of the competitors is often completely missing. Only a certain fraction of businesses are in possession of a systematic research of their rivals.

Nowadays, competitors' research should be deliberately pursued by every business in a process of »Know your enemy«. The major reasons why businesses fail to engage in competitors' analysis lie in the

- Scarcity of relevant data and
- Systematic analysis of data

It is essential to collate comprehensive data on rivals as fast as possible, store these in computer-controlled systems and finally, conduct a systematic analysis of such data. The following basic elements should belong in rivals' data, as they belong also to, for example the health insurance:

- Membership rate,
- Contribution classes,
- Rate of contribution,
- Increment in members' numbers,
- Performances in the prevention area.

Would an employee in a bank, who is responsible for real estates financing, be able to carry out his duties successfully, if he were to have had for example, knowledge of the

- mortgage conditions of the competitors?
- processing fees of the competitors?
- required collaterals?
- eventual free value-added, extra services as offered by the rivals?
- required processing time of individual rivals?
- form of presentation of the credit business?

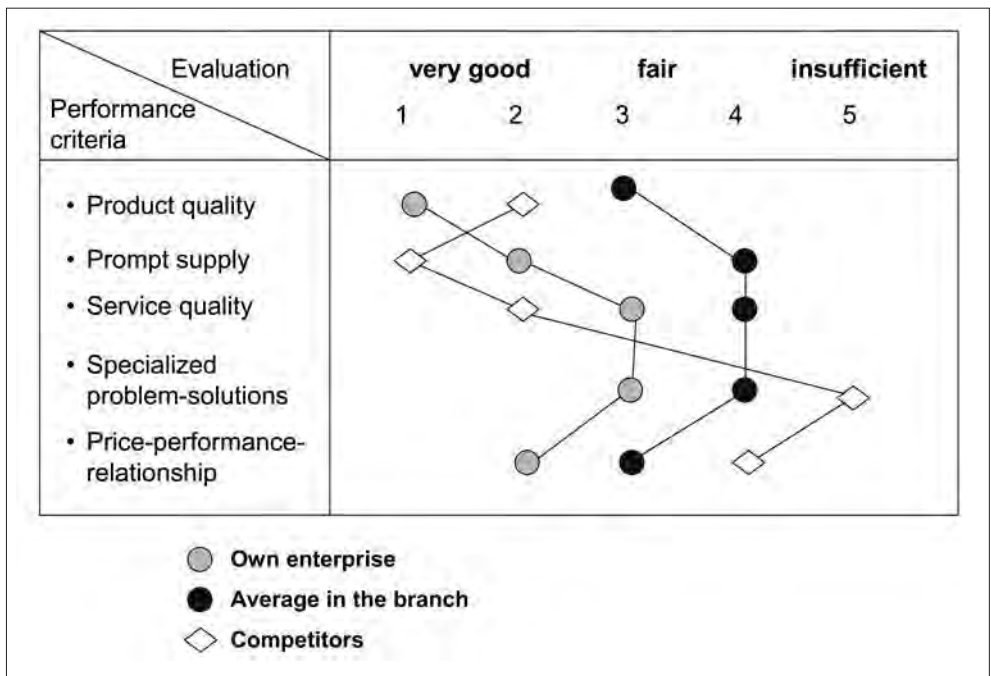
If these data are promptly and as much as possible, thoroughly saved on a computer system, the employees would be in a position to better fulfill their tasks. In the data collation process, one cannot be creative enough especially where thoroughness and benefits derivable from such data are concerned.

Competitor's analysis could be undertaken using different methods. The following three examples show possible contents and presentation forms of such an analysis.

1. EXAMPLE

(see next Figure »Example of a competition analysis«)

Here, the selected service criteria, which are of great relevance to the company, are compared with the data of the rivals.



35 | Example of a competition analysis

2. EXAMPLE

(see next Figure »Analysis of the competitors«)

Here we have a systematic classification of the criteria according to the success factors. In our example, each of the criteria- for one's company as well as for the competition- would be analyzed on a fixed scale of one to five; whereby the value one stands for very weak and the value five stands for very good. Understandably, this method- just like the other mentioned methods-could be discretionary employed (for example through the evaluation criteria).

| Success factors | Own enterprise | Competitors | | | | |
|---|----------------|-------------|---|---|---|---|
| | | A | B | C | D | E |
| 1. Strategy | | | | | | |
| - Product policy | | | | | | |
| - Innovations | | | | | | |
| 2. Finances | | | | | | |
| - Returns situation | | | | | | |
| - Financial power | | | | | | |
| 3. Organisational and Information system | | | | | | |
| - Logistic | | | | | | |
| - Strategie applications | | | | | | |
| 4. Personnel | | | | | | |
| - Management | | | | | | |
| - Employees | | | | | | |
| 5. Procurement/Production | | | | | | |
| - Productivity | | | | | | |
| - Cost structure | | | | | | |
| 6. Supply | | | | | | |
| - Public relation | | | | | | |
| - Distribution | | | | | | |
| Average | | | | | | |

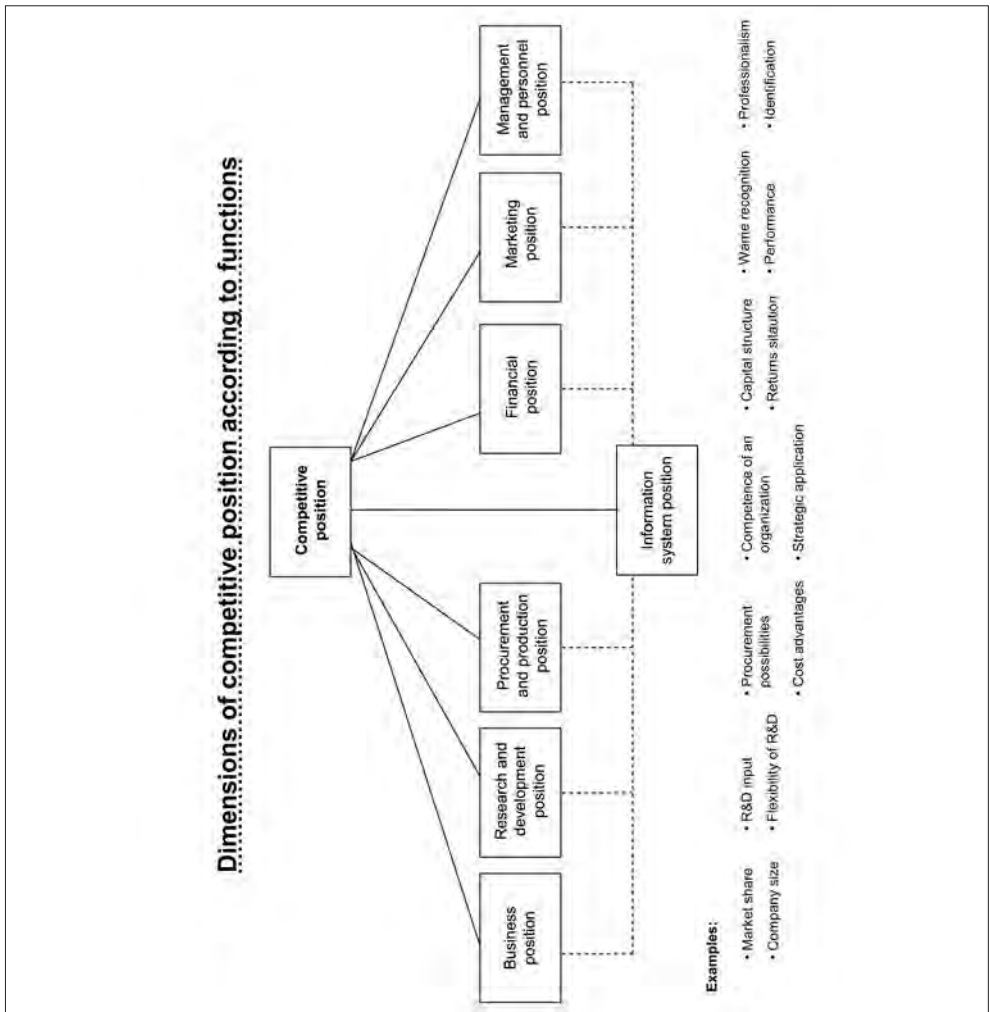
1 = very weak; 2 = weak; 3 = fair; 4 = good; 5 = very good

3. EXAMPLE

(see Figure »Dimensions of competitive positions according to functions«)

This basic approach is influenced by functions in the comparison of competitive position. Differentiation is according to the basic functions. As measurement variables, two indicators will be employed in each case.

The following tables show an overview of the most important functions and a few other indicators required for evaluation.



| Functions | Measurements |
|---|---|
| 1. Business Position | <ul style="list-style-type: none"> - Market share - Turnover - Capital - Strategy |
| 2. Research and Development Positions | <ul style="list-style-type: none"> - Expenditure on Research and development - Innovations Strength - Flexibility of Research and development - Patents etc. |
| 3. Procurement and Production Positions | <ul style="list-style-type: none"> - Procurement Possibilities - Costs Advantages - Level of Automation - Flexibility in Production |
| 4. Information Systems Position | <ul style="list-style-type: none"> - Maturity Level with Implementation - Strategic Implementation of IS - Involving Customers in the Network - Investments in IS |
| 5. Financial Position | <ul style="list-style-type: none"> - Capital Structure - Total Revenue Situation - Participations - Investment strength |
| 6. Marketing Position | <ul style="list-style-type: none"> - Popularity level - Price, Performance level - Supply channels - Instruments of marketing policy |
| 7. Management and Personnel Positions | <ul style="list-style-type: none"> - Professionalism - Identification - Qualification - Existence of Subentrepreneurship |

The following targets could be achieved through a competitive analytical analysis.

- Knowledge of one’s capabilities and limitations as well as those of the competitors allows a better judgment of one’s chances today and in the future.
- This enables companies to take more accurate measures.
- The necessity to set priorities becomes automatic.
- The foresee-ability of rival’s situation makes it possible to predict and better develop one’s success positions.
- It becomes easier to take counteractive measures against foreseeable activities of the rivals early enough.

Apart from the provided table of analysis, it is worthy of recommendation to collate qualitative characteristics and activities of the most important competitors in a reinforced way. Based on the second and third examples, the most important criteria could be summarized in a competitors’ profile. (See »Competitors’ Profile«).

3 METHODS OF CUSTOMER ANALYSIS

The customer is nowadays pivotal to - at the center of - all commercial activities. A business can be successful only if it is able to satisfy the needs of the customers better than its rivals. It has become more and more imperative for companies to put themselves in the position of individual customers. If someone wants to appeal to customers' potentials, it is essential to clearly analyze such customers' situation. Many businesses have got to do with different target groups. Such target groups expect different approaches towards the satisfaction of their needs.

Let us expatiate further on this with an example from the banking industry. On the basis of differentiated analysis and findings of distinguished management consultants like McKinsey, Customers and interested Parties-Groups as indicated in »Customers and interested groups in the banking sector« are apparently subdivided. The modified work-sheet, »Customer Analysis« (See illustration) finds a useful place for a classification of target groups of a company.

Of great relevance in customer analysis is the finding out of the respective criteria for decision making. »What is important for the customer?« Those demands that stand topmost on the customers' wish list must be fulfilled as best as possible. If a company were to lag behind its main competitor in this respect, it would be difficult to reclaim leadership. The goal here is to strive for a clear leading position (See illustration »Classification of competition parameter«). If we classify this coordination system into low-middle-high, what we have is customersportfolio matrix. This contains »Question mark« customers; »Star« customers, »Dairy cow« customers and »Poor dog« customers (in this case, please refer to the contribution in »Product analysis«). Strategies and measures must be developed for individual customer groups (See illustration »Customer portfolio«). Concerning the suitable criteria to employ in customers decision making process, it is advisable to conduct regular opinion surveys. You must make efforts to be superior to competitors on matters of vital customer interests. You can sensitize yourself with the following questions:

- Do you know the customers' opinions about your products and services?
- Are there important areas where you are more superior to the competition?
- Do you have a ready line of action in place in situations where your major customers' criteria are judged worse off than those of the competitors?
- Do you know how the ideal product looks like from the customers' perspective?
- Do you know of improvements that could be of greater benefit to your target groups?
- Are there such criteria which could further encourage the use of your products and services?

The following are possible examples of performance criteria:

Competitor profile

| Competitor: | Address: | | | | |
|---|------------------------|---------------|---------------|---------------|---------------|
| Form of organization: | Identification: | | | | |
| 1. Business position | Year n | Year n + 1 | Year n + 2 | Year n + 3 | Year n + 4 |
| - Turnover | | | | | |
| - Profit | | | | | |
| - Capital | | | | | |
| - Profit margin | | | | | |
| - Strategy | | | | | |
| - Goals | | | | | |
| 2. Research/Development | | | | | |
| - New products | | | | | |
| - Input R&D | | | | | |
| 3. Procurement/Production | | | | | |
| - Cost advantages | | | | | |
| - Innovations | | | | | |
| - Production flexibility | | | | | |
| - Level of automation | | | | | |
| 4. Organisation/Information | | | | | |
| - Prompt reaction | | | | | |
| - Logistic | | | | | |
| - Strategic data processing application | | | | | |
| 5. Finances | | | | | |
| - Capital structure | | | | | |
| - Investment capability | | | | | |
| 6. Marketing | | | | | |
| - Production Lines | | | | | |
| - Basic products | | | | | |
| - Price/performance ratio | | | | | |
| - Value Added (differentiation) | | | | | |
| - Demand management | | | | | |
| 7. Personnel | | | | | |
| - Qualification | | | | | |
| - Number of employees | | | | | |
| - Personnel costs | | | | | |

- Product quality,
- Quick supply,
- Dependability of delivery agreement,
- Quality service,
- Specialized problem solution,
- Price/Service relationship.

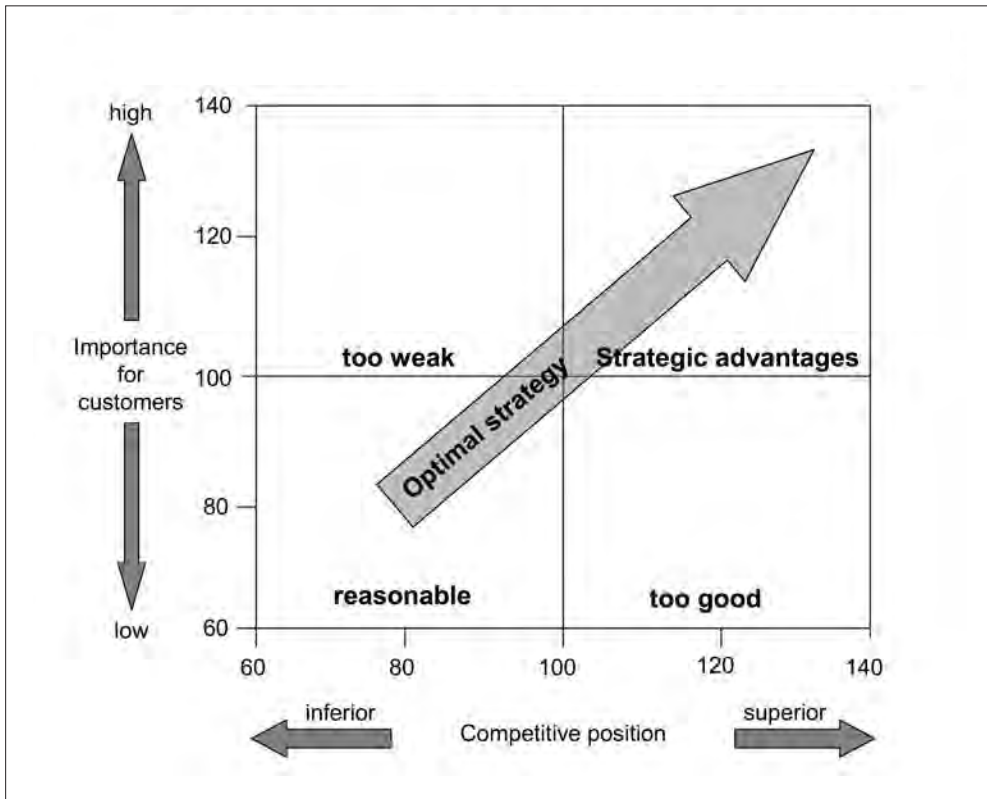
In the following, a more concrete implementation example is reproduced: the criteria for the **Purchase, and respectively, deployment of a concrete pump** (No priorities set):

- Outstanding technology,
- Good sales counseling,
- Readily available,
- Easy to operate,
- Service friendliness,
- Above average customer service,
- Quick supply of spare parts,
- Quick supply of service parts,
- Nearness to customer services,
- Quick delivery appointments,
- Favorable price,
- Good customers' training.

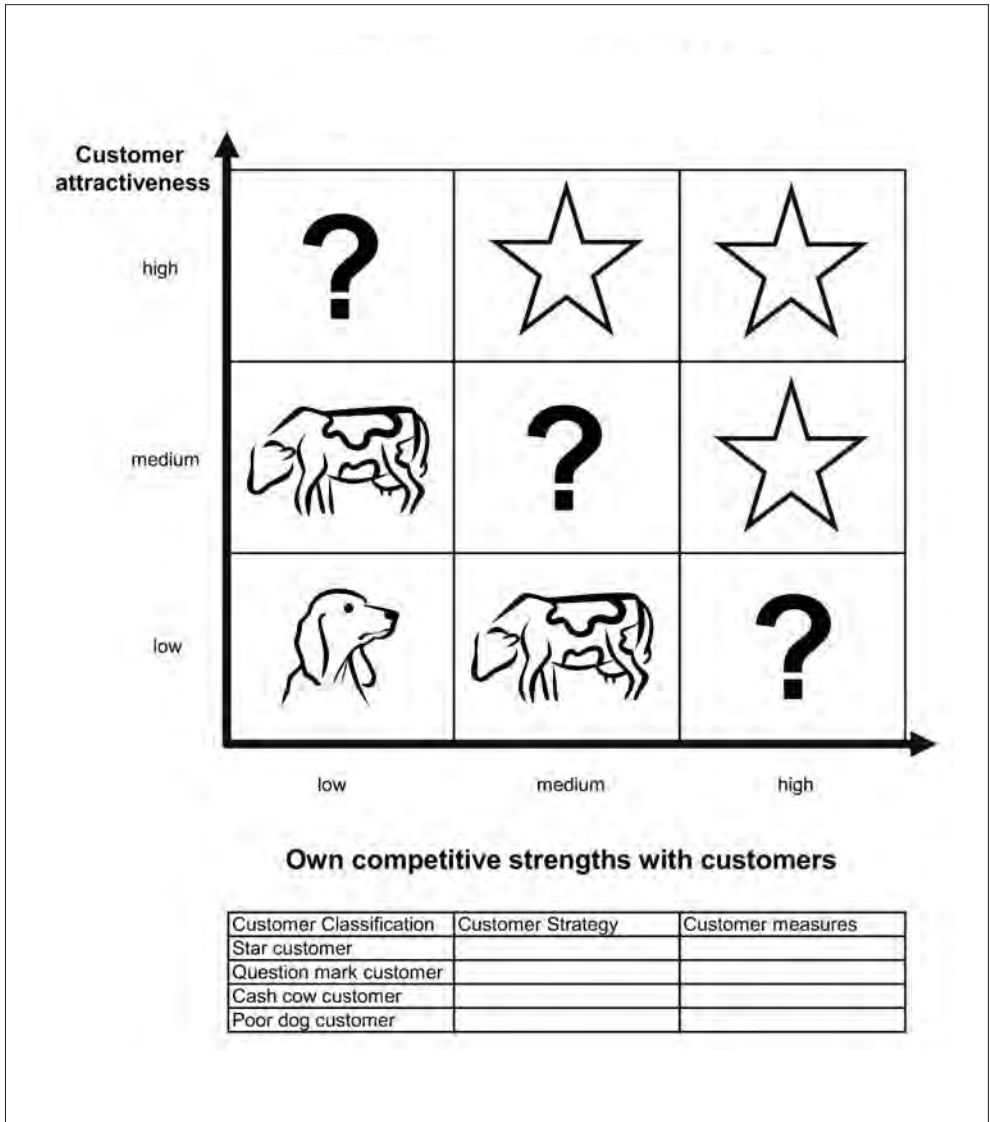
| Criteria | Age | Income / assets | Products / consultation | Turnover share | |
|---|---------------------------------|-----------------|--|----------------|--------|
| | | | | Presently | future |
| Target groups | | | | | |
| 1. Customer Q expects sophisticated service | middle aged | higher income | demanding investment consultation | 15% | 20% |
| 2. Customer P price conscious | younger customers | lower income | greater demand of loans | 25% | 30% |
| 3. Customer B comfortable | younger customers | higher income | simple investment products | 10% | 15% |
| 4. Customer E expects excellent service | middle aged and older customers | great fortune | Investment Counselling Investment management | 5% | 10% |
| 5. Customer U indifferent | elderly customers | lower income | no great service expectations | 45% | 25% |

| Criteria | Turnover share | | Share of profit | | Importance for us | Customers' decision criteria | Risks for us | Measures |
|----------------------|----------------|--------|-----------------|--------|-------------------|------------------------------|--------------|----------|
| | presently | future | presently | future | | | | |
| Target groups | | | | | | | | |
| 1. | | | | | | | | |
| 2. | | | | | | | | |
| 3. | | | | | | | | |
| 4. | | | | | | | | |

40 | Customer analysis



41 | Classification of competition parameters



42 | Customers Portfolio

In order to achieve innovative approaches with the fulfillment of customer wishes, Ives & Learmonth suggests putting questions directly to the customers on the basis of **product life cycle from customers' perspective**. This is represented in the following table.

| Product life cycle from customers' perspective | Specific Information |
|---|----------------------|
| <p>1. Expectations from the product (inquiry into need)</p> <p>1.1 Ascertain from the company's perspective, expectations in view of the necessary resources. Question: »What are the customer's needs and when does he have them?«</p> <p>1.2 The customer has to provide information on his specific wishes. The question is: »what does this customer specification look like?«</p> <p>2. Product acquisition (Procurement)</p> <p>2.1 Determine where customers wish to procure these products. Question: »How does the customer arrive at a choice of suppliers?«</p> <p>2.2 Contract conclusion Question: »How and with which communications means is a contract awarded?«</p> <p>2.3 Solvency inquiry and mode of payment Question: »How can solvency be checked and what method of payment is assumed?«</p> <p>2.4 Delivery of goods Question: »How should delivery be effected?«</p> <p>2.5 Control and receipt of goods Question: »How does the customer check the goods/services and how does he receive these?«</p> <p>3. Use</p> <p>3.1 Stocking/classification in the current stock Question: »How would the product or service be integrated in customer's organization?«</p> <p>3.2 Collation and administration Question: »How would the service be collated and administered?«</p> <p>3.3 Repeat order/Increase of performance Question: »How can the customer's desire to increase his performance be covered?«</p> <p>3.4 Maintenance/Repairs Question: »How are repairs and maintenance effected?«</p> <p>4. Conclusion</p> <p>4.1 Sales/Return Question: »How can the customer sell or return the products?«</p> <p>4.2 Product costing analysis Question: »How does the customer calculate the final costs?«</p> | |

Both authors recommend a critical analysis of both questions and to explore other possibilities for improvement. The subdivision of a business transaction into 13 subsections allows for a strong starting point for innovations.

4 MICHAEL PORTER'S ANALYSIS MODEL

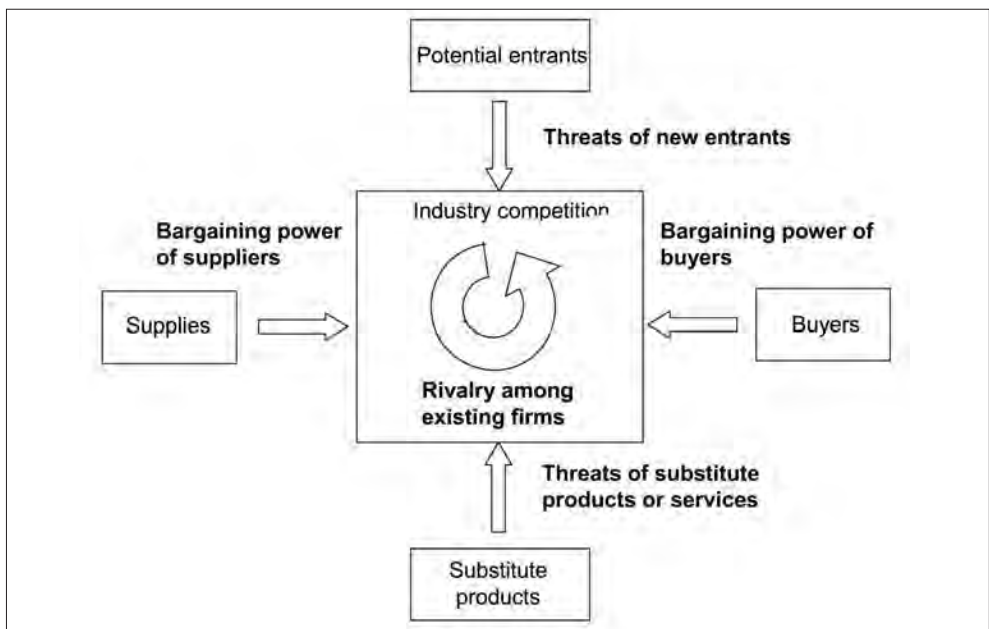
Michael Porter has intensively occupied himself with competition analysis. Most popular was his competition model, from which emanate the following five competition forces (See illustration »The five forces of competition«):

- 1 Rivalry among existing firms
- 2 Bargaining power of buyers
- 3 Bargaining power of suppliers
- 4 Threats of new entrants
- 5 Threats of substitute products and services

The goal of a competition strategy for a firm means the finding of a position where

- it could best protect itself against competition forces or
- it will be able to positively influence this.

In the following analysis, the five forces of competition will be treated more as a form of question. From this, it will be possible to develop thoughts concerning future strategies. For example, the choice of customers is an important method for a company in improving on its strategic position



The Porter model transcends the classical competitive and customer analysis.

It relates to

- supply analysis,
- the extension of competitors' analysis through to the analysis of new entrants and
- the analysis of substitute products and services.

Rivalry among existing firms results from efforts of all competitors to improve their market position. The inter-dependence of the market is clearly evident through the impacts of measures taken by a firm on its rivals. Under normal circumstances, this leads to a bitter fight for the basis among existing competitors and subsequently, there is reduction in profitability potential in such a commercial branch.

The **Buyers** -depending on the market force - are in a position to play the competitors against one another in which they press the price or demand for better quality and services.

The competition force of **Suppliers** is evident when they use their bargaining power by threatening to increase price or to reduce quality.

Threats from **new Entrants** could present a danger for established firms through an increase in intensity of competition in the industry. An enlargement of capacities will influence profitability potentials among existing firms. This threat is mainly dependent on market entry barriers and the foreseeable reactions of existing firms.

There is a threat from Substitute products particularly in such industries known for high profit margins.

In the following, the five forces of competition are described in a question form. These check list are based on Porter's considerations. It is recommended to provide answers to these questions – but putting the particular situation of the organization at the back of the mind – and eventually analyze them.

| Product life cycle from customers' perspective | Specific Information |
|--|----------------------|
| <p>1. Analysis of competitors</p> <ul style="list-style-type: none"> - How does the development potential of the industry look like? - Which strategic targets are the basic competitors pursuing? - What is the attitude of the competitors concerning price, service, quality and consulting? - Are the competitors after the same target groups? - How is the competitor's structure? - Are exit barriers high for the individual competitor? - Are buyers' preferences slight? - Could other distribution channels be considered? <p>2. Analysis of the customers</p> <ul style="list-style-type: none"> - How is the customer structure? Buyer <ul style="list-style-type: none"> - Private, - Firms, - State-run establishments, Buyer volumes, <ul style="list-style-type: none"> - Turnover, - Quantity, - Conditions, Buyer concentration - Are buyers dependent on the offered services? - What meaning does a product/service have for the customer? <ul style="list-style-type: none"> - from his perspective - from »our« perspective. - Which kind of basic decision-making criteria do customers have? <ul style="list-style-type: none"> - Price, - Service, - Quality, - Consulting. - How does customers' dependency look like? <ul style="list-style-type: none"> - on product - on service - Can buyers execute a backward integration? <p>3. Analysis of the Suppliers</p> <ul style="list-style-type: none"> - Is there a high concentration of suppliers? - Is the volume of the order of great importance to the customers? - Do suppliers have an influence on cost structure and on differentiation? - Are the purchased parts highly standardized? - Are there other possibilities of process improvement? - Is there a relatively high independence on suppliers as far as technology and consultation are concerned? - Would there be only slight costs involved in a case of a change of suppliers? - How big is the chance of a forward integration from suppliers? - Is there the danger of a backward integration from competitors in this branch? | |

| Product life cycle from customers' perspective | Specific Information |
|--|----------------------|
| <p>4. Analysis of possible new entrants</p> <ul style="list-style-type: none"> - Would existing firms react strongly to new entrants? - Is the market generally saturated? - Is it difficult to get into products supply and services? - Is there the existence of considerable buyers' preferences on the ground of cost advantages of differentiation? - Are there other preferences for existing firms? - Do new entrants require a huge capital to get started with? - Is there the fear that suppliers or buyers aid entry of new competitors? - Is the trademark-identity high? - Are restrictive measures to be expected from the government concerning new entrants? <p>5. An analysis of threat through substitution</p> <ul style="list-style-type: none"> - Is the product still in the early stages of its life cycle? - Could the buyers already assume unique additional use? - Are the products sensitive to price? - Are there patents for the products? - Is there demand for a great know-how for the products? - Is it possible to effect quick changes in product characteristics? - Would there be serious problem in achieving price or differentiation advantages with the new products? - Would subventions increase substitution danger? - Is the danger associated with substitution instigated by environmental influences? | |

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

3 PRODUCT ANALYSIS

WITH THE HELP OF PORTFOLIO METHODS

AIM(S):

The aims of portfolio-methods are among other things, to support strategic action-taking process, systematic management of resources, help recognize success-potentials and to be able to orientate oneself to the development potentials.

CONTENT:

- 1 Goals and content of the methods
- 2 The implementation of portfolio-methods
- 3 New valuations of portfolio-methods

INSTRUMENTS:

- Classical valuation of portfolio-methods
- New valuation of portfolio-methods

IMPLEMENTATION(S):

- Product analysis
- Product groups' analysis

UTILITIES:

- Objectifying product decisions
- Transparency in product landscape
- Prioritizing assistance in product investments
- Optimization of decisions

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Portfolio-methods: usable in all function areas

1 GOALS AND CONTENT OF THE METHODS

The Portfolio-methods were based on the Portfolio-Selection-Theory invented by Markowitz at the beginning of the 1950s. This theory aims at the financial decision making process and it attempts to achieve an optimal mixture of capital investments. The optimization of capital investments or the efforts to achieving optimal portfolio, demands that financial investments are be conducted in such a way that for each risk investment engaged in, there is the focus on profit- maximization and for every return, the risk factors are reduced to the minimum.

This theory was carried out in production. The fundamentals of Productportfolios constitute the Product life cycle model. This cycle shows the typical course of the

- 1 Formation phase
- 2 Growth phase
- 3 Matured phase
- 4 Saturation phase

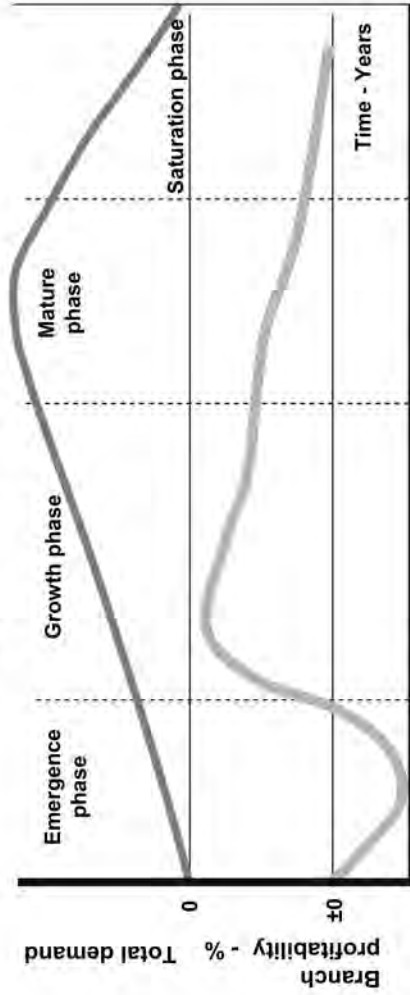
In the individual phases, the following phases are quite different from one another.

- Turnover,
- Profit,
- Market potential,
- Market share
- Cash flow,
- Profitability,
- Technology, etc.

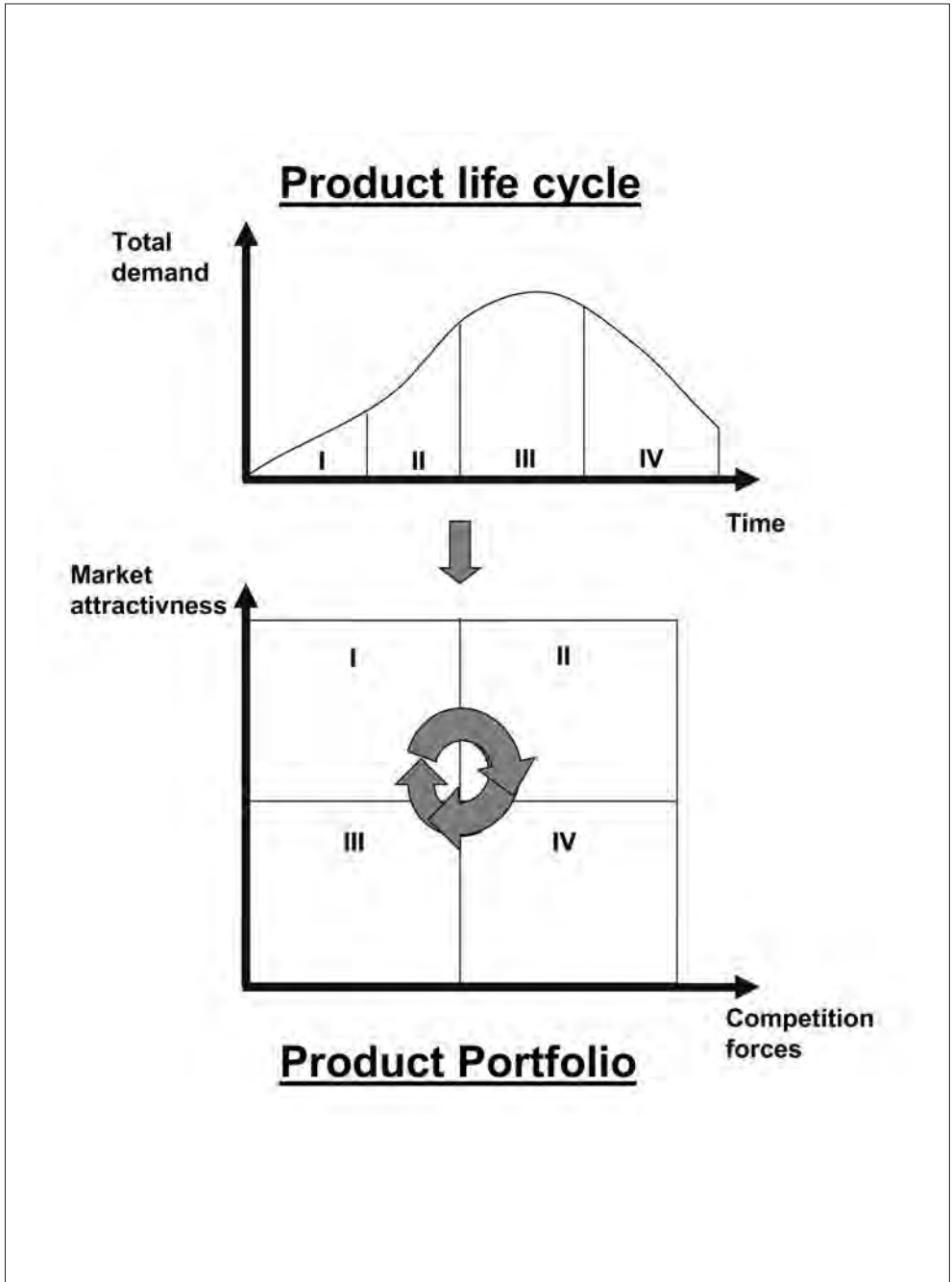
This is why efforts must be made to ensure that the product portfolio is of optimal mixture. This means that there is a good mixture of products from the individual life cycle. From this background, product portfolio has the assignment of optimizing the products and production program in relation to such goals set by the company. In doing so, it must be assumed that the current production program already includes such products from which profit is guaranteed. Furthermore, it must be ensured that investment decisions are taken only for products that guarantee profits in the future.

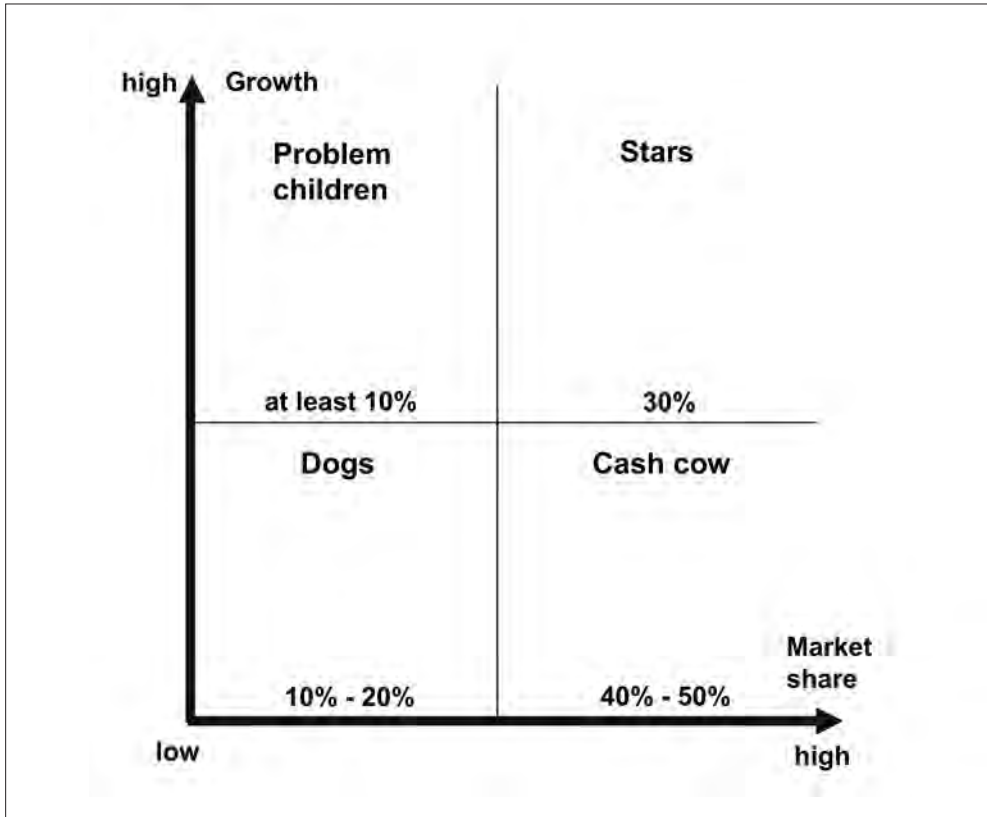
If we carry the four phases of product life cycle over into a matrix, which on its own is based on the axis of market attractiveness and competition forces, what we have are four fields (See illustration »Product life cycle« and »Product portfolio« and »Product analysis«), provided we classify the axis as low and high.

Product life cycle



| | | | | |
|---------------------|--|------------------------|--------------------------------------|------------|
| Capital requirement | High | High - medium | Low | decreasing |
| Profitability | Negative | Positive | Positive | |
| Main problems | Competitor / technology differentiated | Production / Marketing | Substitution to customer orientation | |
| Technology | | Standardised | | |





46 | Portfolio analysis

The four fields could be described as follows:

FIELD I:

DESCRIPTIONS: Question marks; Offspring-products (Replacement products)

CHARACTERIZATION:

These offspring products are characterized as question mark products because their development is questionable. Either they receive massive resources inputs that would enable them secure respective market share (investment strategy), or they may have to be completely taken off the production line as a result of low marginal market chances (disinvestment strategy).

| | |
|------------------------|-------------------------------|
| Financial requirement: | High |
| Profit/Loss: | Loss |
| Profitable efficiency: | Negative |
| Organizational level: | Improvisation/ Learning curve |
| Degree of automation: | Low |

FIELD II:

DESCRIPTIONS: Stars; Star products

CHARACTERIZATION:

These products are expected to do well because they have a high market potential. The market share is expected to increase. As a result, there is the necessity for an investment strategy that provides for expansion or that strives to defend the market share.

| | |
|---------------------------|-----------------------|
| Financial requirement: | High-medium |
| Profit/Loss | Progressive profit |
| Profitability efficiency: | Positive |
| Organizational level: | Aspiring for standard |
| Degree of automation: | High |

FIELD III:

DESCRIPTIONS: Cash cows

CHARACTERIZATION:

These products are characterized by a high market share and a low market growth. In this phase, a firm must be able to exploit cost advantages in order to realize profits. Because of the fact that there is no more market potential and the fact that no new investments are possible, the strategy

would be to exhaustively make use of available material. The cash cows are expected to maximize cash flow. New investments are made possible with the realized financial surpluses.

Financial requirement: Medium
 Profit/Loss: Higher profit
 Profitability efficiency: Positive
 Organizational level: Matured standards
 Degree of automation: High

FIELD IV:

DESCRIPTIONS: Dogs: poor dogs; lame ducks; discontinued products; problem products.

CHARACTERIZATION:

Market share on the reverse or is already very low. Products are only able to bring low profit margins. The following are possible strategies:

- Harvest strategy
- Life sustenance strategy
- Disinvestment strategy.

Financial requirement: Low
 Profit/Loss: Reducing profit
 Profitability efficiency: Reducing
 Organizational level: Strengthened adaptation to the wishes of the market
 Degree of automation: Striving after strengthened flexibility.

Profits made through the **cash cows** contribute to the making of **stars** out of **question marks** and these (question marks), seen on the long term, eventually take the position of cash cows. Question marks that couldn't attain the status of a star would be skimmed off; they find their way in Field IV (Dogs) and finally, disappear from the program.

The objective of portfolio analysis is to balance the products portfolio of a company. This is the case when each quadrant is adequately represented by Products/ Product-groups. Simultaneously, a few statements will be made about the representation of each of the fields as follows:

- 1 Question marks 10 - 20%
- 2 Stars 30 - 40%
- 3 Cash Cows 30 - 40%
- 4 Dogs 10 - 20%

2. APPLICATION OF THE PORTFOLIO METHODS

For practical application of Portfolio methods, it is imperative to solve three primary problem fields:

- 1 Determining areas of operation (the so-called business units or business fields), in which the firm should invest or disinvest.
- 2 Compilation and evaluation of criteria after which each of the business fields are to be appraised.
- 3 Graphical presentation of the positioning of business fields in a matrix.
- 4 Arriving at conclusions.

The topic areas are going to be more explicitly examined.

2.1 DETERMINING AREAS OF BUSINESS UNITS

The following could be seen as business units/ business fields:

- Products/Services,
- Product lines/Service-lines,
- Profit Center,
- Product and Market combinations,
- Other areas of operation.

Typically, a business field is an integral part of an enterprise that require own strategies, independent of other field of the organization. Products and services in such independent business fields should be as homogenous and as comprehensive as possible.

In determining business branches, the target has to be to integrate such branches that are seen as highly homogeneous. In agreement with Weissman, who has dealt intensively with marketing strategies, the following features could be adduced to in the determination process of strategic business units:

| Checklist on the determination of business units | | | |
|---|------------------------------------|--------------------------|--------------------------|
| Features | Products and Product Groups | | |
| | Product | Product | Product |
| 1. Product features | | | |
| Homogeneous with respect to | | | |
| • Price level, | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Quality, | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Product life span | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Product usage | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Market features | | | |
| Homogenous with respect to | | | |
| • Customer circle (Buyers) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Supply systems, | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Sales region, | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Competition situation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Firm's features | | | |
| Homogeneous with respect to | | | |
| • Costs structure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Production technology | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Research complexity | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| • Financial requirement | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Total number of conformities | | | |

After working through these check lists, we would be able to confirm to what extent available Product Program/Products conform to one another in view of the above mentioned individual features. We can make a (x) sign in front of each of the conformities. The higher the number of conformities, the easier it is to categorize this as a business unit.

2.2 PRESENTATION AND EVALUATION OF THE CRITERIA ON THE BASIS OF MARKET ATTRACTIVENESS AND COMPETITION FORCES

The two coordinates of this portfolio matrix are the »Market attractiveness« and the »Relative competition forces«. The fundamental appraisal criteria for market attractiveness and the relative competition forces emanate from the following illustrations »Factors of Market attractiveness (Example: Industry)« and »Factors of competitive forces (Example: Industry)«. Understandably, this criterion catalogue of criteria can also be applied in other branches of the business irrespective of its size.

FACTORS OF MARKET ATTRACTIVENESS

(Example: Industry)

| Evaluation factors | Emphasis | Interpretation |
|------------------------------|----------|--|
| Market size | | Market volumes, number of potential customers |
| Market growth | | Trends, life cycle stage |
| Risks | | Risks from economic situation, political risks, success risks |
| Competition situation | | Rigor of competition, costs leadership, differentiation, niche strategy, competitive markets |
| Market position | | Quality and quantity of customers and suppliers' relationships entry and exit barriers |
| Instruments of supply policy | | Status, chances for new supply channels, price sensitivity, innovations |
| Profitability | | Costs, investments, interference, negotiation power |

FACTORS OF COMPETITIVE FORCES

(Example: Industry)

| Evaluation factors | Emphasis | Interpretation |
|-----------------------|----------|---|
| Relative market share | | Market share in important segments |
| Products and services | | Quality of market performance: price, service, logistic, consulting and system solutions |
| Product range | | Breadth and depth of product range |
| Costs | | Procurement costs, production costs, supply costs, cost advantages and cost disadvantages |

| | | |
|-----------------|--|--|
| Image | | Image for the whole organization as well as for individual products |
| Technology | | Status, perspectives in the implementation and production technologies |
| Success factors | | Distinctiveness of the most important success factors compared with those of the competition |

Market attractiveness

| Factors | Quantification | Product / Customer groups | | | | | | | |
|---------|----------------|---------------------------|--|--|--|--|--|--|--|
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Competition forces

| | | | | | | | | | |
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| | 100 | | | | | | | | |

The criteria are to be specified and interpreted accordingly. On how the criteria are weighted on the scale of importance, it must be said that the criteria could have different influence on each venture. In the column »Weighting«, we usually employ the two following indicators:

- Percentage values or
- Multipliers

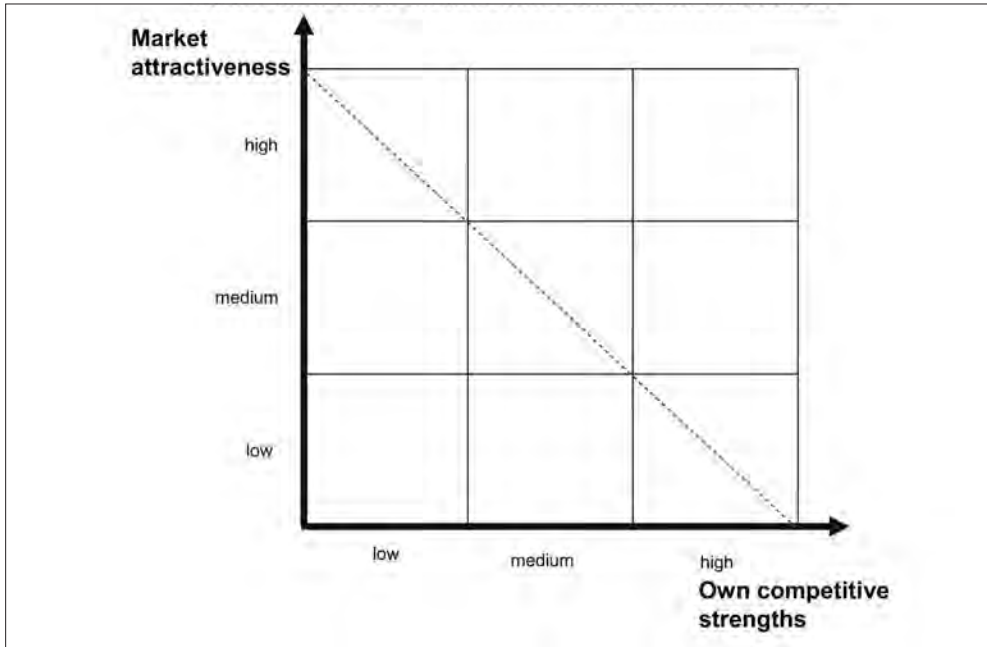
In the following examples, percentage values are used. For individual implementations, the illustration »Questionnaire for ascertaining portfolio factors« is recommended. Individual criteria are to be entered and weighted. Concerning the rating, the following expositions are recommended.

2.3 GRAPHICAL PRESENTATION OF POSITIONING OF BUSINESS FIELDS IN A MATRIX

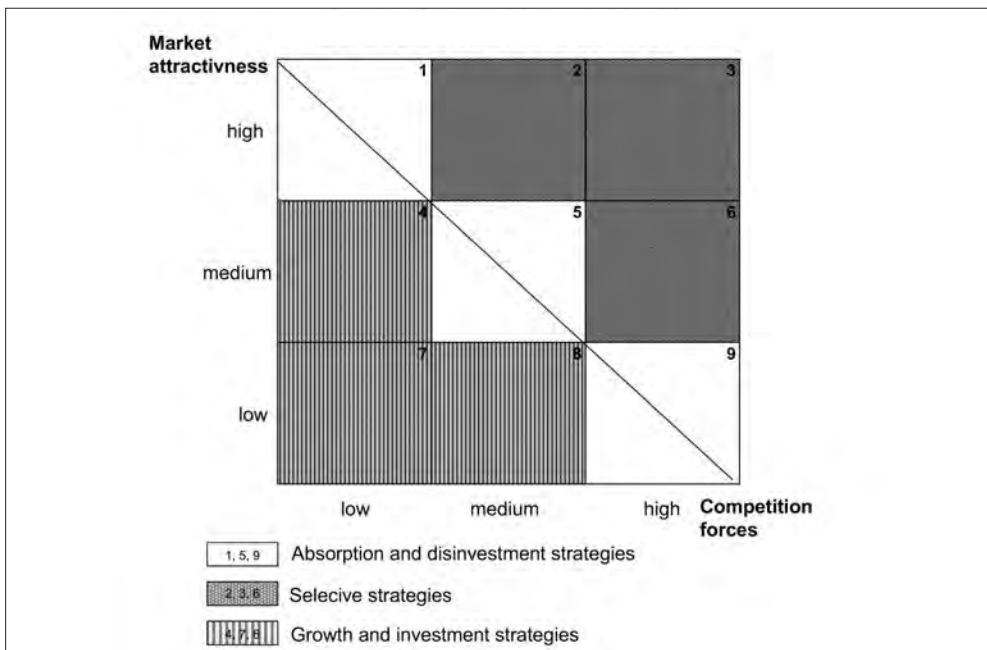
The Portfolio-matrix with the four fields does not present us with a sufficiently meaningful classification of products. This is why the classical classification on the premise of »low« and »high« is expanded upon. A further dimension »medium« is introduced. This is why we have instead of the Four-Field-Matrix, a Nine-Field-Matrix. The consulting firm McKinsey professionalizes this system (See illustration: »The Portfolio Analysis according to McKinsey«).

The new fields could be characterized as follows: (See illustration »Strategic Orientation according to Portfolio Management«):

- 1 **GROWTH FIELDS** (right side of the axis)
To these fields count also fields 2, 3 and 6. Efforts will be made here to develop an investment strategy. Here, the market permits expectation of a strong growth and a good prospect of success. However, efforts required for individual ventures are mostly high because the attractiveness provided by the market is also open to other firms.
- 2 **HARVEST FIELDS** (right side of the axis)
Fields 4, 7 and 8 lead to disinvestment strategy because there is nothing special to expect from further investments.
- 3 **SELECTION FIELDS** (laying on the axis)
You will have to make selections on the basis of assessment made of each position. In these new fields, we have the »Offspring products« which could feature strongly on its introduction to the market but whose competitive position is still relatively weak.



48 | Portfolio analysis according to McKinsey



49 | Strategic orientation according to portfolio management

If we apply symbols »Question mark«, » Stars«, »Cow Milk« and »Dogs«, then we may have such a classification as presented in the illustration »The Portfolio-Analysis (classical approach)«.

In order to be able to classify the business fields, the coordinates are going to be divided in numbers:

| | |
|---------|-------|
| Low: | 0 - 1 |
| Medium: | 1 - 2 |
| High: | 2 - 3 |

With the above constellation, a direct classification is possible in the matrix. This is made very clear in the example as developed by Schierenbeck. This example comprises the four illustrations:

1 FACTORS OF MARKET ATTRACTIVENESS

(Example: banks)

This illustration contains

- the evaluation factors,
- weighting of the factors,
- interpretation of the factors.

With the interpretation of the factors, it is to be assumed that is a classification of 0-3 for each criterion.

2 FACTORS OF COMPETITION FORCES

(Example: banks)

This factor is also analogically classified under market attractiveness.

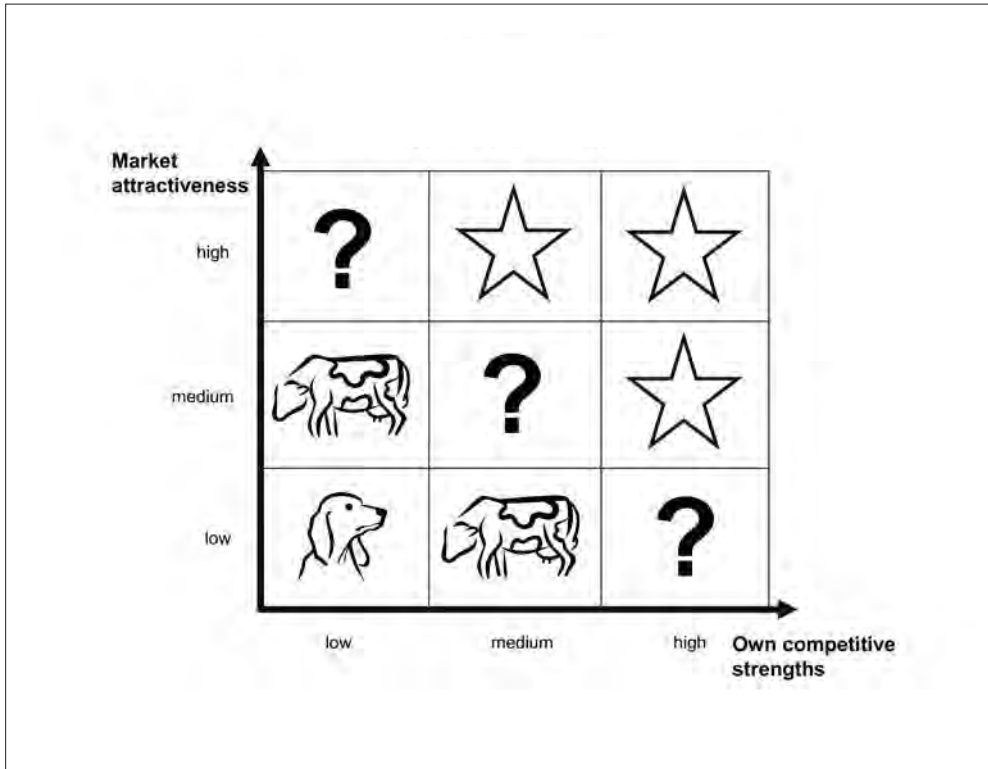
3 PORTFOLIO-ANALYSIS

(Example: banks)

This illustration summarizes the two preceding illustrations and contains in addition the classification of customer groups. Here, customer groups were declassified - however products and product groups can be analogically be represented here.

The classification of Private Customers (PC) is represented with 1.93 for market attractiveness and with 2.07 for competition forces. These values derive from the weighting calculations and the respective ratings. This is briefly referred to by inquiry into the real value of market attractiveness. This emerges from the sum of:

| | |
|-------------------|------------------------|
| • Volumes | $0.12 \times 3 = 0.36$ |
| • Rival situation | $0.13 \times 0 = -$ |
| • Costs | $0.12 \times 2 = 0.24$ |
| • | • |
| • | • |
| Sum total | 1.00 1.93 |



FACTORS OF MARKET ATTRACTIVENESS

(Example: Banks)

| Evaluation factors/Weighting | Interpretation |
|---------------------------------|---|
| Market potential | |
| 1. Volumes | 12 e.g. sum total of deposits and borrowings 10-20= 0; 20-100= 1; 100-200= 2; 200= 3 |
| 2. Competitors' situation | 13 »Potential market share at appropriate profit margin (in relation to rivals)« e.g. market share 20%=0; 20-25=1; 25-30%=2; 30%=3 |
| Success | |
| 3. Costs | 12 »Share of reductive costs« (Reversible: with which % of additional costs can customers' groups be catered for or won over?) |
| 4. Profit margin | 19 »in % of ø stand« (Which potential profit margins are to be generated?) |
| Safety | |
| 5. Economic situation | 7 »Change of profit margin in the economic cycle« |
| 6. Political influence | 5 »How strongly can political influence affect the relationship to customer groups?« (strongly= bad for the bank) |
| 7. Customer behavior | 7 Customer readiness to change banks (e.g. because of product innovation, conditions among other factors) |
| Miscellaneous advantages | |
| 8. Products | 10 Demands of customer groups, measured against the most important products as offered by the bank |
| 9. Image | 7 How useful is it to the image of the bank to be represented in the respective customer groups |
| Future | |
| 10. Volumes | 4 1 model, viewed in medium term trend rising=3; remaining equal=2; falling=1; falling strongly=0 |
| 11. Success | 4 Models, concluding evaluation of 3 and 4 at the medium term |

FACTORS OF COMPETITION FORCES

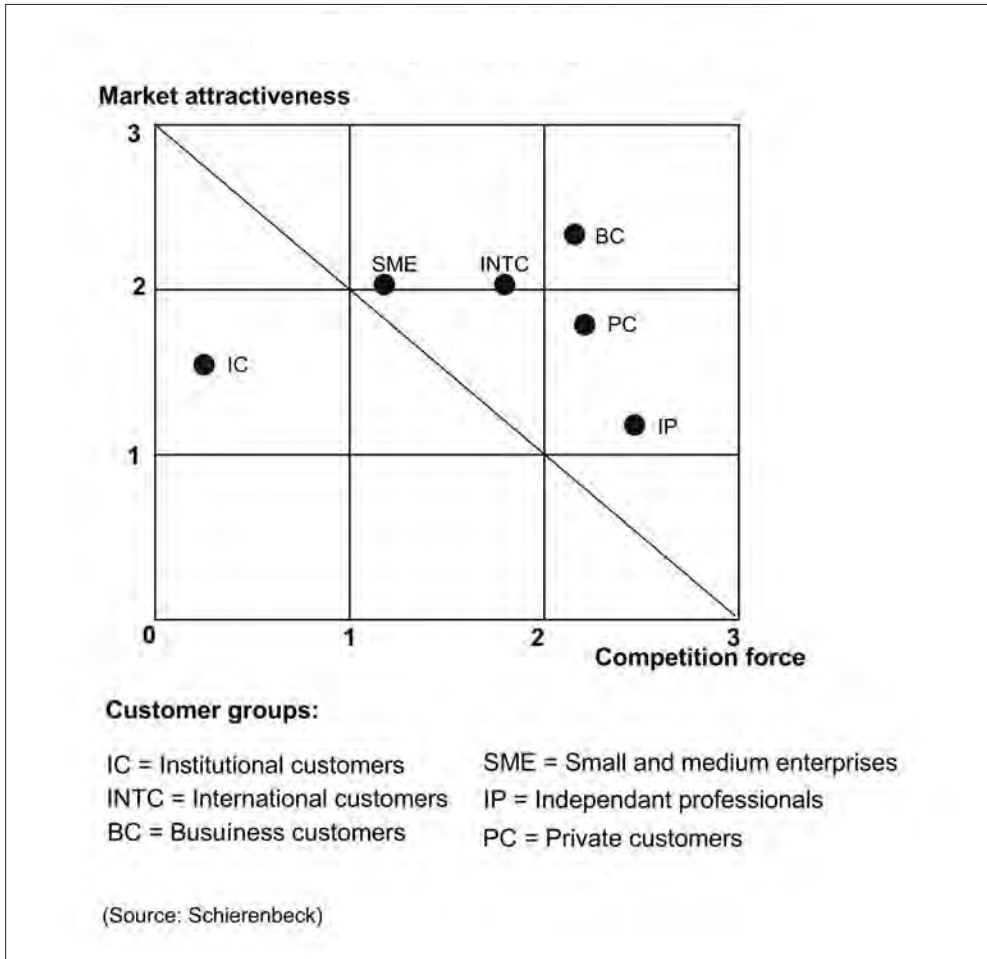
(Example: Banks)

| <u>Evaluation factors/Emphasis</u> | <u>Interpretation</u> |
|--|--|
| <u>Market prerequisite</u> | |
| 1. Achievements at implementations 10 | How successful is the bank at marketing its range of products? |
| 2. Supply network 13 | Customers' potential per service personnel and local proximity to customers in relation to rivals |
| 3. Range of products 8 | Does the bank have the necessary products to satisfy the needs of all groups of customers? Important products= 0; some products=1; some, a few= 2; none= 3 |
| <u>Market position</u> | |
| 4. Image 11 | How is the image of the bank with respective customers' groups? Very good=3; somehow good=2; somehow bad=1; very bad=0 |
| 5. Market share 14 | For example MS 20%= 0; 20-25%=1; 25-30%= 2; 30%= 3 |
| <u>Success</u> | |
| 6. Costs 11 | Model point 3 in the form »Market attractiveness« but based on the real values of the bank |
| 7. Profit margin 14 | Model point 4 in the form »Market attractiveness« but based on the real values of the bank |
| <u>Relative potentials for development</u> | |
| 8. Manpower 6 | Is there sufficient number of employees in comparison with other competitors? |
| 9. Acquisition performance 6 | The bank's market share grows strongly= 3; increases only lightly=2; is constant=1; is reducing=0 |
| 10. Internal information stand 3 | Quality of information between 1-9 |
| 11. External information stand 4 | Quality of our information between 1-11 as in the form »Market attractiveness |

| main factors quantification | part factors | Quantification of part factors | Customer groups | | | | | |
|--------------------------------|--------------------------|-----------------------------------|-----------------|------|-----|------|------|------|
| | | | INTC | IC | BC | JP | SME | PC |
| Market attractiveness | | | | | | | | |
| | volume | 12 | 3 | 2 | 3 | 0 | 3 | 3 |
| | market potential | | | | | | | |
| | 25 competitors | 13 | 1 | 1 | 2 | 0 | 2 | 0 |
| | success | | | | | | | |
| | costs | 12 | 1 | 1 | 2 | 2 | 1 | 2 |
| | 31 contribution margin | 19 | 2 | 0 | 2 | 1 | 2 | 2 |
| | security | | | | | | | |
| | economic situation | 7 | 2 | 2 | 2 | 2 | 1 | 2 |
| | 19 political influence | 5 | 1 | 1 | 3 | 2 | 2 | 2 |
| | customer behaviour | 7 | 3 | 1 | 2 | 1 | 1 | 3 |
| | other advantage products | 10 | 3 | 3 | 3 | 1 | 3 | 2 |
| | 17 image | 7 | 2 | 1 | 1 | 2 | 3 | 2 |
| | future | | | | | | | |
| | volume | 4 | 3 | 2 | 2 | 0 | 2 | 2 |
| | success | 4 | 2 | 1 | 2 | 1 | 2 | 2 |
| | 100 | 100 | 2,03 | 1,46 | 2,2 | 1,14 | 2,03 | 1,93 |

| Competition force | | | | | | | | |
|--------------------------|------------------------|-----|-----|------|------|------|------|------|
| coverage | performance | | | | | | | |
| market requirement | | 10 | 1 | 0 | 3 | 3 | 0 | 2 |
| | distribution network | 13 | 2 | 0 | 3 | 3 | 1 | 3 |
| | product line | 8 | 3 | 0 | 2 | 2 | 3 | 1 |
| relative market | image | 11 | 2 | 1 | 2 | 3 | 1 | 2 |
| position | 25 share of the market | 14 | 2 | 0 | 2 | 3 | 1 | 2 |
| success | | | | | | | | |
| | costs | 11 | 1 | 0 | 1 | 0 | 0 | 2 |
| | contribution margin | 14 | 1 | 1 | 1 | 0 | 2 | 2 |
| development | manpower | 6 | 2 | 0 | 3 | 3 | 0 | 3 |
| potential | 19 acquisition | | | | | | | |
| | performance | 6 | 2 | 0 | 2 | 3 | 1 | 2 |
| | information stand: | | | | | | | |
| | internal | 3 | 1 | 0 | 2 | 3 | 1 | 1 |
| | external | 4 | 2 | 1 | 2 | 3 | 2 | 1 |
| | 100 | 100 | 1,7 | 0,29 | 2,04 | 2,25 | 1,07 | 2,07 |

Source: Schierenbeck



52 | Classification in matrix portfolio (Example: Banks)

4 CLASSIFICATION IN THE PORTFOLIO MATRIX (EXAMPLE: BANKS)

The values of the individual customers' groups from preceding illustration are integrated in the matrix.

The calculation of the classification of a strategic business field is represented in a non complicated example for a product.

| Criteria | Emphasis | Rating | Value / Rating |
|---------------------------------|----------|----------------|----------------|
| Market attractiveness | | | |
| – Market size | 0.40 | 3 (very high) | 1.20 |
| – Market growth | 0.30 | 2 (medium) | 0.60 |
| – Efficiency | 0.30 | 3 (very high) | 0.90 |
| | 1.00 | | 2.70 |
| Competition forces | | | |
| – Relative market share | 0.40 | 0.5 (very low) | 0.20 |
| – Quality of market Performance | 0.40 | 1.5 (medium) | 0.60 |
| – Image | 0.20 | 0.5 (very low) | 0.10 |
| | 1.00 | | 0,90 |

If we attempt to determine the position of this product in the matrix, the following apply:

- Coordinate values regarding market attractiveness: 2.70
- Coordinate values regarding competition forces: 0.90

If we take the matrix and the corresponding new fields as the underlying factors (See illustration »Strategic Orientation according to Portfolio Management«), then this value (2.70/0.90) will be placed in Field 1. In this case, we have an offspring product which is still classified with question mark. This product would then be on its way to becoming a star provided the competitive strengths are improved upon (See illustration »The Portfolio-Analysis«).

The classical portfolio presentation derives from market attractiveness and competition forces dimensions. A third dimension could be introduced for example in the form of different sizes.

The meaningfulness of the matrix presentation can hence be improved upon if we represent products/product groups' spheres in a circle, whose surface area is proportional to attained annual income. This is intimated under the illustration »Strategies for European Union single Market – Countries' Portfolio, Product-Portfolio«. The specific application of a single portfolio for the EU single market serves the form »Strategies for the EU-Single market«.

2.4 DRAWING CONCLUSIONS

After the classification of products/product groups in the Portfolio-matrix, the following considerations are effected:

- Are the present product and product groups' situations satisfying?
- Which products/groups of products and in which capacity could be promoted?
- Which new activities can be set up?
- Where lie the most important strengths and weaknesses of individual products?

The objectives of the Portfolio analysis are made clearer with the following:

- Support for strategic actions,
- well directed controlling of resources,
- recognition of potentials for success,
- orientation after potential developments.

3 BASIC APPROACHES TO PORTFOLIO METHODS

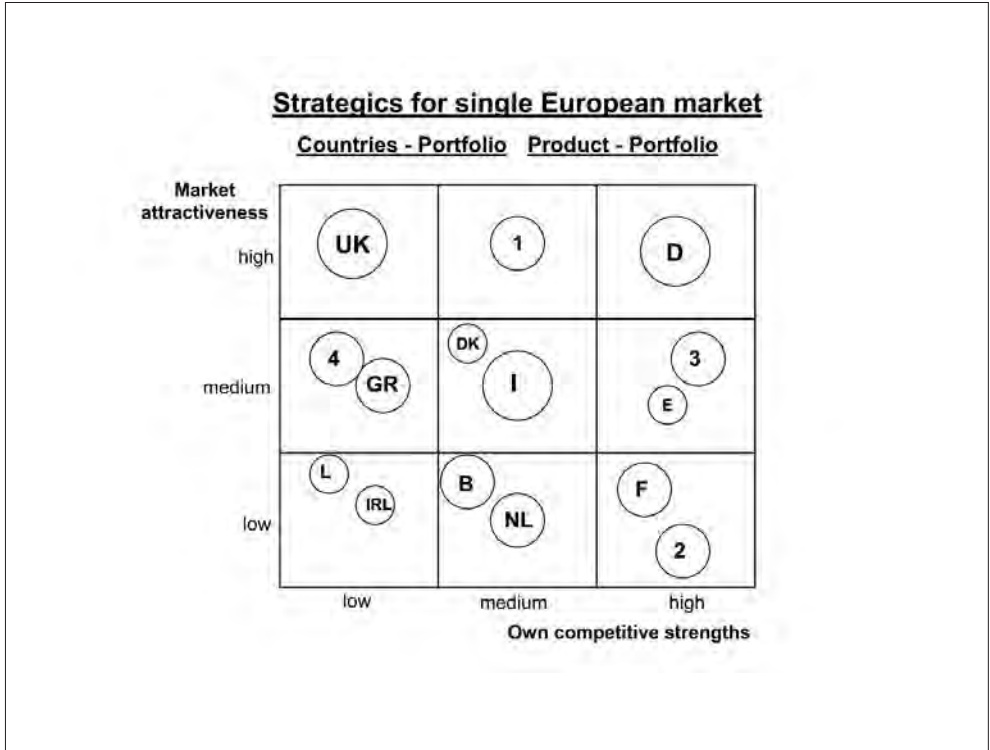
The portfolio analysis is based more or less on the assumption that there is a »Product life cycle curve« for products. Although it has been impossible to empirically and scientifically substantiate this claim in numerous cases, the practise functions on the four following premises:

- formation phase,
- growth phase,
- mature stage,
- saturation phase.

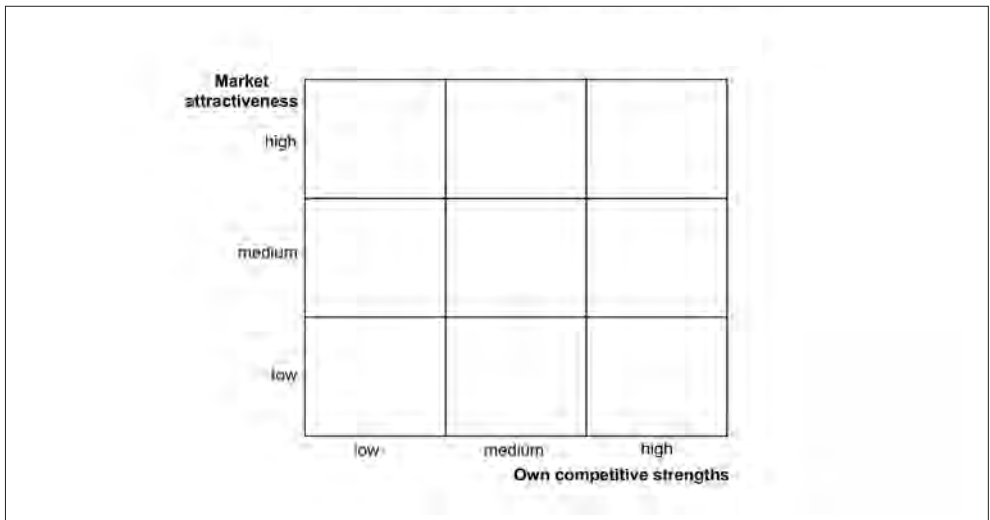
Numerous empirical inquiries have made it clear that product life cycles are increasingly becoming shorter. This assessment has been proven correct among other things in the

- utility goods' production,
- foodstuffs,
- electronic products,
- drugs.

The classical products life cycle and the classical product-portfolio have been going through continuous changes. Over the decades, the so-called »Quasi-Dogma« of the four phases in the realm of Product life cycle curve was valid (See illustration »Product-Life Cycle and Product-Portfolio«).



53 | Strategies for single European market



54 | Strategies for single European market

At the background, we have product life cycle ever becoming shorter and development costs ever increasing. As a result, both the product phases as well as portfolio sub-divisions are going to witness changes. For this purpose, the author has developed the three A's system. The A's stand for:

| Product phases | Portfolio subdivisions |
|-----------------------|------------------------|
| 1. Start-up phase | Start-up products |
| 2. Expansion phase | Expansion products |
| 3. Discontinued phase | Discontinued products |

As a result, we have the outlined process of product life cycle as illustrated in »Product-Life Cycle and Product-Portfolio (New approaches)«. We begin to notice a relatively high market growth even at the start-up phase through a series of comprehensive analyses and market tests. A higher market share is achieved through determination as well as through well tested acquisition systems and well tested product-introduction procedures. Nowadays, no one can simply allow himself the luxury of »Flops« at the inception of a new product. During the expansion phase, a company tries to at the least hold on to already acquired market share or even expand on this as compared with competitors. During the set-up phase, possible strategic orientations come into question. These include »Harvest strategy«, »Life sustenance strategy« or the »disinvestment strategy«.

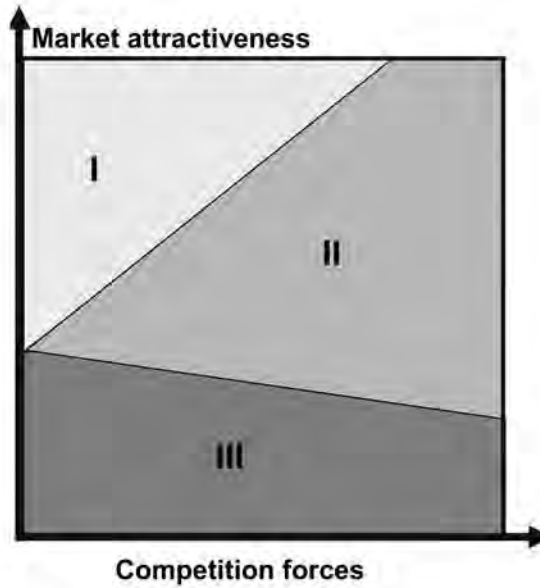
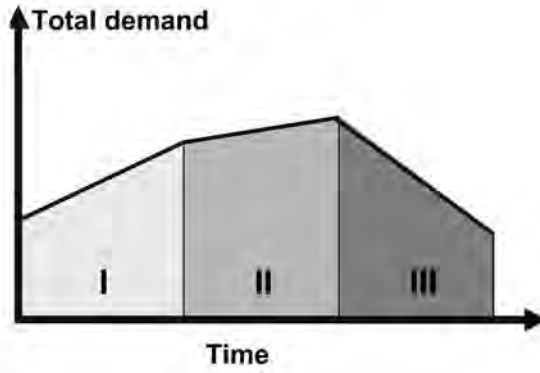
If we attempt to subdivide the following approaches

- Start-up phase
- Expansion phase
- Discontinued products

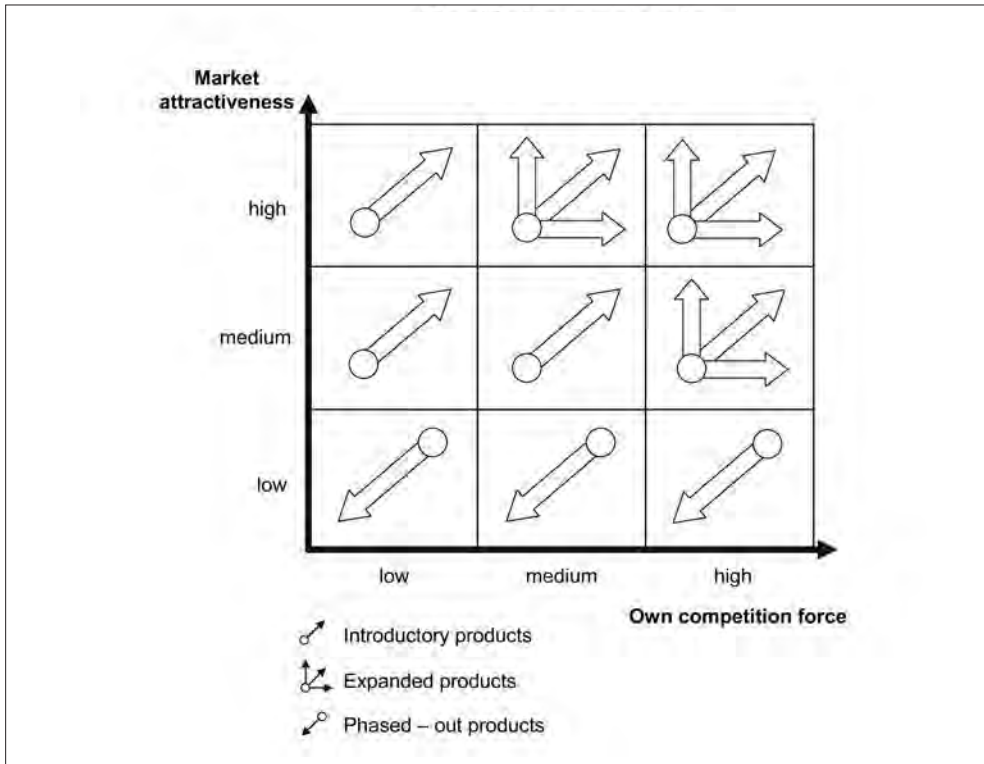
under the new Portfolio-matrix fields, the result is a new classification of the illustration »The Portfolio Analysis (New approach)«.

The future consultant and the publisher of RADAR for trends, Gerd Gerken is of the opinion that portfolio methods are a negative diagnostic instrument in turbulent markets simply because it makes it »before-time-operation« impossible through its rationality. »If a company operates for example on the portfolio basis, then it doesn't have the affront« to consciously produce several flops nor encourage the slowly burgeoning needs until a few things at last become visible and useful.«

Product life cycle
(New approach)



Product life cycle
(New approach)



56 | Portfolio analysis (new approach)

Certainly, no single methods could be seen as panacea. The exclusive focussing on the portfolio methods in product analysis could eventually become problematic. Just as linear and rational thinking belong to the left part of the brain characterised with distinctiveness and innovations, and linear thinking belong to the right side, it is this way that rational methods and creative considerations could be connected. We simply have to find a way to reconcile both. In addition, it would be pertinent to improve on methodical approaches and to be able to accordingly adjust to newest changes as much as this is possible. This is implied in the following contributions.

Adler is of the opinion that the portfolio methods have not been exhaustedly applied. He articulates the change more clearly when he expatiates that such criteria like market strength and market attractiveness should take the place of simple criteria like market share and market growth. Even these criteria are already experiencing continuing sporadic modification: the introduction of the concept of concentration on core competences. One concentrates on core competences, on the personal strengths of the firm. The growth strategies are based upon few core competencies for example, Genetic engineering or Electronic.

Core competencies are to be systematically chosen

- efficiently expanded upon and
- consequently protected.

The development process towards concentration on core competencies could eventually be:

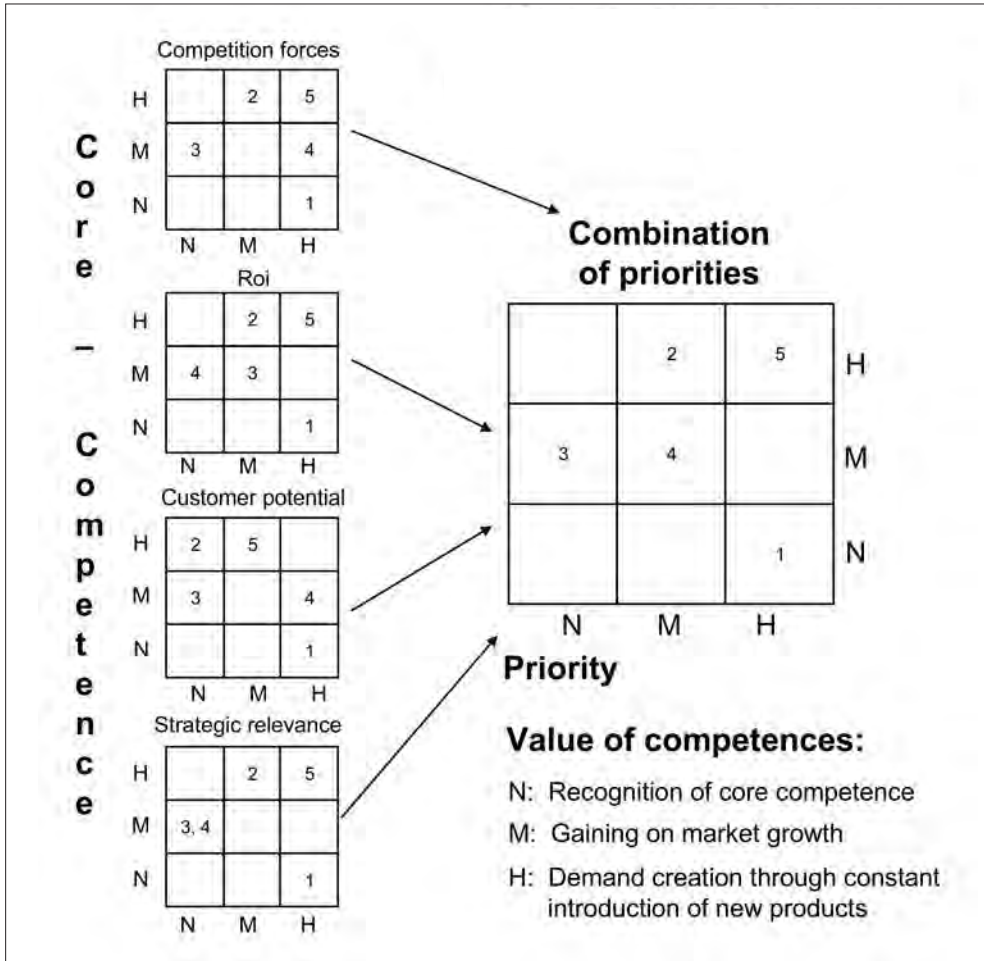
- 1 Recognition or identification of core competencies as basis for growth,
- 2 Gaining on market growth and
- 3 Creation of want through by constantly generating a flow of new products.

For the purpose of classification of ideas, we could apply the portfolio methods as well. A basic approach towards its realisation is shown in the illustration »Core competence and Portfolio Analysis«. With this variation, we assume four evaluation groups:

- 1 Competition strengths,
- 2 ROI,
- 3 Customers' potential,
- 4 Strategic meaning.

Each product group is initially classified under the four matrix presentations. Only then is it evident that same product group can differentially occupy the individual matrix fields.

After a subdivision into four matrix illustrations, what follows is the combination of all product groups in a consolidated matrix. It presents a view of the classification of all product groups. Of most important relevance to an organisation in this categorisation are product groups with higher distinctive evaluation criteria.



ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

4 ANALYSIS OF COMPETITION STRATEGIES

AIM(S):

A clear strategic orientation is a fundamental factor of a successful entrepreneurship. This contribution addresses the most important basic strategic orientations and seeks to provide concrete recommendations for the implementation of strategy of cost leadership as well as for the strategy of differentiation or niche strategy.

CONTENT:

- 1 The foundation pillar of corporate strategy,
- 2 The strategic basic orientation,
- 3 Recommendations for practical applications.

INSTRUMENTS:

- Elements of modern corporate management
- The 3-Strategies-System
- Functions of market share
- The 3-Utilities-Categories
- The 5 B's in customer orientation

IMPLEMENTATION(S):

- Compilation and implementation of strategies
- Orientation assistance for all function areas

UTILITIES:

- Recognition of chances and risks of individual competition strategies
- Choice of adequate strategy
- Concentration on the basic advantages and additional advantages
- Classification of customer orientation

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- 3-Strategies-System: application in all function areas
- Market share functions: for all product analyses and service analyses
- The 3-Utilities-Categories: applicable on all product and service offers
- Classification of customer orientation: internal customer analysis

1 THE FOUNDATION PILLAR OF CORPORATE STRATEGY

The compilation and implementation of corporate strategies belong to one of the most pressing tasks of management. The four foundation pillars for the development of strategies (For this, see illustration »Fundamental principles for the development of a strategy«) are:

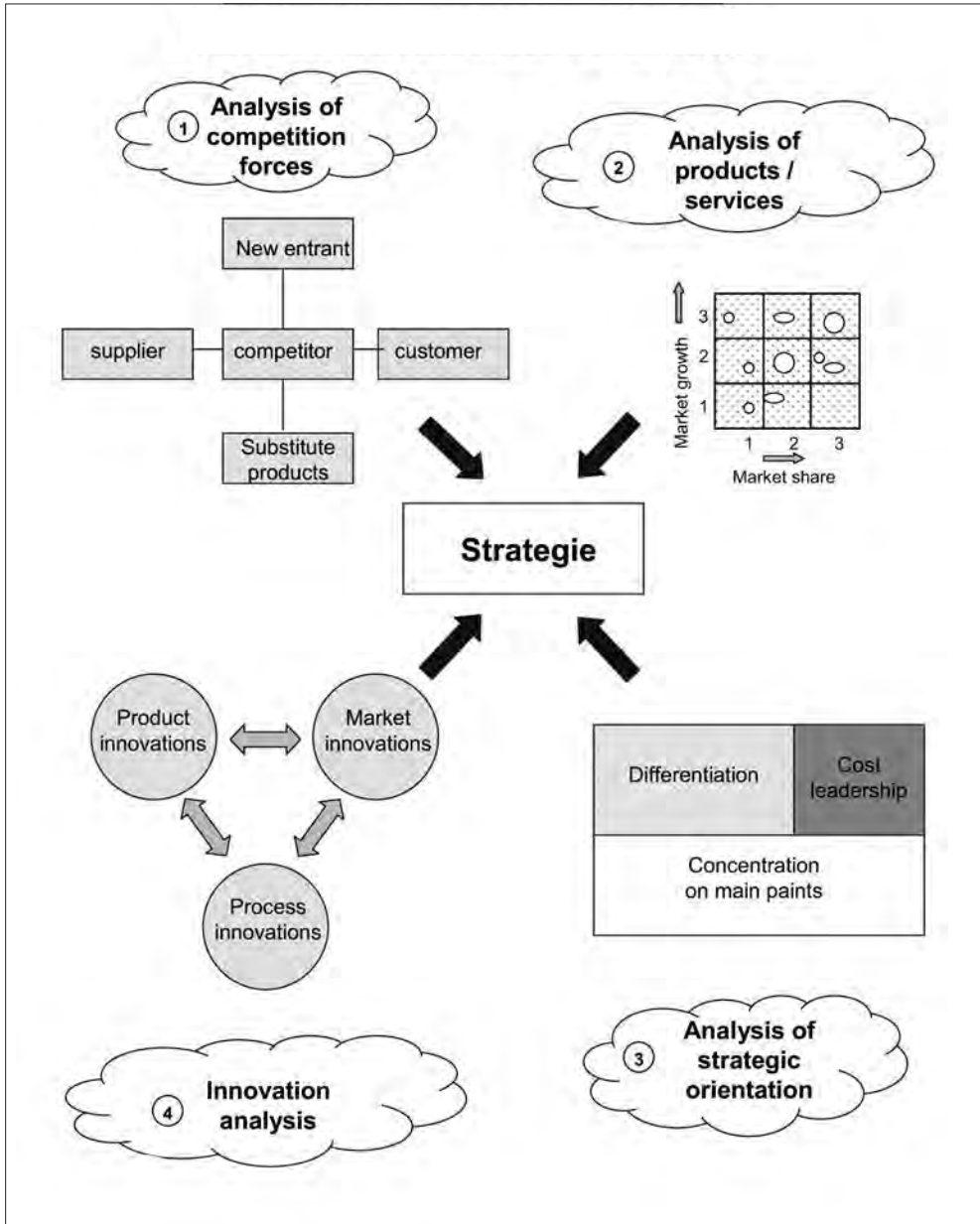
- 1 The analysis of competition forces
- 2 The analysis of products and business fields
- 3 Analysis of the three corporate strategies
- 4 The analysis of innovations

In the essays »Competition analysis - methods of analysis of competitor, customers and suppliers, Chapter 1: Strategic management, Second essay and »Product analysis with the use of portfolio methods«, Chapter 1: Strategic management, third essay, the first two pillars are elaborately discussed. This essay deals with possible major points of a strategic orientation. The next essay in this chapter is reserved for »Innovation management«.

What we understand nowadays under strategy is the long term framework for an organizational or an administrative unit, within which decisions are taken both on the short and medium terms. Strategies often comprise of a planning horizon spanning over several years.

They concretize the vision of an organization and determine the orientation of long term goals (See illustration »Essential elements of modern corporate management«).

Occasionally, there are such critics that call into question the usefulness of a clear strategy. At this point, we can only refer back to the numerous conducted researches that have attested to the fact that a clear-cut strategic orientation is an essential factor of a successful organization. Operative decisions can only be optimally efficient if they are effectively incorporated in the overall strategic conception of an organization. Prospective winners don't just pursue a strategy that ensures their future existence today; they also initiate future development today. The success of the development and implementation of strategies are in most cases not immediately visible. This is of course no reason to be discouraged. Success is not always easily comprehensible as in wood chopping. Albert Einstein described this process as follows: »Wood chopping is so popular because you can immediately see the successful result of the labor«.



| | Questions | Examples |
|-----------------------------|---|---|
| Vision | <ul style="list-style-type: none"> • Which technological trends stand out? • How are the markets changing? • Which innovative approaches do we take? | <ul style="list-style-type: none"> • Solar technology • New services • System-problem solutions |
| Corporate principles | <ul style="list-style-type: none"> • What is our collective desire? • Where do we see ourselves in the long term? • What is our mission? | <ul style="list-style-type: none"> • Best customer relations • Problem solver Nr. 1 • Making external goals one's own |
| Strategies | <ul style="list-style-type: none"> • Which chances and risks do we see? • How do we want to proceed in the next 10 years? • What are going to be our main focus? | <ul style="list-style-type: none"> • Political and legal environment • Cost leadership, differentiation • Niche strategy |
| Goals | <ul style="list-style-type: none"> • How could we transfer our strategies to our target-systems (1-5 years)? • Which goals do we want to achieve? | <ul style="list-style-type: none"> • Returns in % • Turn-over growth • Flexible goal and control systems |
| Sucess factors | <ul style="list-style-type: none"> • Which factors influence the attainment of our set goals? | <ul style="list-style-type: none"> • After-sales-service • Orders run time • Reducing administrative costs |

2 BASIC STRATEGIC ORIENTATIONS

Michael Porter had intensively dealt with the types of competition strategies and in the end, only three strategic possibilities remain which an organization can pursue. These are:

- 1 Comprehensive cost leadership and price leadership
- 2 Differentiation,
- 3 Concentration on major areas (niches).

An organization tries to achieve competitive advantages over its competitors in the same branch of business through an uncompromising pursuit of a particular strategy (See illustration »Corporate strategies«).

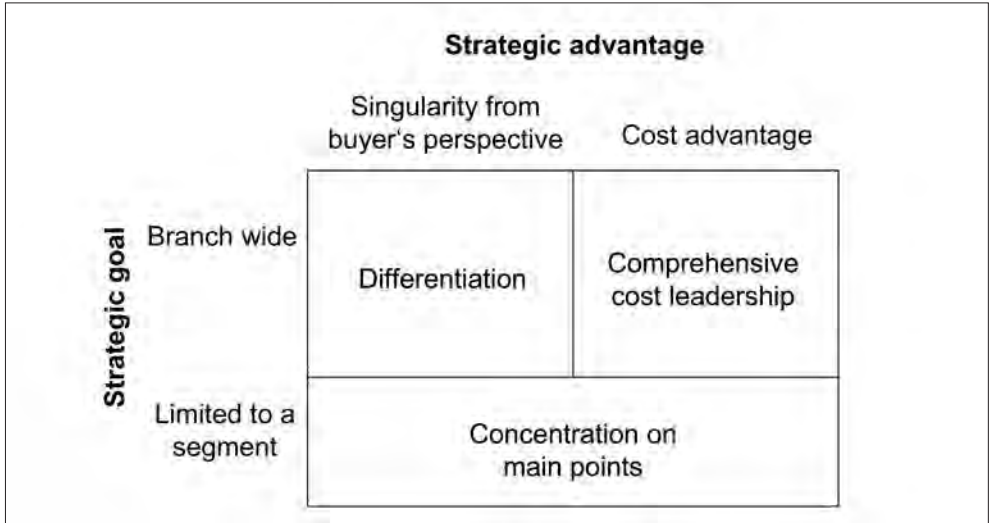
2.1 THE STRATEGY OF COST LEADERSHIP AND PRICE LEADERSHIP

The goal of cost or price leadership strategy is to bring down unit cost of products lower than that of its biggest competitors. Through such a policy of lower pricing, the organization hopes to achieve the decisive competitive market advantages over its rivals. The basic requirement for the success of such a strategy is minimization of costs in all operational areas. A larger market share and the price element are fundamental purchasing criteria of the customers and both are the critical elements of this strategy.

The strategy of a comprehensive costs or price leadership was in the real sense founded by Fredrick Taylor. What concerned him most was a high efficiency in area of production and as a consequence thereof, achieving a heavy reduction in costs. He articulated distinctly that this is achievable through:

- Introduction of job and time studies,
- Work-flow-based choice and instruction of workers in order to achieve best possible course of motion
- Strong division of labor
- Production of high quantity
- Strengthened input of machines and other technology

Henry Ford achieved this strategy with the introduction of assembly line work in 1913. In the following figures, we see the extent of Ford's conviction in costs leadership during the production of his vehicle »Tin Lizzy«.



60 | Corporate strategies

| Market development for the T Model from Ford | | | |
|--|----------|----------------|--------------|
| Year | Price \$ | Sales quantity | Market share |
| 1909 | 950 | 12.000 | 9.7% |
| 1913 | 550 | 182.000 | 39.4% |
| 1921 | 355 | 845.000 | 55.7% |

In the last two decades or so, the application of cost leadership has been strongly adopted by individual organizations. Companies try to implement this strategy through:

- Minimization of costs of research and development,
- Minimization of costs of procurement and cost price,
- Minimization of production costs,
- Minimization of administrative costs,
- Minimization of supply costs,
- Minimization of personnel costs.

With this strategy, an organization concentrates itself on price oriented buyers and wants to distinguish itself through favorable price offers in comparison with its competitors.

In such organizations, a strict costs control and a higher degree of organizational and technological implementation are of main interest. If the situation is presently favorable for a company as far as costs are concerned, it will be able to protect its position against its strongest rivals. Furthermore, with this strategy entry barriers are set higher for new entrants. The strategy of cost

leadership is typically conditional to businesses of certain sizes with corresponding market share. For medium sized companies, this competition strategy is only conditionally appropriate in its strictest characteristics. It must however be stressed that a company should attempt costs cutting in all three competition strategies - this is a basic requirement of economics principles. These measures should be accorded paramount importance in every form as it concerns achieving cost leadership.

In principle, there can only be a single cost leader in a branch. Attempts by many aspirants to assume cost leadership position through extensive price reduction only tend to radically reduce profitability of all competitors.

If we summarize the criteria, conditions and risks of the cost leadership or price leadership strategy, what we have is the picture in the table in »The strategy of cost leadership and price leadership«.

| Strategy of cost leadership and price leadership | |
|--|---|
| Goal: | - Lower costs than rivals |
| Criteria: | - Reduction of all costs - Higher investments - Constant innovation of production techniques - Strict costs control - Mainly standardized products - Concentration on »Standard customers« |
| Conditions: | - Access to capital - Detailed and comprehensive controlling - Unambiguous accountability - Information systems on suppliers (favorable prices) - Incentive systems for qualitative accomplishment of set goals |
| Risks: | - Technological changes capable of making investments noneconomical - Market changes recognized too late - Imitators with more capital strength - Rising costs |

2.2 THE STRATEGY OF DIFFERENTIATION

For numerous companies, it is becoming increasingly imperative to differentiate their products or services. This means that they consistently pursue the strategy of differentiation. Differentiation strategy is then considered when the product or service brings customers additional product or service advantages. The customer gets something much more meaningful than mere price advantages. Contrary to »price difference« as we have in costs leadership strategy, emphasis here is on »performance difference«.

With this strategy, the goal is to raise oneself above other companies. This happens mainly through the creation of »value added« (more values) for the customers. This is possible through the following:

- Operational policies,
- Brand names,
- Customer services,
- Technology,
- Quality,
- Service network.

With the strategy of differentiation, efforts are concentrated on achieving an above the average turnover. The income margin is thereby secured thus making costs head start superfluous.

Within the differentiation strategy, differences are made according to

- 1 Differentiation through product qualities,
- 2 Differentiation through service,
- 3 Differentiation through information and information systems.

Differentiation through product qualities is aspired through:

- Technological standard
 - Innovations,
 - Constant search for new solutions,
 - Offering of problem solutions,
 - Creation of additional values,
 - Installable.
- Quality
 - Reliability,
 - User friendliness,
 - Training offer,
 - Functional range,
 - Adaptability.
- Aesthetic qualities
 - Design,
 - Color effect,
 - Realizing individual desires.

Differentiation through service can be achieved through:

- Pre-sale-service
 - Information,
 - Consultation,
 - Project planning and preparation,
 - Service readiness for customers,
 - Pointing out advantages to customers.

- After-Sale-Service
 - Free of charge delivery,
 - Commissioning of a system or equipment with manufacturers' support,
 - Briefing of users,
 - Long term guarantee,
 - Assurance of lasting spare part services,
 - Training services.

Differentiation through information and information systems is possible through:

- Processing of purchase transaction
 - Optimization of order transaction,
 - Simulating the cost efficiency of the investment,
 - Optimization of account transaction,
 - Support with the calculation of products.

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 - Innovations,
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Differentiation through information and information systems is possible through:

- Processing of purchase transaction
 - Optimization of order transaction,
 - Simulating the cost efficiency of the investment,
 - Optimization of account transaction,
 - Support with the calculation of products.

| Strategy of differentiation | |
|-----------------------------|--|
| Goal: | – Additional value for the product or service |
| Criteria: | <ul style="list-style-type: none"> – Concrete differentiation through <ul style="list-style-type: none"> – Product features, – Service, – Marketing, – Information and communications systems – Differentiation through appearance – Differentiation through brand picture |
| Conditions: | <ul style="list-style-type: none"> – Cooperation spanning over branches – Process organizations – Linking customers and suppliers' processes through information technology – Strengths in research and development – Customer orientation as best as possible – Highly qualified staff members – Sale of utilities |
| Risks: | <ul style="list-style-type: none"> – Value added not concretely recognized – Qualitative value elements not in monetarily comprehensible structural value transferable – Decreasing buyers's cycle with differentiated products and services – Imitators copying the value added |



















2.3 THE CONCENTRATION STRATEGY


Concentration on main area of specialization, also known as the niche strategy, attempts to achieve competitive advantages by specializing in specific targeted segment.


The concentration strategy doesn't concentrate on implementation of strategies in all branches. Here, concentration is on a single segment, on a »Market niche«, whereby both differentiation as well as cost leadership possible may come into use (see illustration »Competition strategies and success factors«).


In the model Cost key points, the organization is striving for cost advantage in its target-segment, whereby the aim is to provide customers with added value through differentiation advantages through Differentiation model.

It is the goal of a niche strategy to achieve certain immunity in a small market niche in the face of aggressive competitive forces. The concentration can extend to a particular part of the products program or to a particular customer group or even to a geographically delimited market.

| Competition strategie Criteria and relevance | Cost leadership | Differentiation | Concentration |
|---|--|--|---|
| Costs |  |  |  |
| Service |  |  |  |
| Quality |  |  |  |
| Flexibility |  |  |  |
| After - Sale - Service |  |  |  |
| Temporal competitive advantage |  |  |  |

 high

 medium

 low

61 | Competition strategies and success factors.

If we then summarize the conditions and risks of concentration strategy, what we have is the picture presented next in »Concentration Strategy«.

| Concentration Strategy | |
|------------------------|--|
| Goal: | – Specialization strategy only on specific market segment |
| Criteria: | <ul style="list-style-type: none"> – Concentration on <ul style="list-style-type: none"> – certain customer group (s) – certain products program(s) – geographically delimited market – Focusing on segment-based improved solution-technology <ul style="list-style-type: none"> – customer conscious (differentiation) – cost leadership / price leadership |
| Conditions: | <ul style="list-style-type: none"> – Relatively homogenous sub-segments (e.g. target groups) – Best possible knowledge regarding problems of target groups – Presenting own strengths as solution to problems – Close relationships/liaison with customers – Collective optimization of strategy |
| Risks: | <ul style="list-style-type: none"> – Suppliers spanning the whole branch achieve bigger cost advantages, which are either cost advantages from supplying a delimited market segment or advantages from differentiation – Industry-wide suppliers concentrate more on specific products – Customers expect extensive services and as the case may be additional products |

3 RECOMMENDATIONS FOR PRACTICAL APPLICATION

Each organization should possess clear and distinctive factors that differentiate it from other companies. These factors initiate that success, which we could in the long term be referred to as success factors. They support vital goals, strategies and the guiding principles of an organization (see illustration »Essential elements of modern corporate management« earlier in this contribution).

In our example, such success factors could be:

- Costs,
- Service,
- Quality
- Flexibility,
- After-sale support service (Services rendered after sale),
- Timely competitive head start above rivals.

If we categorize the three success factors to competition strategies, each of these retains different meanings, depending on the types of strategies chosen. In illustration »Competition strate-

gies and success factors« it becomes clear which value the mentioned success factors have as far as those strategies of relevance to us are concerned.

How can we represent this illustration in detail?

1 COST LEADERSHIP

Here, the main efforts concentrate on costs. Organizations that pursue this strategy achieve fundamental competitive advantages with it. Success factors like »service, quality, flexibility or after-sales-service« are less distinctive here.

It becomes clear that the intensification of service quality could fundamentally influence costs situations. As a matter of fact, the factor Quality must be taken for granted according to norm-quality (standard- quality) of target groups. Also of great relevance apart from costs is the criterion temporal competitive advantage. Through a large capital input and the development of greater production and sales capacities respectively, one consciously tends towards initiatorsadvantages.

2 DIFFERENTIATION

With this strategy, the success factors Costs and temporal competitive advantage are of greater relevance, but all other factors are of equally great relevance. This means in essence that we cannot cut back on the importance of e.g. service and quality. Even a 95% degree of service is not good enough for the differentiation strategy.

3 CONCENTRATION

This strategy is best seen with a customer-friendly solution system (differentiation) at the background, or of a more economical solution (costs leadership). This is why most success factors have moderate features. The strategy temporal competitive advantage should be accorded highest priority. In a market niche, one tries to be an innovator and not an imitator.

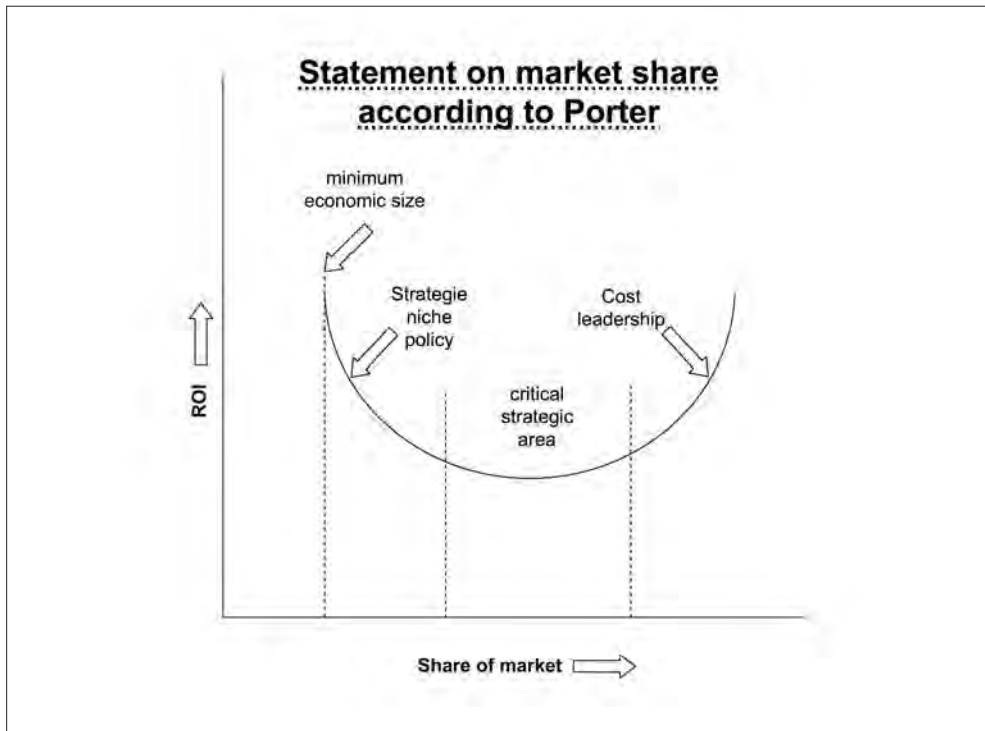
What is this illustration trying to point out to us?

Organizations that shuttle between the Strategy of Costs leadership and the strategy of Differentiation are living on a very dangerous terrain. In their strategic orientation, they are neither hot nor cold water but lukewarm that can emerge from a mixture of success factors. A little bit of price reduction combined with reduced product quality leads to a situation that makes the organization neither a fish nor meat. They are no longer unique, they become replaceable. This

position is comparable to someone sitting between two chairs. It means that on the one hand, it becomes impossible to develop on long-term competitive advantages and on the other hand, the threatening loss of preferences with customers. Such an organization loses the chances of being a »Solitaire«.

Only in rare exceptional situations is it possible for an organization to simultaneously achieve both strategies of Cost leadership and that of Differentiation. Such a situation is possible if all the competitors employ this strategy-combination; but it will not be possible for any single company to further expand on any dominating competitive advantage. A further exceptional situation is also possible if a company is able to achieve great cost reduction through a ground breaking, pioneering performance, which eventually would compensate for the huge costs of differentiation.

Michael Porter represents the statement that between the success of an organization, measured against its ROI (Return on Investment), and its market share, there is a U-shaped relationship. This means that market participants with bigger market share will be achieving a higher ROI and medium sized participants with smaller market share will on the other hand be realizing a ROI nearing those of market champion. The essay »Statement on market share according to Porter«, fundamentally clarifies the following:



- Were an organization to be active as cost and market leader, then this firm is moving on the outer right part of the curve. Such an organization possesses a relatively huge market share and generates accordingly the expectable profit.
- Organizations that practice a strategic niche policy are in a position to generate a huge ROI with a small market share. The success from marginal market share could only be limited by the size of a company if it were small.
- Because concentration and differentiation strategies mean a low, whereas the strategy of cost leadership means a higher contribution to striven volume of the market share, the position between can be viewed critically.
- This U-curve confirms previously made statements. Organizations that occupy the lower part of the curve suffer from the »between-the-chairssyndrome« («a-piece-in-the-centre-syndrome»). They pursue neither market leadership strategy based on cost advantages nor that of concentration with differentiation of their products or services.

In practice, as far as strategic orientation is concerned, it is important to engage following considerations:

- 1 What does the present strategic orientation for the organization look like in general and the individual business fields in particular?
- 2 Can customers and individual customer groups clearly recognize this orientation?
- 3 Which steps must be taken in order to present customers with a clearer picture of the strategy?
- 4 Are the basic strategies going to be retained in the next years or there are signs of changes?
- 5 How can individual success factors be improved upon in order to increase competitiveness?

With all the strategies (including strategy of cost leadership), in the end it all comes to improving on customers utilities. This can be subdivided into the three categories:

- 1 Main utility,
- 2 General additional utility,
- 3 Specific additional utility.

Basic utilities are derived from the standard product (core product) or from the standard service. However, due to the fact that core products and standard services are increasingly becoming similar, this makes them easily replaceable products.

It is possible to distinguish within **general additional utilities**. Possible distinctive features are:

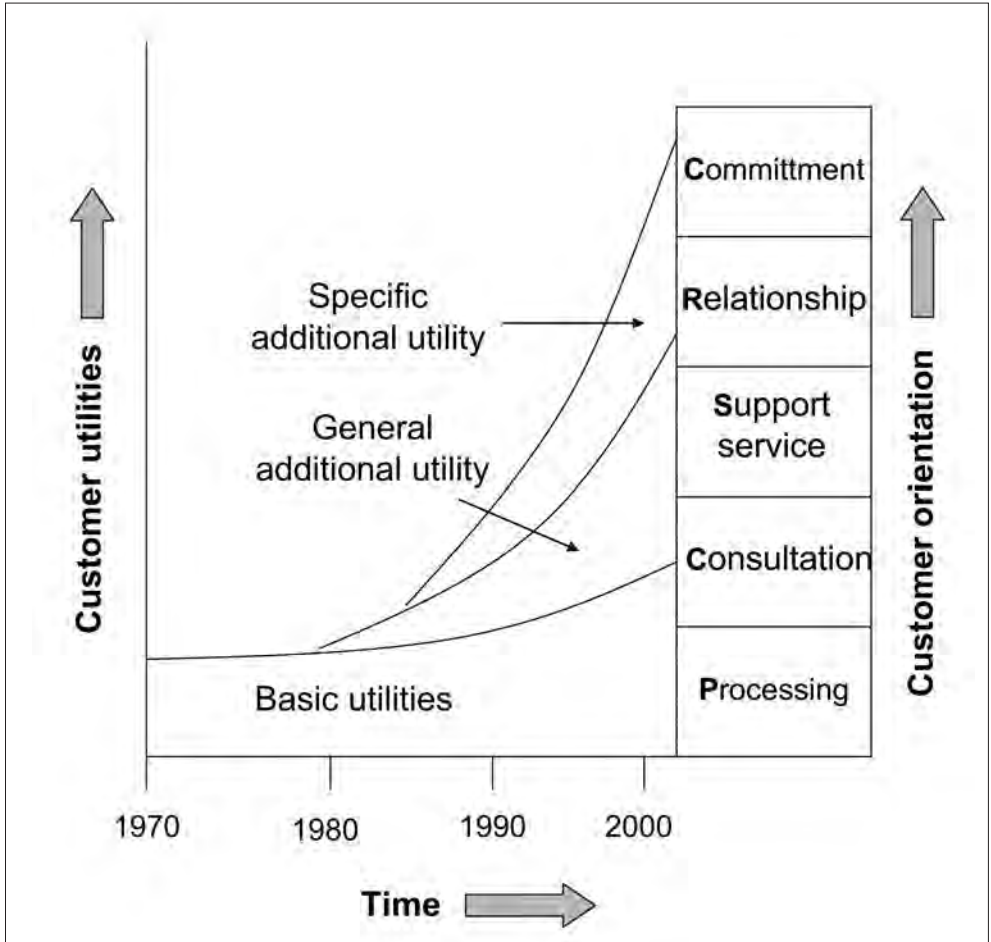
- Image of the organization
- The brand marks
- Products quality
- Price policy
- Service.

A further way of distinguishing one's services with customers is through **specific additional utilities**. This comprises of all utility criteria through whose basic utility and general additional utility, customers are provided with specific utilities which are custom made for their needs. Distinctive features with these categories of utilities can include the following:

- Customer-peculiar problem solutions,
- Utility proof to customers for their investments,
- Creation of competitive advantages for customers through new process organizations,
- Customer-oriented acquisition supports for customers' customers.

The illustration »Categories of customer utility« shows changes in meaning of the three utility categories. Whereas in the past decades, the main sales argument for products was based on the products' basic utility, this has since changed from around 1980, when additional utilities have assumed greater relevance. Successful organizations have settled more and more for specific additional utilities. In this illustration, the five customer orientations are integrated. The best possible utilities are indicated in the customer commitment's phase.

If one has to differently process utility categories for a particular organization, it is recommended to first fill out the worksheet on »Utility categories«. This worksheet clearly indicates which concrete utilities customers are offered in individual categories and for each product or each service. The worksheet also indicates which chances are prioritized in future offers.



63 | Categories of customer utilities and classification of the five customer orientation

Worksheet – Utility categories

Product / Service:.....

| Utility categories | Our offer today | Customer utility | Our offer in future | Customer utility |
|-----------------------------|-----------------|------------------|---------------------|------------------|
| Basic utility | | | | |
| General additional utility | | | | |
| Specific additional utility | | | | |

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

5 THE SUCCESS FACTORS SYSTEM

AIM(S):

The already introduced system of success factors is being purposely employed today by numerous organizations and consultants for the analysis of corporations and public authorities in the development of success positions. It enables every organization to localise the positions of individual success factors and be able to make recommendations for further improvement. The system can also be employed at the company-public institutions level, at public officers' level, departmental level, team level or at the personal level.

CONTENT:

- 1 Application of success factors system.
- 2 The six general success factors.
- 3 The branch-specific success factors.
- 4 Collation and implementation of specific success factors.
- 5 The realisation of success factors from customers' perspective.

INSTRUMENTS:

- Phase model
- Characteristics
- Cross-link network and cross link matrix
- Action plans

APPLICATION(S):

- For every organisation in the economy and administration
- For branches
- At every hierarchical level
- In personal area

UTILITIES:

- Recognition of strengths and weaknesses of an organisation
- Analysis of competitors' strengths and weaknesses
- Systematic differentiation of success factors
- Compilation of concrete success positions

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Phase model: applicable in all areas of the company
- Level of peculiarity: a generally applicable methodical approach
- Cross-link systems: approaching methods for tasks with several parameters
- Action plans: with all programmes with need for action

1 APPLICATION OF SUCCESS FACTORS SYSTEM

The success factors system has already passed its probation stages in practice. Numerous organisations in the economy and administration are employing this system for the determination of current as well as future success positions. Many corporate consultants apply this system in diagnosing organisations, as a barometer to measuring the degree of maturity of these firms. The fundamental parts of the success factors system are:

1 THE GENERAL SUCCESS FACTORS

- a) On the basis of comprehensive empirical studies, six success factors could be referred to whose validity is generally applicable in every organisation and public service that is, irrespective of branches or size of organisation.
It is therefore obvious that specific features are possible in this regard.
- b) The six general success factors are subdivided into several criteria. These criteria contribute to a concrete description of the individual factors.
- c) There is a phase model applicable to the success factors system.
These are differentiated in five phases
 1. Start,
 2. Expansion,
 3. Consolidation,
 4. Growth and
 5. Integration.

The degree of maturity and the characteristics of individual success factors increase from the first phase to the fifth.

Because all the criteria would be described from the perspective of their maturity makes it possible to have a concretely defined position.

2 THE BRANCH-SPECIFIC SUCCESS FACTORS

There are success factors specific to every branch. In identifying these factors, there is a fundamental basis for the collation of the various corporate-public authorities' specific success factors. In arriving at conditions necessary for the branch-specific success factors, the following advantages have been identified:

- The organization is informed about which factors are decisive for success in the branch
- Through knowledge about branch-specific success factors, there is the possibility of comparing individual factors in one's own organisation with those of most important competitors or with the average in the branch. This knowledge makes it possible to take necessary actions.
- If the specific success factors were collated, it is then possible to control its completeness on the basis of the branch specific success factors.

3 THE SPECIFIC SUCCESS FACTORS

Under specific success factors, we understand those factors that are decisive for success or failure of a

- Corporate entity, a public authority,
- Branch, office,
- Department, team or
- Person.

Here, it becomes clear on the one hand that the system can be applied at all levels of an organisation, and on the other hand it is equally suitable for position assessment as well as development of personal success factors.

- a) After collation of the specific success factors, it becomes necessary to examine the reciprocal effect of individual success factors. This happens with the help of cross-link network and cross-link matrix. The result of this consideration is the sub-division of specific success factors into active and passive factors. Active factors are such factors that have a stronger influence on other factors. Passive factors on the other hand have relatively low influence. If one knows the active factors, then one knows that they exercise a great influence on the development of respective success positions. They have a leverage effect. To this effect, they must be accorded the greatest of attention.
- b) After investigating the specific success factors and their differentiation in active as well as passive factors, it is necessary to determine the characteristics. If we have a scale of 0 to 10, whereby 0 stands for no feature and 10 for very strong features, then it becomes easy to classify individual factors in the present situation (the situation today) as well as future situation (the situation in the future). For advancement, concrete activities are applicable.

4 REALISATION OF SUCCESS FACTORS FROM CUSTOMERS PERSPECTIVE

Aside from the described components which represent self perception, it is equally necessary to learn of how the customers perceive the organisation. This outside perception completes the system.

From all four analyses, it is possible to get an integral picture. The illustration »Principles for the analysis of success factors« shows the four application possibilities. In individual cases, it must be examined if for example all four analyses should be conducted; by which examination there is access and finally, what does the temporal implementation look like.

If one summarises the advantages of the methods of success factors together, the result is the presented arguments in the table.

| Advantages of methods of success factors | |
|--|---|
| <ul style="list-style-type: none"> - Wider range of application - conclusive implementation - limited input - quick learnability | <ul style="list-style-type: none"> - Integration of the management - success factors are top priority to the management - bigger identification of top management - the system becomes a self-runner - a permanent control is possible |
| <ul style="list-style-type: none"> - Wider range of application - general success factors - branch success factors - corporate success factors - branch specific success factors - departmental specific success factors - personal success factors | <ul style="list-style-type: none"> - Comprehensive practical testing - accepted methods in all branches - good experience at every hierarchical level |
| <ul style="list-style-type: none"> - A more critical attention to the dynamics - characteristics of success factors at present - characteristics of success factors in future - continuous checks | <ul style="list-style-type: none"> - Higher degree of integration - combination with other methods - individual integration of other methods - comprehensive corporate analysis |
| <ul style="list-style-type: none"> - Objectified and optimised set goals - collective collation of success factors - connectivity of active and passive success factors - concentration on common goals | <ul style="list-style-type: none"> - PC-Programme support - PC-Programme for corporate and for personal success |
| <ul style="list-style-type: none"> - Relatively limited time input - success factors can be quickly determined - concentration on the key factors | |

Principles for the analysis of success factors

| 1. General success factors | 2. Branch specific success factors | 3. Specific success factors | 4. Customers' opinions |
|---|--|---|---|
| strategy, information system, organisation, leadership, staff members, customers' orientation. | branch specific success factors, average characteristics, main competitor, our current characteristics today and in future. | Criteria: service situation today 4 situation in future 7 | Service Quality Supply punctuality Flexibility |
| <ul style="list-style-type: none"> • Analysis of the 6 general success factors • Analysis of individual indicators • Situation today and in future | <ul style="list-style-type: none"> • Collation of branch specific success factors • Situation with competitors • Own situations today and in future | <ul style="list-style-type: none"> • Collation of specific success factors • Connecting the success factors • Fixing the situation today and in future | <ul style="list-style-type: none"> • Summary of analysis of the criteria • Differentiation according to customers and evaluation criteria • Future specification |



All the above leads to call for action

2 THE SIX GENERAL SUCCESS FACTORS

Based on numerous analyses, examinations and publications, the following six factors have been identified for corporate success (see »The success system«)

- 1 Customer and market oriented strategies,
- 2 Strategic and situation oriented organisational composition,
- 3 Market-near information system,
- 4 Strengthened use of employee potential,
- 5 Efficient management system,
- 6 A perfected closeness to customers.

In this age of erratic changes, where many things are no longer predictable and sometimes even chaotic, an organisation or administration requires **strategic orientations**. Problems of an environment cannot be confronted with chaotic solutions.

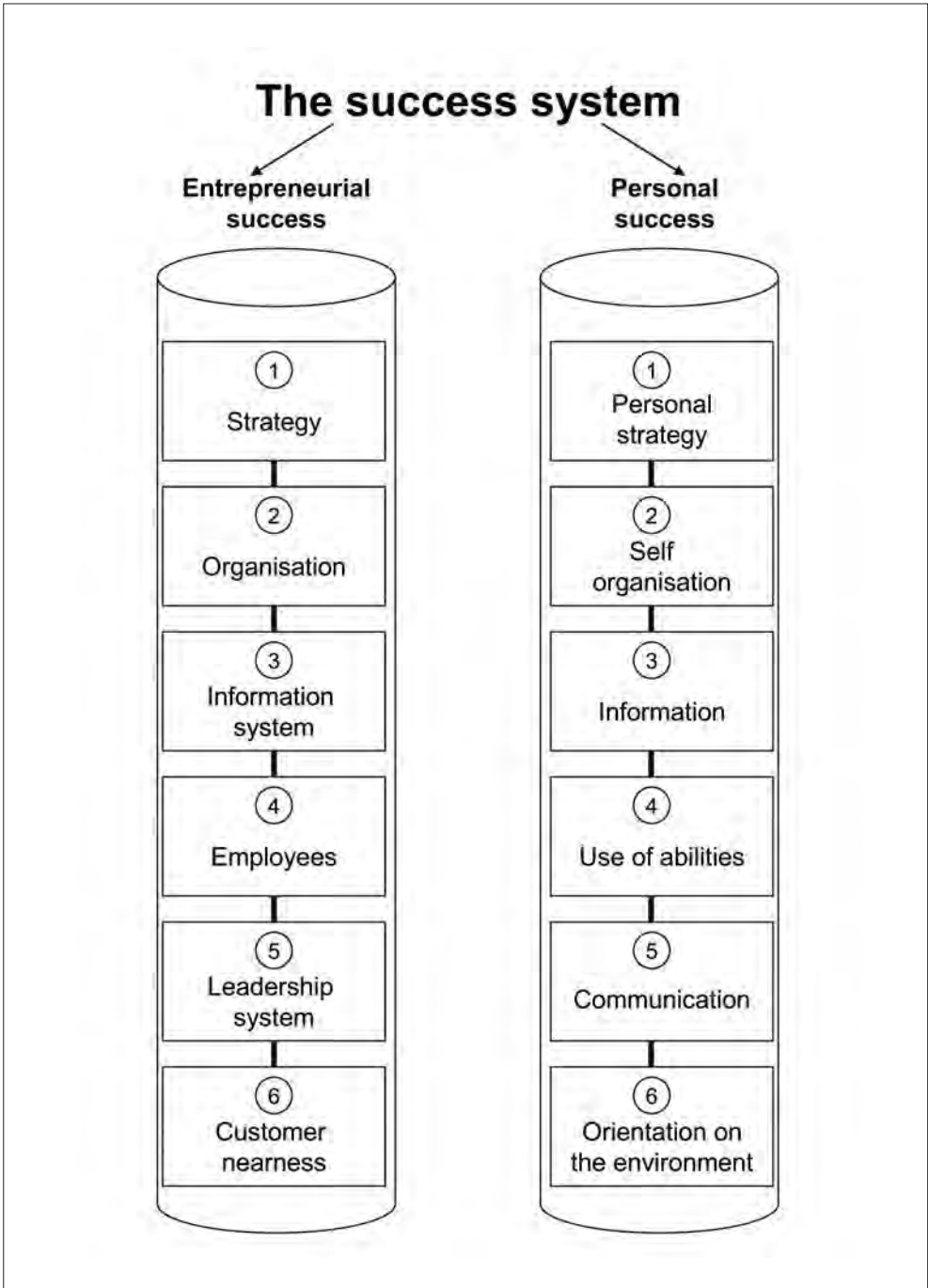
Strategies must be subordinated to permanently changing processes in order to provide solutions to changing determining factors. At the same time, they must be able to formulate long-term common orientation in order to make development of a strong competitive position possible.

Between both – evidently contradictory – fundamental principles **flexibility** (a permanent strategic adaptation) and **continuity** (long term strategic direction), there is no dilemma situation which would allow the choice of only one alternative. As a matter of fact continuity should not be understood as languid rigidity, rather as the result of the realisation that the competitive position of an organisation is a long term process. Constant changes in strategies confuse customers and unsettle employees, remove the chance of the organisation establishing itself on the market and normally would be unable to support structural adjustment changes with necessary measures.

Nowadays, there is intense discussion on the antinomy of strategy. This means the more insecure the environment becomes, the more necessary the need for continuity. On the other hand, flexibility cannot be understood as a permanent change of fundamental strategic orientation. One simply cannot become costs leader in added value provision at the shortest period of time.

Examinations have revealed that only such corporations survive, which do not only have a short-term goals orientation, rather with strategy plan spanning over medium and long terms. This makes it possible to be able to provide answers to the following questions:

- What is the situation like on demands for products/services offered by us in the medium and long term?
- How is the development potential of competitors on the medium and long term?



- How are competitive forces going to change in coming years?
- Do we have enough entry barriers in place against new competitors?
- Which strengths could be built upon on the medium and long term against competitors?
- How can we bind our customer to us on the long term?
- Is it possible to optimise customers' and suppliers' processes in the long term?

As far as an optimal organisational arrangement is concerned, there are two elements which function harmoniously: the strategy and the situation. The classical Chandler principle »Structure follows strategy« has further been expanded upon in that the situation equally determines the organisation. The situational principle of organisational development provides hints on the flexible, agile and quick organisation - so much in the structure as well as in the process. In place of rigid and inflexible organisational forms, there is flexible, permanently dynamic network. Tom Peters articulates that in companies with functional organisations and a wide spreading top managerial level, the employees cannot think entrepreneur. In such companies, those employees prepared to take risks would be blocked. In the future, the big, over dimensional, complex structures can no longer win. Future winners are those with a levelled type of organisation and trans-sectoral thinking and acting.

More often nowadays as in the past, the expediency of the development and process of organisation should be scrutinised. There are constant changes in the course of time under which companies have to operate. On the one hand are internal realities and on the other, external conditions. Organisations must have provisions capable of accommodating these changes. A previously expedient organisation cannot become inexpedient simply by constantly revealing its sources of error. There is a list of several companies as example. The organisation of an organisation requires constant controlling in order to be able to recognise and take necessary actions against recognisable weak positions.

Nowadays, information systems have a controlling influence on the success of an organisation. They have distinguished themselves from the normal support function and generate- if they are appropriately applied- strategic competitive advantages. Data processing has over several decades been saddled with the problem of coping with mass employment. Strategic advantages through information systems were first given prominence by individual organisation in the 70s. These applications were however limited mainly to individual functions. Organisation-wide information system and cross departmental networks are becoming more and more the basis for information systems as »strategic weapon«. Michael Porter was right when he made a statement based on this recognition »Nowadays, its no longer the question of whether information technology plays an important role on the competitive position of an organisation, rather it is only a question of when and how these effects would be realised. Whoever fails to act today would be forced to accept changes initiated by others in future«.

If one sees information systems as a »strategic weapon«, then this means an organisation is in a position- within an adequate period of time- if necessary, through a highly matured information system, to adequately confront challenges with help of its

- Employees,
- New competitors and
- New products.

This is however under the condition, among other things, that data and processing management processes are highly advanced. Furthermore, it is becoming increasingly necessary that the basis for information technology (for example network systems, user services, relational databanks, individual data processing) as means of achieving competitive advantage should be provided for. From the background of such a degree of maturity in the areas of information systems, it has become relatively easy to develop advanced applications on time.

are more and more being required of to becoming joint entrepreneurs. A very fundamental key qualification both for the present and future is success competence- that is individual and team contribution to corporate success. Each employee, irrespective of his position or place in the organisation and aside from professional and personal qualifications, requires more and more entrepreneurial capabilities. This must be made conscious to each employee. *It is not in just a company where I am working, it is my company.*

Organisations that expect this positive entrepreneurial thinking from his employees must provide stress-free working environment in which they can optimally apply their creative potentials and not be hindered by existing barriers. Moreover, it is a bigger and wider area of responsibility which is being transferred over to the employees as it is being expected of them to take self conscious actions. They must be able to react and act as rational individuals and not just like subordinates. Nowadays, each employee must assume bigger responsibility when dealing with customers. This is the reason why corporate and entrepreneurial competences are being demanded of each employee.

We all know that each individual possesses a great potential for massive performance progression. This potential is there to be used but it is only when the person enjoys what he is doing can he fully concentrate on set goals as well as fully identify himself with the organisation.

An enthusiastic preparedness to increase performance capability and feel identified with the organisation can only be achieved when everything is okay with the top management-system. To achieve this success factor, several things are necessary. Some of these include quality top managerial personality, leadership style, responsibility delegation process and communication.

Nowadays, it is no longer enough for the top management to be visionary. They should also be partners to their employees in the realisation of individual component categories. As far as knowledge competence is concerned, conditions for the acquisition of best possible knowledge as well as the transfer of such knowledge into practise should be secured.

Concerning relationship competence, efforts must be directed into making sure that the »heart« of the organisation is functional. The job must simply be fun. Here the opportunities provided by multifarious possibilities in the working environment and in interpersonal relationships with one another should be seized upon. In securing success competence, the top managerial system must make sure that the freedom necessary for personal initiative action taking is provided. In several instances, one doesn't really need to motivate his employees, it is enough to entrust them with more responsibilities. Employees must be able to feel the heat of personal responsibilities. This makes them become willing joint entrepreneurs.

The success factor of a well perfected *customers' nearness* cannot be over emphasised nowadays. Each employee must be able not just to understand the customers but also be able to know what is going on customer's brain. Only when this happens have we made partners out of our customers, and not rivals. Nowadays, no customer should be treated as just a »business number«. The goal is to achieve the greatest degree of customer orientation possible and this must cover the entire customers' activities. Only in this way is there a guarantee of a long term partnership based on the win-win principle.

If a partnership arises from customer relationship between the organisation and its customers' circle, then both partners should look for possibilities of maximising the utilities on the basis of »with one another«. As equal partners, both sides must strive to achieving common goals- for example increasing profit- and agree on achieving their common target with common strategies. This concerns the search for common needs at the start of their relationship, up to the stage when they are able to satisfy these needs.

The six general success factors are of equal relevance. As common target orientation, they have market and customer orientation as top priority (see »Directions of success factors«).

As we already discussed the success factors system consists of a phase model with five development stages:

- I Starting point,
- II Expansion,
- III Consolidation,
- IV Growth,
- V Integration.

If we arrange these corporate phases of success factors and describe the individual characteristics, what we have is a matrix with a general description of maturity level for the six success factors (see »Matrix of success factors«). On the basis of this matrix, it is easy to find out positions for individual success factor. If we join the individual positions then we have a »fever curve« which describes the respective characteristics. From such a – at first certainly very general – presentati-



67 | Directions of success factors

| Phase | Start I | Expansion II | Consolidation III | Growth IV | Integration V |
|------------------------------|--|------------------------------|--|--|---|
| Success factors | | | | | |
| Strategies | No strategic Consideration | Short-term orientation | Medium term strategies | Harmonisation of strategies | Market oriented long term strategies |
| Organisation | Higher degree of improvisation | Strive after standards | Higher degree of standardisation | Strengthened individual orientation | Innovative organisation |
| Information system | IS enable cost savings | Increased IS application | Higher degree of maturity with standardised applications | Higher degree of user satisfaction through data Processing | Strategic competitive advantage through IS |
| Employees | Fulfilment of functions according to employment conditions | Limited freedom | Action oriented work groups | Highly motivated employees | Employee as joint entrepreneur |
| Top management system | Management style is natural | Strengthened Delegation | Cooperative management system | Adequate managerial principles and methods | Management system guarantees implementation of strategies |
| Nearness to customers | Customer is a business incident | Normal customer relationship | Customer is accorded recognition | Problem solutions are offered | Highest degree of customer orientation |

68 | Matrix of success factors

on, decisions makers are presented the first hints on what is of higher priority in the realisation of individual factors. At this level there is no priority on details, rather on a systematic observation. The complete connectivity occupies the background position. The most important objective at this stage is the emphasis on the relationship between success factors, that is which factors are characterised with a higher maturity grade and on which factors action taking is required.

After this first, rough identification of positions of all the general success factors, there is need for individual factors to undergo detailed analysis. In order to simplify this, each of the general success factors would be classified into six subpositions (criteria, indicators).

Try to examine the characteristics of every one of the success factors. Of importance however is that you must be able to observe the description of each of the factors as it undergoes development. Don't get seriously fixed on individual comment.

This classification could be individually expanded or modified upon as necessary. An individual indicator contributes to achieving precision of success factors and allows a concrete localisation of positions. The following six matrix illustrations portray contents of each of the general success factors.

POSITION »STRATEGY«

| Phases/ points | Start 0 | Expansion 2 | Consolidation 4 | Growth 6 | Integration 8 | 10 |
|----------------------|--|--|--|--|---|----|
| Indicators | | | | | | |
| Corporate principles | Priority on individual thinking take place only in the heads | Fixing the first principles | Attempts at a formal implementation | Compilation of corporate principles stands | Principles are implemented | |
| Strategy | Recognition of the necessity | Short term orientation | Medium term strategic orientations | Long term strategies | Integrated, strong market oriented strategies | |
| Target setting | Rule of the thumb | Annual general targets (priority on earning) | Budget allocation for sections and departments | Comprehensive organisational targets | Flexible system | |

| | | | | | |
|-------------------------|---------------------------------|--|-----------------------------------|---|-------------------------------------|
| Target conflicts | Problems solve themselves | "who shouts loudest" | Cost orientation and Rol-priority | Sectional solutions with profit outlook | Optimisation of entire organisation |
| Control systems | Book keeping | Individual control points | Comprehensive control system | Early warning systems | Efficient preventive control system |
| Technical input | Simple analyses and evaluations | Strengths and weaknesses diagram, business indexes | Portfolio, chances/risks analysis | Strategic concepts, simulations | Sophisticated instruments |

POSITION »ORGANISATION«

| Phases/ points | Start 0 | 2 | Expansion 4 | Consolidation 6 | Growth 8 | Integra- tion 10 |
|---|--------------------------------------|---|--|---|---|--|
| Indicators | | | | | | |
| Strategy implementation | Limited orientation on strategy | | Approaches emerging | Strong attention on the process organization | Conformation to the process organization | Highest flexibility in conformation |
| Operational and organisational structure | Cumbersome | | Stereotyped thinking predominate | Practical, functional oriented process organization | Increasing process organization | Stronger customer and market orientation |
| Process organization | Numerous weak positions | | Efforts to localise the weak positions | Eliminating basic weak positions | Efficient work processes | Optimisation of internal and external processes |
| Involvement of those affected | Limited involvement | | Occasional involvement of those affected | Stronger involvement of all | Those involved assume responsibility | Those involved become innovators |
| Technology input and logistic | Limited input; (slower organization) | | Average input | Stronger technology input (faster organization) | Integrated technologies (flexible organization) | Strong competitive advantage |
| Self organization of the employees | Frequent chaotic situation | | Efforts to improve | Eliminating weak positions | Disciplined working with technological support | Extremely efficient working both internally and externally |

POSITION »INFORMATION SYSTEM«

| Phases/ points | Start 0 2 | Expansion 4 | Consolida- tion 6 | Growth 8 | Integration 10 |
|---|-------------------------------------|---|--|--|---|
| Indicators | | | | | |
| Significance of information processing | Solely supportive function | Attaining cost advantages | Attaining productivity advantages | Generation competitive advantages | Input as a strategic weapon |
| Strategy | Short term hardware, software input | Short term planning of hardware, software development | Medium term planning of hardware, software development | Information system is part of corporate strategy | Information strategy dominates other strategies |
| Data | Classical data in trading areas | Classical data in technical areas | Assimilation of plan data | Detailed data on -Employees -Customers -Markets | Data ensures long term competitive advantages |
| Applications | Occasional classical applications | Integration of classical applications | Logistic applications | -Supply -Development and -Planning applications | Original innovative application |
| Service | Service is insufficient for users | Users' needs are considered | Service intensity negotiations | 100% availability | Round the clock service |
| Business form | A single computer | Online | Networks | Intelligent work stations | Integration of every medium |

POSITION »EMPLOYEES«

| Phases/ points | Start 0 2 | Expansion 4 | Consolida- tion 6 | Growth 8 | Integration 10 |
|-------------------------------|---|--|--|---|---|
| Indicators | | | | | |
| Identifi- cation | Hardly possible as there are no targets | Approaches through individuals | A feeling of togetherness is promoted | Clear targets enables rational identification | Highest degree of identification |
| Work cli- mate | Impersonal and cold | Boss- employees-relationship determines work climate | Team spirit boosts the mood | A strong feeling of togetherness | Work place atmosphere very good |
| Willingness to perform | "school home work"- type of thinking | Classification | A honest willingness to perform | Corporate interests of greater priority than individual interests | A higher degree of one's own initiative enhances willingness to perform |
| Remunera- tion | Standard wages | Extra pay-ment based on perform-ance | Performance based wage | Stronger emphasis on staff report | Honouring employee as joint entrepre-neur |
| Assessment | Mostly subjective | Assessment based on fixed criteria | Discussion with employees (cooperative target agreement) | Personality develop-ment be-comes highly relevant | Conformity of corporate and individ-ual em-ployee goals |
| Further training | On-the-job training | Sporadic participation in external seminars | Continuous training and advanced training | Efficient training and ad-vanced training system | Long term training and advanced training programmes |

POSITION »CORPORATE LEADERSHIP SYSTEM«

| Phases/ points | Start 0 | 2 | Expansion 4 | Consolida- tion 6 | Growth 8 | Integra- tion 10 |
|-------------------------------|---|---|--|---|---|--|
| Indicators | | | | | | |
| Leadership style | Authoritarian/ patriarchal leadership | | Limited employees involvement | Stronger employee involvement | Cooperative leadership | Employee is joint entrepre- neur |
| Hierarchical structure | Inflexible structures | | One's own initiative is being asked | Strong organisa- tion span- ning all depart- ments | Organigram follows strategy | Strong customer orientation |
| Delegation attitude | Instruction predominates | | Safeguarded decision making through employees involvement | Delegation of compe- tence | Responsibil- ity for set target | Branches are sub contracts |
| Leadership personality | Professional competence | | Personality features come into play | Social compe- tence | Role model with entre- preneurial competence | Highest prestige internally and exter- nally |
| Communica- tion | Official chan- nels must be abided by | | Occasional information on strategies | Application of multifari- ous medi- ums | Strong communica- tion span- ning all departments | Functional external and inter- nal infor- mation system |
| Welfare function | Official han- dling | | First ap- proaches of an extended welfare function | Financial and social facilities | Stronger considera- tion of the human aspects | Common problem- solutions of individ- ual situa- tions |

POSITION »CLOSENESS TO CUSTOMER«

| Phases/ points | Start 0 | Expansion 2 | 4 | Consolidation 6 | Growth 8 | Integration 10 |
|---|--------------------------------|--|---|---|-------------------------------------|--|
| Indicators | | | | | | |
| Strategy | Policy is home-made | Selective identification of needs | | Orientation on market and customer segments | Active product and service strategy | Highest degree of flexibility and innovation |
| Consideration of the environment | Negation | Toleration | | Acceptance | External goals are made one's own | Optimisation of all standards |
| Products and services | Standardised | Higher standard | | Individualisation/ Specialisation | System solution/ problem solution | Highest acceptance of the environment |
| Customer relations | Customer is anonymous | Customer gets standardised support | | Customer gets individual supports | Customer becomes partner | Long term partnership |
| Business transaction | Customer wish simply processed | Customer gets standardised counselling | | Customer gets individual counselling | Personal relationship evolve | Win-win-game |
| Customer utility | Not available | Average performance | | Value added identifiable | Utility is concretely transferred | Best possible utility |

10 STEPS FOR THE EVALUATION OF MATRIX ILLUSTRATIONS

STEP 1: UNDERSTANDING THE INDICATOR SYSTEM

In order to ascertain the respective positions, it is necessary to first have an understanding of the description of individual indicators. Because this identification is narrow, there are many ways for one's own interpretation. A too firm adherence to the text is not desirable.

STEP 2: CLASSIFICATION OF THE POINT SYSTEM

In order to be able to determine the features, five phases are categorised in a scale of 0-10. This produces the following classification:

| | | |
|-----------|----------------|------|
| Phase I | Start: | 0-2 |
| Phase II | Expansion: | 2-4 |
| Phase III | Consolidation: | 4-6 |
| Phase IV | Growth: | 6-8 |
| Phase V | Integration: | 8-10 |

This classification produces a spectrum of two points within a phase. The provided leeway should be used for example to clarify whether one is at the beginning of a phase or if one had already successfully completed this phase. In evaluation with the points system, the following should be considered:

- An organization completes the cycle of each of the phases. The present position will then be determined with the highest value in a scale system. In this way, it is being assumed that the phases have been completed.
- If you wish to indicate that the process has not been concluded within all the indicators, then you simply mark the respective beginning and end points of already attained positions. The following space should indicate that the individual phases have not been completed.

STEP 3: EVALUATION OF FEATURES PRO INDICATOR

The determination of single values can be conducted through interviews and actual- analysis. It is recommended that several persons should collectively assess progress made. In this case, it is possible for each team member to commit his evaluation in writing (classification should be limited to a decimal position after comma; meaning for example that a word signifies 4.4 which indicates that one stands at the beginning of the consolidation phase concerning the respective indicator). The individual values can then finally be summarised in an average-value.

| Success factors | Characteristic | | Difference (△) | Priorities / comments |
|-----------------------------------|---------------------------|--------------------------|-------------------|--------------------------|
| | 0 = very bad currently | 10 = very good future | | |
| STRATEGY | | | | |
| Corporate policies | | | | |
| Strategy | | | | |
| Goals | | | | |
| Conflicts of goals | | | | |
| Control systems | | | | |
| Technological input | | | | |
| | | | | |
| Average evaluation | | | | |
| ORGANISATION | | | | |
| Strategy implementation | | | | |
| Operational structure | | | | |
| Process organisation | | | | |
| Participation of relevant persons | | | | |
| Technological input, logistic | | | | |
| Self organisation | | | | |
| | | | | |
| Average evaluation | | | | |
| INFORMATION SYSTEMS | | | | |
| Significance | | | | |
| Strategy | | | | |
| Data | | | | |
| Application | | | | |
| Service | | | | |
| Business form | | | | |
| | | | | |
| Average evaluation | | | | |

| Success factors | Characteristic | | Difference (△) | Priorities / comments |
|--------------------------|---------------------------|--------------------------|-------------------|--------------------------|
| | 0 = very bad currently | 10 = very good future | | |
| EMPLOYEES | | | | |
| Identification | | | | |
| Working atmosphere | | | | |
| Willingness to perform | | | | |
| Remuneration | | | | |
| Assessment | | | | |
| Further training | | | | |
| | | | | |
| Average evaluation | | | | |
| MANAGEMENT SYSTEM | | | | |
| Management style | | | | |
| Hierarchical style | | | | |
| Delegation | | | | |
| Leadership quality | | | | |
| Communication | | | | |
| Welfare | | | | |
| | | | | |
| Average evaluation | | | | |
| CUSTOMER NEARNESS | | | | |
| Strategy | | | | |
| Environment | | | | |
| Products, services | | | | |
| Customer relations | | | | |
| Business transaction | | | | |
| Customer utility | | | | |
| | | | | |
| Average evaluation | | | | |

70 | Characteristics of general success factors (2)

STEP 4: DETERMINING AVERAGE VALUE PER SUCCESS FACTOR

After all the indicators have been evaluated, one should then establish the average value of general success factor. A decision to assess individual indicators must be based on merit of case to case.

STEP 5: COLLATION OF »CURRENT FEATURES«

In the synopsis »Features of general success factors«, all the values in »Current feature« column are to be entered.

STEP 6: DETERMINING »FUTURE FEATURES«

After determining the actual situation, one then proceeds to considering envisaged features, which one aims at achieving. In determining target profile, the following should be observed:

- A short-term planning horizon should be aspired. In a normal situation, a period of two years should not be exceeded.
- In determining target profile, it is less useful to be untruthful about the analysis. Therefore, one should not proceed on the ideal picture, rather on the realistic picture. What can be achieved concretely in the next 6, 12, or 15 months?

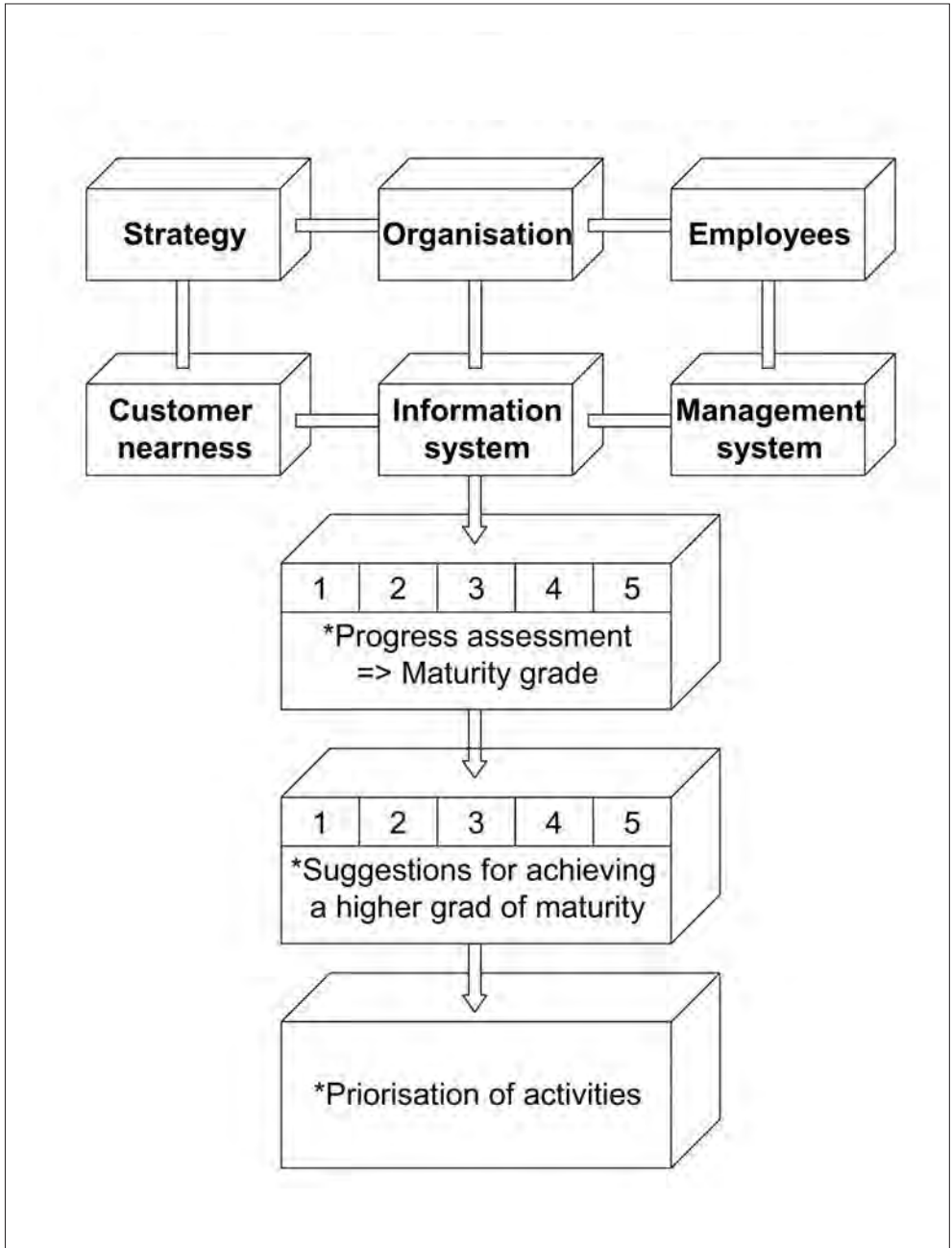
STEP 7: DETERMINING THE DIFFERENCES BETWEEN »ACTUAL AND TARGET«

After examining target profile, the difference (delta) between current and future features and can be examined. The value signifies less or increased need for action.

STEP 8: PRIORITISING THE ACTIVITIES

Because it is not always possible to approach all the activities simultaneously, whereas a concentration of the forces is desirable, it is recommended to engage in prioritising the activities. Prioritisation can be determined through the following criteria:

- Size of the difference (value in figure),
- Market requirements,
- Activities of the competitors,
- Costs,
- Risks and chances of implementation,
- Time requirement for the implementation,
- Reinvigorating the success potentials.



STEP 9: DEVELOPMENT OF ACTIVITIES

After prioritisation, concrete activities must commence. It is recommended to work in small teams in solving individual problem areas and to implement the suggestions (see »Implementation of success factors«).

STEP 10: SYNCHRONISING THE ACTIVITIES

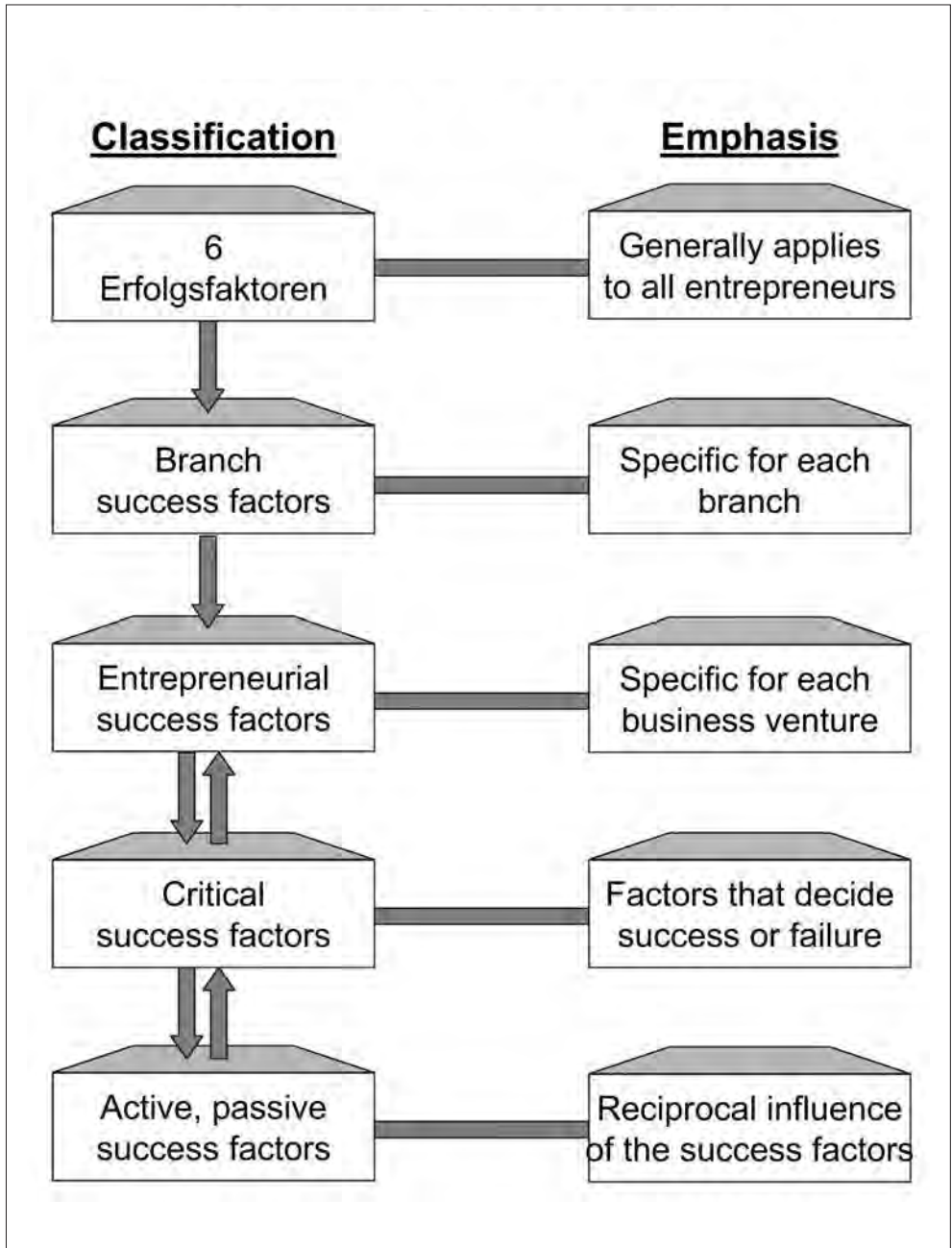
The deduced measured from the general success factors are to be synchronised with the measures from the branches success factors, the specific success factors and with results of customers' opinions.

3 THE BRANCHES SUCCESS FACTORS

While the six general success factors, detached from the specifics of a branch, are valid for all economic activities, what apply to individual branches are often specific factors (see »System of success factors«). Every organization should equally analyse branch-specific success factors during the examination of success factors. In »Examples of branch specific success factors«, typical factors are listed for individual branches .

Which steps are recommendable for the analysis of branch specific success factors (see »Analysis of branch success factors«)?

- Step 1: Try to collate and list the typical factors for your branch
- Step 2: Ascertain the branch average features on a scale of 0-10 for individual success factors (0-10 = not available, very bad; 10 = highest feature, very good).
- Step 3: Try to find a classification for your basic competitors
- Step 4: Evaluate »present« and »future« features for your organisation and try to find out the calculative figures of potential actions (difference between actual and target).
- Step 5: Extricate necessary conclusions from the compiled values whereby
 - Individuals/teams develop the essential activities
 - Concrete solution suggestions discussed
 - The selected measures are implemented



| <u>Examples of branch specific success factors</u> | |
|---|---|
| <p><u>Success factors for credit institutes</u></p> <ul style="list-style-type: none"> - Active customer processing - Active service counselling - Customer nearness - Automation is »daily business« - Globalisation of the markets - Returns oriented sales - Stabilising customer loyalty - Qualified and motivated employees - High productivity | <p><u>Success factors for production industries</u></p> <ul style="list-style-type: none"> - Price/performance ratio - Custom-made solutions - Excellent quality - Higher service grade - Reliability (product liability) - Punctual supply - Innovative solution approaches - Flexibility - Use of construction experience - Short running time - Optimal warehousing |
| <p><u>Success factors for car repair garage</u></p> <ul style="list-style-type: none"> - Higher service grade - Quick supply - Short running time - Optimal warehousing - Qualified employees - Motivation of employees - Ensuring regular maximal garage utilisation | <p><u>Success factors in transport sector</u></p> <ul style="list-style-type: none"> - Vehicle fleet utilisation - Compliance with quality standard - Transport incomes - Capacity adaptation - Adequate pricing - Motivated employees |
| <p><u>Success factors in freight forwarding branch</u></p> <ul style="list-style-type: none"> - Adherence to schedule - Maximum utilisation of trucks - Information on status of consignment - No mistaken consignment - Correct and timely delivery - Correct charging | <p><u>Success factors in a construction machine manufacturing company</u></p> <ul style="list-style-type: none"> - Excellent technique - Innovative solution approaches - Quick supply of spare parts - Low price/ performance ratio - Easy operability - Service friendliness - Good customer training - Near to customer service |

| Branch: <input type="text"/> | | | | | | | | |
|------------------------------|---------------------------------------|-------------------|---|---|---|---------------------|--|---|
| Success factors | Average characteristics in the branch | Major competitors | | | | Our characteristics | | △ |
| | | A | B | C | D | currently | 10 = very good 0 = very bad future | |
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4 DEVELOPMENT AND IMPLEMENTATION OF SPECIFIC SUCCESS FACTORS

The specific success factors can- as already illustrated in Chapter 1- be applied at all hierarchical levels of an organisation (e.g. at organisational level, departmental level, divisional level, team level) and in the personal level (see »Success factors in corporate management«).

In the following, a course of action will be presented in an example at the organisational level. This approach can however be analogically applied at all other levels as well as at the personal level (see »Critical success factors approach/ methods«).

STEP 1: TO WORK OUT THE SUCCESS FACTORS

The application of Metaplan technique is appropriate for this step. This is comprehensively discussed in the essay »Effective team presentation with Meta technique« in Chapter III.1.

The process is usually as follows:

1. Compiling the query

This can be formulated for example as follows:

- »Whenever I am thinking about my responsibility in my company, then it depends especially on ...« (see »If I think about my responsibility«) or
- »Which fundamental success factors do we see for our organisation?«

2. Writing the cards

3. Collecting and shuffling the cards

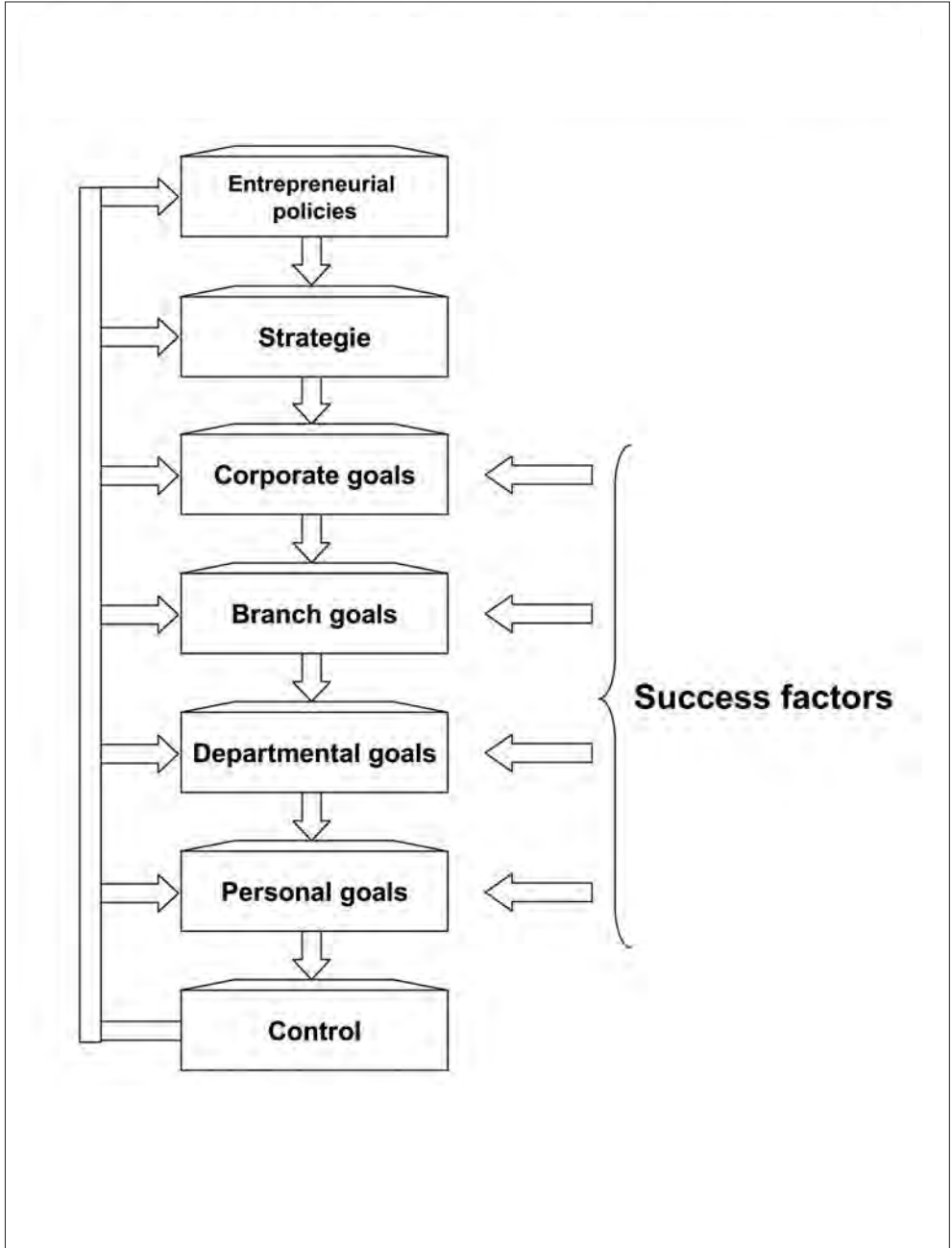
4. Pinning and arranging the cards on the pin wall

3. Common development of the generic terms

4. Collation of the generic terms

Under normal circumstances, between 8 - 14 generic terms are developed in such a session. In order to be sure that none of the essential success factors are missing, one should conduct a comparison with branch success factors. If one is convinced of having collated the most important success factors, the next question is prioritisation. The drafter comes to the conclusion, after a series of sessions with decision makers in commerce and administration that the classical prioritisation approaches

- The number of cards per generic term and
- Allocation of pin-up-points for weighting the generic terms.



| Approach | Methods |
|---------------------------------|----------------------|
| 1. Collation of success factors | Meta-Plan |
| 2. Active, passive factors | Cross-linking matrix |
| 3. Status of the active factors | Scale fixation |
| 4. Target of the active factors | Scale fixation |
| 5. Determining the activities | Supporting matrix |
| 6. Securing utility | Utility methods |

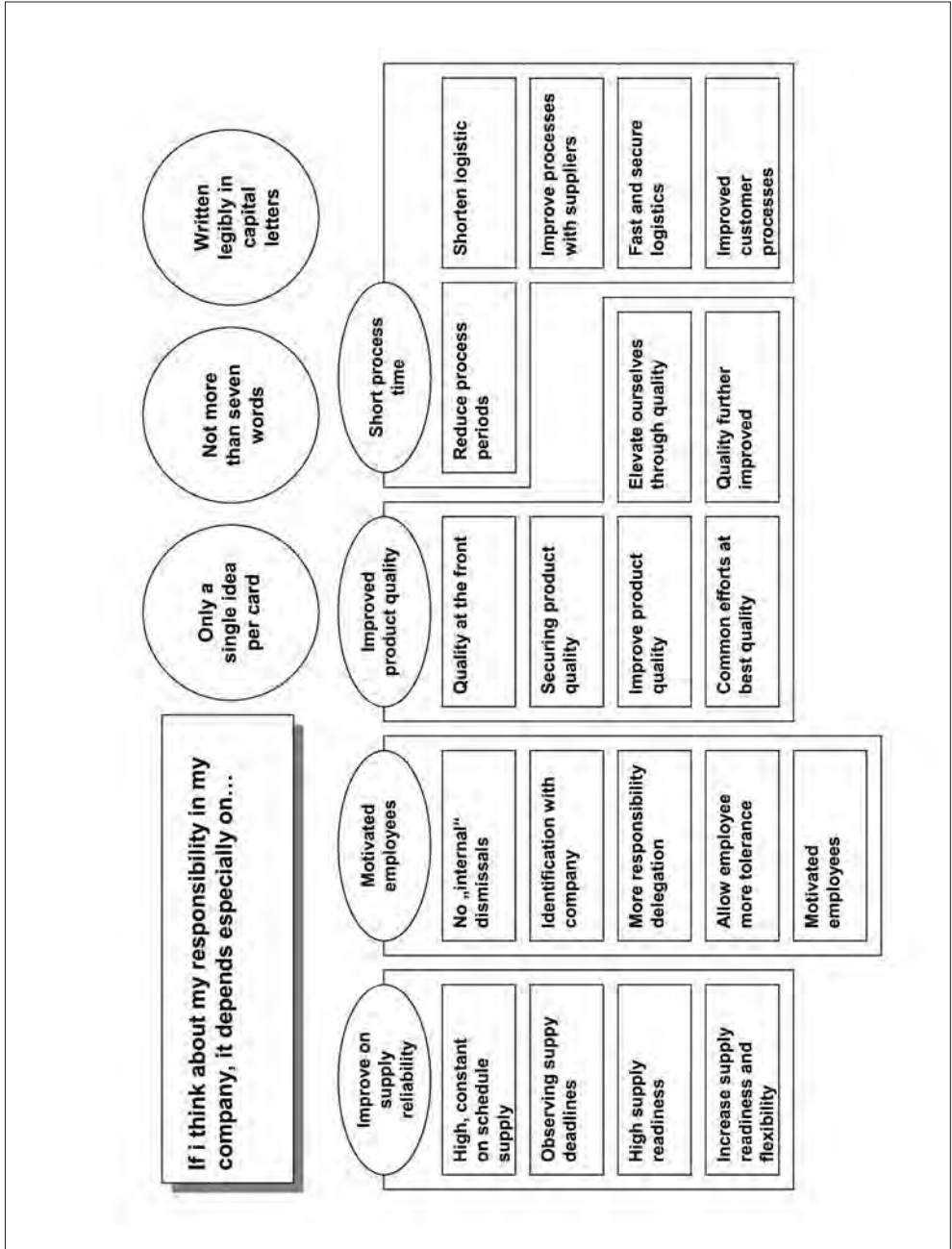
75 | Critical success factors

are not objective and target-oriented enough. Decisive in the analysis of success factors is the influence of the factors among one another. Here networking technique provides us a very important instrument of prioritisation. It is recommended for the reader to apply the methods of success factors in this essay as the basic approach. In the following contribution, a few short repetitions are consciously made; this is nothing but a welcome and useful redundancy.

STEP 2: DETERMINING THE ACTIVE AND PASSIVE FACTORS

According to Vester, the reciprocative effect of individual success factors can be illustrated with cross link matrix. The influencing forces could be for example the following (see »Connecting the success factors«):

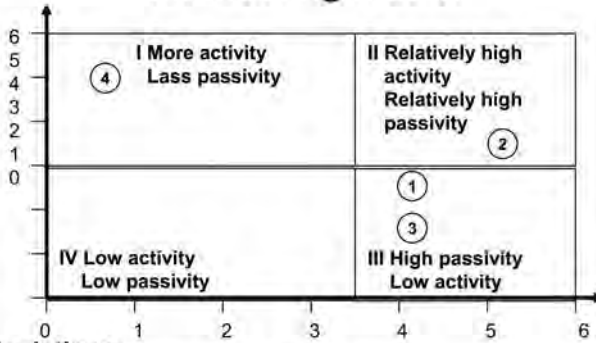
- 0 = no influence
- 1 = limited influence
- 2 = strong influence.



| Success factors Effects of ↓ on → | (1) | (2) | (3) | (4) | Sum for active |
|--------------------------------------|----------|----------|----------|----------|----------------|
| (1) Product quality | | 2 | 1 | 0 | 3 |
| (2) Supply regret | 1 | | 2 | 1 | 4 |
| (3) Process time | 1 | 1 | | | 2 |
| (4) Employee motivation | 2 | 2 | 1 | | 5 |
| Sum for passive | 4 | 5 | 4 | 1 | 14 |

Intense power: 0 = none, 1 = limited, 2 = strong intense

Connecting matrix



Calculations:

Limitation of the active and passive axes

Number of elements $((n) - 1) \times 2$

Example: $(4 - 1) \times 2 = 6$

Point of intersection of the active and passive axes

Addition of active, passive sum: Number of elements

Example: $14 : 4 = 3,5$

If we enter the success factors in a matrix, there is the possibility of finding out their reciprocal influences. Our example (see »Connecting the success factors«) assumes four success factors:

- 1 Product quality,
- 2 Delivery reliability,
- 3 Processing time,
- 4 Employee motivation.

We have to find out the impact of each factor on other factors. In this way, employee motivation strongly influences product quality and delivery reliability in our example (each is awarded 2), the processing time moderately (awarded 1). From the matrix, it becomes clear that employee motivation generally influences other factors in general (active sum 5), while the impacts on success factor itself are minimal (passive sum 1).

If we add the active values of all success factors together and divide this sum with the number of factors, we then have an average of 3.5 (14:4). With the help of this value and of the limitation of active and passive axis, the result is to be seen in the diagram in »Cross link matrix«. One gets the limitation values through the multiplication of the number of factors minus one (the factor doesn't influence itself) and from the value of elements.

Our example shows the limitation of active and passive axis:

$$(4-1) \times 2 = 6$$

On the basis of the ascertained coordinates, the individual factors are to be positioned in the fields. The individual fields can be characterised as follows:

Field I: Success factors with high degree of activities and limited passivity

Field II: Success factors with relatively high degree of activities and relatively higher degree of passivity

Field III: Success factors with higher degree of passivity and limited activity

Field IV: Indifferent success factors, e.g. limited degree of activity and passivity.

| Cross link matrix Effects of ↓ on → | A | B | C | D | E | F | G | H | I | J | Sum of active |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------------|
| A | | | | | | | | | | | |
| B | | | | | | | | | | | |
| C | | | | | | | | | | | |
| D | | | | | | | | | | | |
| E | | | | | | | | | | | |
| F | | | | | | | | | | | |
| G | | | | | | | | | | | |
| H | | | | | | | | | | | |
| I | | | | | | | | | | | |
| J | | | | | | | | | | | |
| Sum of passive | | | | | | | | | | | |

Level of influence:
 0 = No influence
 1 = Limited influence
 2 = Stronger influence

| Critical success factors | Features (0 – 10) | | △ | Priorities |
|--------------------------|-------------------|--------|---|------------|
| | Currently | Future | | |
| | | | | |
| Example: | | | | |
| Product quality | 4 | 8 | 4 | |
| Delivery reliability | 3 | 9 | 6 | |
| Process time | 5 | 9 | 4 | |
| Employee motivation | 4 | 7 | 3 | |

The ranking order of individual success factors can be presented on the basis of four fields as follows:

- Rank 1: 4) Employee motivation
- Rank 2: 2) delivery reliability
- Rank 3: 1) product quality
- Rank 4: 3) processing time

From this example, it becomes obvious that one has to begin with those factors that have more attractiveness, in essence, with the factors in fields I and II. For the development of individual examples, you can employ the worksheet »Connecting the success factors«.

STEP 3: DETERMINING THE STATUS OF ACTIVE FACTORS

Subsequence to cross link matrix, a special attention has to be paid to active factors. These are to be entered into the worksheet »Characteristics of success factors«. Normally, the passive factors are also recorded. For these features, we have at our disposal the already mentioned scaling from 0-10. The values are to be entered into the column »Current features«.

STEP 4: DETERMINING THE TARGET-VALUE OF ACTIVE FACTORS

We have to enter the desired improvements within an envisaged planning horizon in the worksheet »Characteristics of success factors« in the column »Future features«. Afterwards, the examination of the differences and determination of priorities are joined. For the determination of priorities, we can apply several criteria. The illustration »Impacts on prioritisation« shows decision making supports.

STEP 5: DETERMINING THE ACTIVITIES

Concrete suggestions for improvements should be determined at this stage (see worksheet »Success factors and plan of activities«).

STEP 6: SECURING UTILITY

For every chosen measure, the costs should first be determined. This is usually relatively easy to determine. Of difficulty is the evaluation of utility. If it is difficult to determine utility in euro and cents per measure as is sometimes the case, one should nevertheless determine if it is economical. It should not be forgotten that there is a series of decisions which can also be seen as »must projects«. Such projects are to be implemented irrespective of cost-and-utility-consideration. They are of deciding importance for the survival of the company and the development of vital success positions.

- Location in the cross link network
- Target / actual difference (Δ)
- Competition situation
- Strategic orientation
- Resources situation
- Time of implementation
- Risks
- Costs
- Utility

80 | Impacts on prioritisation

| Priority | Success factor | Activities for improving the success factors | Duration |
|----------|----------------|--|----------|
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81 | Success factors and plan of activities

5 REALISING SUCCESS FACTORS FROM CUSTOMER PERSPECTIVE

As mentioned in the introductory chapter, apart from »self picture« which one understands through the analysis of

- the general success factors,
- the branch specific success factors and
- the specific success factors,

one also has to obtain »external opinion« from the customers. Firstly, customers decide which of the success factors are critical from their perspective: if these factors are covered in the questions, it means then that the affected products and services can no longer be sold according to expectation. This situation threatens corporate success, hence the reason for obtaining customers opinions.

In order to determine the significance of opinions (depending on the structure and size of the organisation), it is recommended to allow a certain number of customers to express their opinions. Because the choice has to be representative of all customers, the process of choosing should be as representative as possible. For the purpose of future checks, the criteria applied in the choosing process should be documented.

Methods to be applied in determining which factors should be asked should in any case be such specific factors that are of external nature. These could however be complemented by such factors as suggested by customers.

Customer nomination has the advantage in which the really deciding factors from customers' perspective are considered in the examination. One has to be able to further assume, that those factors, with which customers are dissatisfied but which could be of absolute relevance to the company, are considered.

Obtaining opinions can be achieved using different approaches. One possibility is to interview lead users (emphasis here should be on customers, whose opinions are of a great value). Another possibility is to send questionnaires to customers. The questions should be provided with an answer scale of 0-10 (0 = insufficient, 4 = sufficient, 6 = satisfactory, 8 = good, 10 = very good). In this way, one still has the same evaluation unity as with the examination of maturity level of general, branch- specific and specific success factors. For tips on question formulation, I recommend the questions in the table »Possible questions in determining customer opinion«.

| | insufficiently | satisfying | very well |
|---|----------------|------------|-----------|
| 1. Our employees are convinced of the values of a good customer service | | | |
| 2. Latest developments are quickly recognized and adapted | | | |
| 3. We can be regarded as an innovative corporation | | | |
| 4. Our service concept offers customers optimal value added services | | | |
| 5. The price-performance relationship can be described as excellent | | | |
| 6. We adhere to our promised delivery time | | | |
| 7. We want our customers to receive a very good quality | | | |
| 8. Our company is flexible and quick | | | |
| 9. In case of reclamation, problems handled quick and satisfactorily | | | |
| 10. Information and communication policy with customers can be described as optimal | | | |

82 | Possible questions in determining customers opinion

Several aspects can be considered in the analysis of customer opinions:

- Each customer can be analysed
- Opinions of all interviewed customers should be consolidated to each factor and must be able to be reproduced and evaluated
- If we consider individual factors as already evaluated, it is then possible to match our own opinions with those of the customers. In this way, a further analysis is possible for external (as perceived by customers) success factors:
 - Have we correctly analysed the criteria?
 - Were all the 'critical' factors correctly collated?

Understandably, those badly assessed success factors from our customers' perspective should be reviewed with appropriate measures taken. These activities are to be matched with gained findings from general, branch-specific and specific success factors.

You have now had a broad view of contents and application possibilities of success factors system. I will be glad if you would commence with implementation as soon as possible. If you however have any questions, or require pieces of advice, please let me know this, I will gladly assist you.

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

6 INNOVATION MANAGEMENT

GOAL(S):

Future oriented organisations are nowadays dependent more than ever on innovations. This implies the development of new ideas, technologies and products. In this contribution, the following will be demonstrated: **Perquisites, New ways** and **Approaches and methods**

All the above tend to basically boost the innovation abilities of an organisation hence making it more effective and more successful.

CONTENT:

- 1 Innovation and creativity
- 2 Creative methods
- 3 Innovation main focus: product, process and strategic innovations
- 4 Check lists for innovation management.

INSTRUMENTS:

- Methods and checklist for product innovations
- Methods and checklist for process innovations
- Methods and checklist for strategic innovations

APPLICATION(S):

- Development of new products
- Initiation of new processes
- Compilation of new strategies

UTILITIES:

- Creative techniques lead to large scale solutions to problems
- Customer-oriented solution suggestions as important success factors for the organisation
- New solution approaches are worked out in a team. This guarantees a high degree of identification of all involved in processes
- The large number of presented creative techniques makes a wide range of applications possible

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Methods: Applicable in all areas of the organization
- Checklists: Innovation peculiarities are applicable to the entire organisation, management, staff members, and customers

1 INNOVATION AND CREATIVITY

Innovations are becoming an indispensable necessity in face of harsh competition among businesses. There is the need to adapt to fast changes of our time. Now as before, innovations decide winners and losers. The history of successful organisations confirms that the background of their success were impressive inventions and efficient problem solutions system - a fact that never would have been possible if not for the carefully developed creative abilities of staff members in a positive innovative atmosphere. Today, one knows that innovations cannot simply be ordered by a »Management-by-Innovation«. They are basically dependent on (see »Elements of success of innovation«):

- A positive attitude of the management with an adequate innovation philosophy,
- A positive attitude of staff members of the company towards innovation management so that the basic principles can be experienced,
- The creation of a small, distinctive organisational units with a decentralised structure where entrepreneurship is practised,
- A creativity-demanding-leadership style and a positive atmosphere for innovation,
- A policy of continuous further training for all staff members and the use of creativity potentials,
- A deliberate input of technology and methods as a means of achieving innovations and finally,
- The integration of all concerned from within and outside of the organisation.

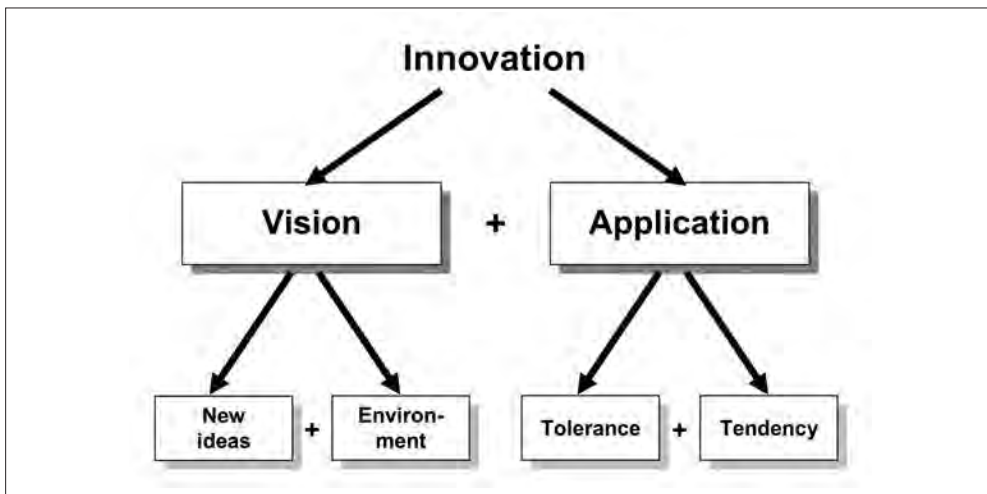
The term Innovation means modernisation, re-launch and novelty. Under the term innovation, one understands for example

- The transformation of scientific innovations into market economic products,
- An improvement of well-tried old products and techniques or methods and processes and finally,
- An implementation of new technologies.

This definition makes it clear that innovations simply mean the implementation of new ideas in practice. Berth, who has carried out comprehensive studies on this topic, sees the concept innovation as a combination of vision and implementation, whereby vision can be categorised into new ideas and fields which can be implemented in a free environment (see Figure »Innovation«). What does this short formula mean in it s own right? New ideas alone are of a little value if at the same time there is no connection of this association of ideas within an appropriate environment (i.e. the ability to recognise or to be more precise, the ability to identify potential future markets that don't exist now).



83 | Elements of success of innovation



84 | Innovation

Apart from this power of imagination, it must be the desire of all involved to try out this new line of thoughts i.e. the chance to implement ideas. Organisations face the challenge of creating the atmosphere necessary for »trying« in a rather unorthodox manner within the working environment. This chance must be of both physical as well as mental nature. Fear of structural changes, loss of status and income must be removed. Apart from free hand, self-inclination and identification with the assignment are inalienable for successful implementations. Implementation presupposes the full character of staff members or of the management as joint entrepreneurs.

The term »Innovation« encompasses the term »New ideas« or creativity. Creativity is a fundamental condition for innovations.

According to the lexicon of psychology by Arnold/Eysenk/Meile zu Rate, the term Creativity refers to »the ability to recognise objects in new constellations as well as in original condition, the ability to implement them sensibly, ability to recognise new problems and the ability to develop new ideas, and against the resistance of the environment, the ability to find something new«.

Under creativity today, one understands the unusual ways of thinking, a particular way of going about with one's knowledge in order to arrive at new solution possibilities for the complex problem zones of tomorrow which can no longer be achieved through any logical- analytical thinking. As opposed to logicalanalytical way of thinking which assumes certain conditions that set boundaries, creativity knows no borders. A creative person is thereby characterised as a non conformist, autonomous.

2 METHODS OF CREATIVITY

In the search for the right approaches to innovation in the last three years, a huge number of different techniques have been initialised which is however common to all,

- Leaving routine way of thinking,
- Making the combination of common processes possible,
- Dismantling existing mental blockades,
- Supporting group dynamic processes,
- Avoiding prejudices,
- Establishing associations and analogies and
- Brokering other perspectives.

All the creativity methods also have the following in common

- Improving upon the quality of solutions,
- Making creative thinking processes possible,

- Producing possible results in appropriate time and finally
- Setting course for a successful future.

From the different creativity methods, one can differentiate between

- analytical and
- intuitive methods.

Analytical methods are based upon the principle of analysis and they are characterised by the following features:

- Systematic analysis of problem positions,
- Analysing the constituent parts of the problem,
- Systematic orientation of thinking processes,
- Analysing the entire creative processes and finally,
- Combination of possible solution variables.

Intuitive methods are based upon the principle of intuition and they are characterised by the following features:

- Removing routine ways of thinking,
- Generating spontaneous ideas,
- Exploiting visionary ideas,
- Visualising thoughts and ideas,
- Alienation of a problem and creating new ways of observation,
- Creation of analogies and associations and
- Involvement of the sub consciousness.

The following count to the most popular analytical methods:

- Checklist methods,
- EKS-methods,
- Business fields analysis,
- Morphological methods,
- Portfolio analysis,
- Strategic analysis,
- Environmental protection analysis,
- Analysis of value,
- Competition analysis and
- Target group analysis.

The following are described as intuitive methods:

- Bionics,
- Brain storming,
- Dialectics,
- Gordon methods,
- 6-hats methods,
- Card inquiries,
- Lead-user concept,
- Methods 635,
- Moderation techniques,
- OE methods,
- Process organisation and
- Synthetic.

In the process of idea production, the following have to be considered:

- Idea creation and the analysis of ideas are to be carried out separately,
- Ideas are to be committed in writing as a rule

It makes sense to collate all ideas that are produced either by individuals or in groups and to formalise these. An individual should commit his ideas in writing by using specially conceived forms designed for idea collation (see »Ideas«). For ideas generated in groups, all the following techniques explained below are suitable. Ideas which appear insufficient or those which leave the impression of being useless and inapplicable can be developed further under the following aspects

- Enhancement possibilities,
- Reduction of the first approach,
- Combination with other ideas,
- Transferring to other branches

The following techniques are classified into classical and new creative techniques. However, only the most common methods will be treated. All the techniques will be outlined in the same system order. The information provided must however be sufficient enough to work with the techniques. In some cases, the assertion has to be complemented with specific work-sheets, examples and to a large extent, with information. While classical creative techniques are handled in alphabetical order, the new creative techniques are classified according to their application: strategic innovations, process innovations and product innovations (each with four techniques).

Most of the represented techniques are conceived for creative teams. In putting the teams together, the following should be observed:

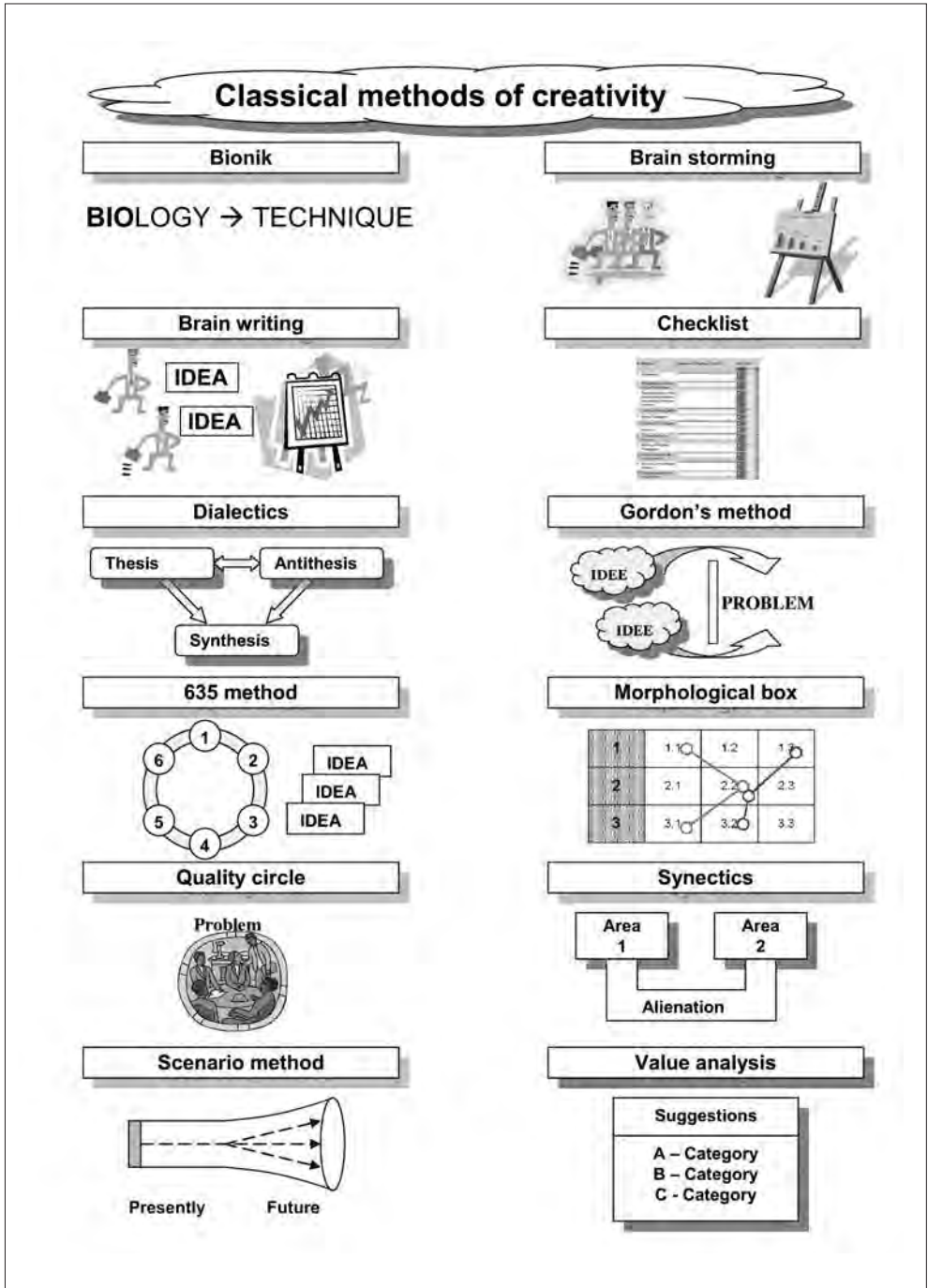
- Membership is temporally limited. This applies particularly to the product innovation branch. In this way, it will be guaranteed that no inflexible way of thinking gains prominence.
- Membership should be limited in number. From the description of the different techniques in this regard.
- Team members have equal rights. There should be a hierarchy-free, cooperative atmosphere where no one has a higher than others authority to decide.
- A constructive, friendly togetherness should characterise this group.



Think about it:

- ❖ Ideas are comparable with the sailing clouds in the sky: before you notice them, they disappear
- ❖ Hold on tight to the ideas
- ❖ Pursue the ideas

| A short description of ideas | Planned activities | Date conceptions |
|------------------------------|--------------------|------------------|
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| 6. | | |
| 7. | | |



BIONICS

METHOD:

Bionics is formed out of the words Biology and Technology. It deals with the way living objects function and how life used to be. With the knowledge acquired from this analysis, respective technological problems are expected to be solved efficiently. Examples:

- Dandelion seedlings are transported in the air; the same principle is also applied in parachute designing.
- A bird's ability to fly is a condition for building aircraft.

OBJECTIVE:

The principles of bio cybernetic and optimisation strategies of the nature are also applicable to organisational or technical problems.

They can not be copied without criticism; rather they fulfil an exemplary function which is supposed to provide stimuli, often leading to the development of new processes. Bionics therefore is the application of natural principles and is especially suitable for the needs of companies and authorities.

DURATION: Approx. 1-2 hours

PARTICIPANTS: 4-6 participants with experience in technology

RULES:

1. Find examples from living systems.
2. Reach conclusions.
3. Transfer of behavioural patterns over to organisational and technical processes respectively.

ADVANTAGES:

Concrete examples from the worlds of plants and animals provide clues on

- Optimal evaluation of energy
- Quality improvement
- Utility improvement
- Productivity improvement

DISADVANTAGES:

Danger of having several non feasible solution possibilities

BRAIN STORMING

METHOD:

Brain storming was developed by Alex Osborn at the beginning of the thirties. It has become popular as a method for stimulating creative thinking. This method is a process of collating general and spontaneous ideas of a chosen group of staff members and it is supposed to ease problem solving. Brain storming touches on the principle of intuition.

OBJECTIVE:

Development of as many ideas as possible: It depends basically on generating as many ideas as possible; less emphasis on the quality of such expressions. Ideas should »storm« from the subconsciousness onto the surface (storming).

DURATION: Approximately 2 hours

PARTICIPANTS: As heterogeneous as much as possible: 6-12 persons, 1 moderator

RULES:

For the participants

- 1 Quantity of ideas takes priority over quality
- 2 There is no criticism
- 3 Weird ideas are welcome in idea generation process
- 4 Ideas can be copied from others and developed upon

The Moderator

- 1 Is responsible for adherence to the rules
- 2 Is responsible documentation of ideas
- 3 Can bring in his own ideas
- 4 Establishes connectivity between the ideas
- 5 Can pose questions

ADVANTAGES:

Unusual ideas also have a chance in a deadlocked thinking pattern

DISADVANTAGES:

Treatment of complex issues is impossible

BRAIN WRITING (USING CARDS)

METHOD:

Each participant writes down his ideas on cards. The cards will be displayed on a pin wall. In this way, attempt is being made to organise and structure possible solutions.

OBJECTIVE:

The diversity of opinions becomes obvious. The mutually prepared paper memory exercise increases the preparedness for identification.

DURATION: Approximately 1-3 hours

PARTICIPANTS: Depending on how the problem is observed, between 6-14 participants.

RULES:

- 1 Paraphrasing the problem in a question form
- 2 Writing down ideas from each participant on cards
- 3 Collecting the cards
- 4 Structuring the cards on a pin wall
- 5 Discussing the results
- 6 Discussion of part results in plenums or in small groups

ADVANTAGES:

- Textual and optical elements make the process clear
- Committed contributions from everyone
- A high degree of effectiveness

DISADVANTAGES:

- Because of a large number of participants, lengthy process
- Working out of suggestions to solutions in small groups is often time consuming

CHECKLIST METHOD

METHOD:

This analytical method is the easiest form of creative techniques. It is often being applied in the search for solutions. The checklist contains a series of questions and listings which comprehensively describe a possible problem.

OBJECTIVE:

The question list guarantees a very accurate ascertaining of the present situation of a service, product or a process. The checklist also contains the required features necessary for a solution.

DURATION: Approximately 1-3 hours

PARTICIPANTS: Heterogeneous representation of participants

RULES:

- 1 Working through the checklist
- 2 Analysis of both strengths and weaknesses of individual ideas
- 3 Analysis of alternative solutions

ADVANTAGES:

- Easy to operate
- A wide variety of solutions possible
- Possibility of pre-selection of ideas

DISADVANTAGES:

- Little chance for spontaneity
- Very comprehensive with complex problems
- No prioritisation of questions

DIALECTICS METHOD

METHOD:

This creative method serves as a means of generating ideas and offers a special form of thinking. It works by reversing the problem. This means that a thesis is placed against an anti-thesis. These opposite principles will then be presented in a synthesis which can then be seen as basis for further considerations.

OBJECTIVE:

Problems are perceived from different perceptives

DURATION: Approximately 1-2 hours

PARTICIPANTS: 4-8 creative participants

RULES:

1. Current situation (Thesis)
All the facts, evaluations and reports from all group-members will be collected and collated.
2. Target situation (Anti-thesis)
Considerations on expected situation will be made and developed by participants, and a reversal of the problem (e.g. a utopian view) will be provided.
3. Synthesis (Thesis)
In this last step toward problem solving, a comparison is sought between the developed solutions and the reality.

ADVANTAGES:

- Departure from inflexible way of thinking
- Spontaneous solution suggestions possible

DISADVANTAGES:

- Participants should be provided with creative training
- Danger of utopian solution possibilities

GORDON METHOD

METHOD:

This creative method developed by William J. Gordon is very similar to Brain storming. It touches - as does Brain storming- on the intuition principle. The fundamental difference however lies in the fact that only the moderator has an idea of the problem which requires solution. In this way, he can direct the flow of ideas of the participants.

OBJECTIVE:

Suitable for the formulation of the problem whereby the flow of ideas is not restricted by any problem specification.

DURATION: Approximately 1 hour

PARTICIPANTS: 6-12 persons, 1 moderator (Heterogeneous background of participants)

RULES:

- 1 Condition for the success of this method is the choice of an alternative subject as basis for discussion. The alternative subject may be related to the real problem; however no reference should be made to it.
- 2 At the start of the discussion, the moderator allows a free flow of ideas without any hindrance. He starts by separating usable ideas from the entire ideas. He steers these in a particular direction which at the end should lead to an achievable problem-solution.

ADVANTAGES:

- A free flow of individual ideas is not limited by any particular problem specification.
- Participants do not have to restrict themselves to any particular direction, rather they may take different approaches.

DISADVANTAGES:

- It is often difficult for the moderator to control flow of ideas.

METHOD-635

METHOD:

Solution to problems on the basis of a combination of ideas from 6 participants. B. Rohrbach developed this method out of Brainstorming.

OBJECTIVE:

Developing solutions in areas where multifaceted solution possibilities are necessary.
6 participants develop 3 ideas, each 5 times.

DURATION: Approximately 2 hours

PARTICIPANTS: 6 participants who are familiar with the problem situation.

If each of the 6 participants develop 3 ideas and passes these on 5 times, we have 108 ideas.

RULES:

Group work does not require a moderator

- 1 Each participant commits 3 ideas on a paper specifically suitable for the purpose.
- 2 The paper passes on to the neighbour in clock-wise direction. He (the neighbour) expands on the ideas by contributing 3 new ideas.
- 3 Time allowance for generating the 3 ideas should be between 5-10 minutes.
- 4 Each person has to contribute to ideas generated by other participants.
Subsequently, there is provision for only a total of 5 transfers.

ADVANTAGES:

- Group work without a mentor
- The group directs itself
- All participants must contribute
- Suitable for application as a follow-up method

DISADVANTAGES:

- Steers creative ideas in a particular course
- Less spontaneity due to too much concentration on writing down ideas on the paper

| | | | |
|----------------------------|-----------------------|-----------------------|-----------------------|
| Applying method 635 | | Date: | |
| Problem: | | | |
| Objectives: | | | |
| Names: | <input type="radio"/> | Suggestions | <input type="radio"/> |
| | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
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MORPHOLOGICAL BOX

METHOD:

The term »Morphology« expresses the teaching of structures and orderliness. Morphological thinking therefore is a structural, organised thinking. Morphological box method enables the user the opportunity to consider every fundamental solution approaches.

OBJECTIVE:

Solving problems by categorising them into sub-problems. The combination of partial solutions gives us the total solution. With this method, it should be possible to establish a total solution system in a structured form which will include every thinkable solution approaches.

DURATION: 2-3 hours

PARTICIPANTS: Possibly a heterogeneous circle. This should possess special knowledge relevant to the problem. It can also be applied by a competent individual.

RULES:

- 1 Definition and analysis of the problem
- 2 Working out the intuitively formed solution elements
- 3 Itemising all possible concrete characteristics
- 4 Combination of solution elements to a total solution

ADVANTAGES:

- A clear structuring of the problem
- Highly complex conceptual problems can be clearly presented

DISADVANTAGES:

- Confusion as a result of diversity
- Lack of spontaneity

Enhancement of internal innovation capability

| Parameter (criteria) | Variable | | | | | | | | | |
|------------------------------------|-------------------------|---------------------------|----------------------|-------------------------|-------------------------|----------------------------|-----------------|--------------------|--|--|
| 1. Target groups | Top management | Middle management | | Specialists | Junior staff | Entire staff | | | | |
| 2. Company area of bus | Distribution | Logistic | Production | Administration | Personnel | Purchase | | | | |
| 3. Measures | External training | Internal further training | | Quality circle | Consultant workshops | Organisational development | | | | |
| 4. Methods | Brain storming | Moderation | Check lists | 635 Meth. | Morphologic al analysis | Synthetic/ Bionic | Scenario method | Databank inquiries | | |
| 5. Participants motivation | Tested entrepreneurship | Bonus | Higher salary scale. | More responsibility | Better image | Promotion | | | | |
| 6. Costs | Cost intensive | Proportional investment | | Economical | Free of charge | | | | | |
| 7. Utility | Higher Roi | Medium Roi | Lower Roi | Higher strategy utility | Medium strategy utility | | | | | |
| 8. Temporal effects | Long term | Middle term | Short term | comprehensives | | | | | | |
| 9. Responsible for the realisation | Top-Management | Internal project head | | External consultant | Specialist | Personnel department | | | | |

Example of a "Morphological box" (Innovation capability)

QUALITY CIRCLE

METHOD:

A quality circle can be a periodical arrangement or a circle constituted for the purpose of providing solutions to possible problems.

OBJECTIVE:

If optimised process procedures, increased product quality and the strengthening of market position become necessary, then this method can be applied in practice.

DURATION: Depending on the complexity of the problem

PARTICIPANTS: A group consisting of 4-6 members

RULES:

A quality circle consists of:

- A steering group
- A coordinator (organiser)
- Catalysers
- A quality circle head (moderator)
- Members of the quality circle

Of special relevance are those members of the quality circle that are affected directly or indirectly. They work on a voluntary basis on problem solutions from their respective professional fields.

ADVANTAGES:

- Problems from different branches of endeavour are solved constructively
- The coming together encourages a kind of togetherness among staff members of the company

DISADVANTAGES:

- Organisational efforts involved should be considered

SYNTHETIC

METHOD:

Typical of synthetic is: already known scientific elements are brought together in new correlations. One attempts to arrive at a solution to problems by isolating the problems and building analogical connections.

OBJECTIVE:

Efforts at achieving new ideas and solution possibilities, especially in the technical branch. This method is especially applicable where the problem situation cannot be clearly defined.

DURATION: Approximately 1-2 hours

PARTICIPANTS: Possibly a heterogeneous circle: 4-8 persons, 1 trained moderator

RULES:

- 1 Definition and analysis of the problems
- 2 Gathering spontaneous solution possibilities
- 3 Search for problem solutions from other spheres of life
- 4 Checking on and eventually combining isolated and familiar solution approaches

ADVANTAGES:

- Suitable for technical problem areas
- A qualitatively high solution standard
- Further search area possible analogically

DISADVANTAGES:

- It demands a high qualitative standard from the participants
- A rational justification for an analogy is often lacking

SCENARIO METHOD

METHOD:

The most important task of scenario is to offer alternative situations and to assist in the decision making process. With this method, it is possible to achieve flexible adaptation in future developments by creating leeway for decisions.

OBJECTIVE:

Exploring future developments and solution possibilities. Scenario can include the following topic areas:

- Analysis of strengths and weaknesses
- Analysis of areas of future operation of an organisation
- Production and product planning
- Structural problems (infrastructure)
- Fusions, franchising, joint ventures, cooperation

DURATION: Depending on the complexity of the problem

PARTICIPANTS: A skilled project team is required

RULES:

The scenario method proceeds in three phases:

- 1 Analysis stage: definition of the problem and description of the circumstances.
- 2 Projection stage: laying down of probable developments, creation of pre-scenario and development of decision criteria
- 3 Synthetic stage: preparation of scenarios

Fairly long term scenarios will be improved upon within specifically defined periods and will be aligned with the modified general conditions.

ADVANTAGES:

- Trendsetting perspectives become apparent
- Wrong planning can be identified

DISADVANTAGES:

- High insecurity with individual assumptions

VALUE ANALYSIS

METHOD:

The term Value Analysis describes a systematic method which influences the costs of a product or service. It is a creative working process, a systematic search for available facts and possible alternatives in order to arrive at a minimum costs in every area of a company.

OBJECTIVE:

Value Analysis is being strongly adapted in complex tasks, spanning over every department, e.g. when introducing products, when analysing manufacturing processes, or when reducing administrative costs etc.

DURATION: This depends strongly on input

PARTICIPANTS: 6-10 persons who are familiar with the problem

RULES:

- 1 Individual products, business processes and every other areas where costs are generated will be classified into a value of A, B or C. A represents such products or processes which attract highest costs or which bring least profit. C is least cost intensive.
- 2 In this stage, individual elements with A value (e.g. part of a product or single process parts) will have their costs valued. One will then be able to effectively determine for which product parts or product processes a cost reduction will be of significant relevance.
- 3 This stage is occupied with finding innovative solutions using basic creative methods (e.g. Brain storming).

ADVANTAGES:

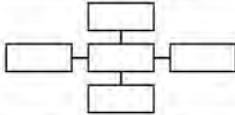
- Great efficiency possible by costs reduction
- Low costs will characterise best functions

DISADVANTAGES:

- If not properly applied, it is possible to cause frustration among the staff members

Newer methods of creativity

Competition analysis



Strategic analysis



EKS method



OE Method

Basic level
+
relationship level

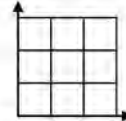
Data bases



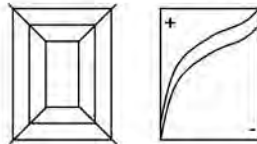
6 Hats



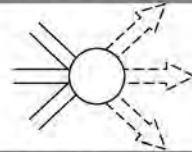
Portfolio analysis



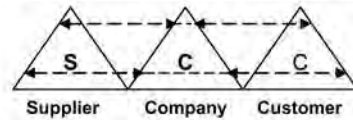
Business fields



Target group analysis



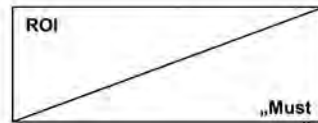
Process organisation



Customer Advisory



Environment at protection



COMPETITION ANALYSIS

METHOD:

In the area of strategic innovations, it is of an absolute necessity for any organisation that is represented on the general market to conduct a competition analysis. This tends to provide numerous new approaches for market innovations. The competition model developed by Michael Porter distinguishes 5 forces:

- 1 Rivalry among existing competitors
- 2 Negotiations power of buyers
- 3 Negotiations power of suppliers
- 4 Threat from new competitors
- 5 Threat from substitute products and services

OBJECTIVE:

The objective of competition strategy is to be able to defend oneself against the 5 forces thereby creating a favourable condition for own measures. It is imperative for every organisation to develop and realise innovative approaches.

DURATION: For each competitive strength 4-8 hours

PARTICIPANTS: 4-8 staff members with competence in competitive forces

RULES:

- 1 Analysis of the current facts
- 2 Definition of strategic orientation
- 3 Development of strategic, process and product innovations
- 4 Evaluation of innovations
- 5 Realisation and controlling of recommendations

ADVANTAGES:

- Integrated competition analysis
- Concrete discussions
- Verification of results

DISADVANTAGES:

- Difficulties lie in the acquisition of data on the 5 forces

PORTFOLIO ANALYSIS

METHOD:

In the first instance, portfolio analysis is based upon the life cycle of products and services. All products pass through different phases, right from their development until their extinction from the market. If one arranges the products and services in a matrix under the axis »Market growth« and »Competition forces«, it will come down to classification into new generation products, star products, milk cows and discontinued products.

OBJECTIVE:

Innovative approaches can be applied in answering the following questions when using this method:

- 1 Is the product, service balanced?
- 2 How should be portfolio be developed in the coming years?
- 3 Which conclusions can be drawn from the portfolio analysis of competitors?

DURATION: Approximately 6-8 hours

PARTICIPANTS: 4-8 persons drawn from different functions, but should implicitly include participants from the distribution and financial controlling sections.

RULES:

- 1 For individual products and services, their positions within the matrix must be determined
- 2 The matrix has to be forecasted for chosen planning horizon
- 3 Acquiring innovative solutions for the development of success positions

ADVANTAGES:

- High strategic orientation
- Objectifying the initial situation
- Necessity of taking precautions to ensure one is still represented in the future

DISADVANTAGES:

- One sided stress on qualitative criteria
- Predomination of linear way of thinking

STRATEGY ANALYSIS

METHOD:

According to Michael Porter, there are three strategies which an organisation can pursue. These are:

- 1 Comprehensive cost leadership
- 2 Differentiation (added value)
- 3 Concentration on certain areas

Organisations concentrate themselves mainly on a single strategy. One attempts to achieve a competitive advantage against competitors within the branch through a determined pursuit and realisation of a single target.

OBJECTIVE:

In order to achieve innovations (especially in the area of strategy), the general strategic orientation must first be determined. It provides the conditions for process and product innovations. It is evident that a cost leader has to emphasis on other targets in comparison with a provider of several products. To achieve innovations, such orientation means:

- 1 Uniform orientation on all activities
- 2 Avoiding erroneous trends
- 3 Expanding on ones strengths

DURATION: Approximately one day for the formulation of strategic orientation

PARTICIPANTS: 4-8 decision makers with necessary competence

RULES:

- 1 Analysis of current success positions
- 2 Scrutinising competitors situation
- 3 Determining future strategy
- 4 Communicating the strategic orientation
- 5 Developing innovations

ADVANTAGES:

- Harmonisation of innovations under a strategy
- Potentiation of forces

DISADVANTAGES:

- Market forces may require strategic adjustments

BUSINESS FIELDS ANALYSIS

METHOD:

In the first instance, each company has its special area of specialisation. In this way, it attempts as much as possible to carry out its businesses according to its strategic considerations. In the course of time, it often expands on its performance; it begins to appeal to new target groups. This in turn provides the organisation with opportunity to get into new business segments. Apart from expanding on business segments from within its original specialisation, it is necessary to envisage chances for future developments of every business segment.

OBJECTIVE:

- 1 Concentrated development of innovations in main business field
- 2 Expansion of innovations in new business segments from within its original main business
- 3 Innovations is made possible in the efforts at meeting new demands

DURATION: Approximately one day for determining business segments

PARTICIPANTS: 4-8 decision makers with necessary competence

RULES:

- 1 Defining main business segment
- 2 Outlining innovation in main business segment
- 3 Expansion of main business segment- new approaches
- 4 Consideration of trends within the branch
- 5 Eventual amendments of business segments

ADVANTAGES:

- Systematic analysis of future business segments
- Expansion on ones strengths
- Reduction of risks
- Determining the main focus of innovations

DISADVANTAGES:

- Trends are dynamic
- Threats from new market entrants and substitute products

EKS- METHOD

METHOD:

The energo-cybernetic strategy was developed by Wolfgang Mewes. This method points out that only those who concentrate most on finding solutions to their respective most urgent problems are those who develop fastest, safest and most durable. In solving the most drastic shortcomings, one exploits the chances provided by the environment. Each person or organisation becomes most efficient if he concentrates exactly on the most potent point.

OBJECTIVE:

The target of EKS method is making external target its own. This is achieved with the 8 following steps:

- 1 Analysis of strengths: »Where do ones strengths lie?«
- 2 Analysis of chance: »Where do ones chances lie?«
- 3 Analysis of target groups: »Which groups are relevant?«
- 4 Analysis of sub-target groups: »Which sub target groups are success promising?«
- 5 Analysis of problem: »What is the most critical problem of the sub group?«
- 6 Problem solution: »How can the problems be optimally solved?«
- 7 Improvement on problem solution: »How can the solution become perfect?«
- 8 Development of overall concept: »I/we provide great utility«

DURATION: Depending on the intensity, ½ day- 2 days

PARTICIPANTS: Depending on the problem: 1-12 persons

RULES:

Optimisation of ones' and collective utilities

ADVANTAGES:

- Concentration on ones strengths
- Clarification of utility orientation
- Practising the winner-winner-system
- Inculcation of intellectual and mental values

DISADVANTAGES:

- Individual interests are subordinated

ANALYSIS OF TARGET GROUPS

METHOD:

In both consumer and capital goods branches, decisive nowadays is the ability to appeal to the target groups who are directly and indirectly involved in the cultivation of images, opinions, initiatives and decisions. The individual groups are to be identified in order to arrive at target group specific programmes. Nowadays, it is impossible to develop innovations for the generality; rather there is concentration on individual target groups.

OBJECTIVE:

Individual groups are to be evaluated according to the following criteria in order to find the appropriate innovation approaches:

- Turnover/proportion of profit now and in future
- Importance for an organisation
- Decision criteria of target groups
- Priorities in the decision criteria
- Risks in single target groups

DURATION: Depends strongly on the availability of data materials. For the classification into groups and finding out innovation topics, approx. 1-2 days

PARTICIPANTS: 4-12 participants from different segments

RULES:

- 1 Classification of individual target groups
- 2 Evaluation of target groups according to criteria
- 3 Development of innovation topics
- 4 Processing, analysis and realisation of innovations

ADVANTAGES:

- Strengthening of market position
- Generation of target-group-oriented innovations

DISADVANTAGES:

- Difficult to segment the customers

ORGANISATIONAL DEVELOPMENT

METHOD:

Organisational development is a learning and development process of an organisation and persons. The exertion of influence on the composition and development of the organisation occurs mainly through an improvement in communication, especially through the possibility of team work, creation of learning situations and through the enhancement of room for manoeuvre.

OBJECTIVE:

An improvement of performance ability of an organisation and an improvement of the quality of professional life of the worker so that he is able to create innovations. Content of organisational development is the processing of concrete questions and problems of daily activities and of a common future.

DURATION: Depends on the comprehensiveness of the activities and phases

PARTICIPANTS: Depending on the integration of members of the company

RULES:

- 1 Compiling the problems in a factual level
- 2 Relationship level per team/ analysing units
- 3 Developing integrated solution approach
- 4 Making those affected participate

ADVANTAGES:

- Possibility of exchange of information between persons and groups
- Discussion on factual issues and on behavioural questions
- Conflicts are resolved by means of negotiation
- Common development of new solutions

DISADVANTAGES:

- Complex procedure
- Integrated contemplation demands a great time input

PROCESS ORGANISATION

METHOD:

In the past, organisations were basically viewed as functional. This means that purchasing, production or marketing departments attempted mainly to organisationally optimise their systems. The result was (and is still) segmental or departmental thinking. With an ever increasing demand for customer orientation, it has become necessary to abolish both segmental thinking and vertical organisational classification and to replace these with processes spanning over all segments/departments with an optimal customer orientation as horizontal procedures.

OBJECTIVE:

The 3 following goals are to be achieved:

- 1 To achieve an optimisation of ones processes which span over all segments and departments
- 2 An optimal integration of customer processes
- 3 An optimal integration of suppliers processes

Innovations with this target try to achieve an optimisation of organisational processes. The more successful one is able to harmonise these organisational processes in a winnerwinner-principle, the more successful one will become.

DURATION: Depends on the comprehensiveness of the processes that are to be accomplished

PARTICIPANTS: Everyone who is familiar with the processes

RULES:

- 1 Clear definition of processes spanning over all the segments
- 2 Constitution of partly autonomous working groups
- 3 Appointment of someone responsible for the processes

ADVANTAGES:

- The innovations are integrally aligned
- The processes optimise internal with external activities

DISADVANTAGES:

- Short term successes are not feasible

DATABANK ANALYSIS

METHOD:

Nowadays, offices have access to all databanks in the world. The benefit of these databanks (especially for innovation) is in most cases not recognised by most organisations/ authorities. The costs for such enquiries should under no circumstances be a hindrance. In individual situations, the enquiries are accompanied by benefits.

OBJECTIVE:

- 1 Selected enquiries
- 2 Swift information status
- 3 Information are current
- 4 Concrete approaches to innovations

DURATION: Normally, it requires a few hours

PARTICIPANTS: One or more persons determine the need. Eventually, one person can coordinate.

RULES:

- 1 Providing an overview of databanks
- 2 Finding out contents of relevant databanks
- 3 Concrete enquiries; commission the services to someone else
- 4 Analysing the data/ information
- 5 Initiating innovation processes
- 6 Taking decisions

ADVANTAGES:

- Comprehensive level of awareness within a short time
- Relatively cheap
- A secure basis for decision making
- Availability of better data is simply a competitive advantage

DISADVANTAGES:

- Difficulties in formulating information needs
- Missing overview of available databanks

THE CUSTOMERS ADVISORY BODY (LEAD USER) CONCEPT

METHOD:

It ought to be a matter of habit to frequently ask customers about their level of satisfaction. It also ought to be a matter of course to initiate innovation meetings with the customers. One knows today that a higher percentage level of innovation ideas come from the customers. Reasons for customers' innovation come from their constant contact with the products and the resulting problems associated with the products. Decisive is the choice of right customers: it must be customers who as Lead users possess a high professional knowledge, trend-setting customers.

OBJECTIVE:

Customer orientation and market-oriented products can be broadly optimised through a Lead user concept.

DURATION: Depends on the complexity of the products

PARTICIPANTS: 8-16 specially chosen customers and 2-4 staff members (to function partly as moderators)

RULES:

- 1 Identification of important technological trends in the examined areas/product segment
- 2 Identification of potential Lead users
- 3 Development of product concepts together with the identified Lead users
- 4 Verification of solution approaches through other, until now excluded users

ADVANTAGES:

- Fundamental reduction in project costs
- Reduction in reclamations
- Promotion of new developments

DISADVANTAGES:

- Organisation of cooperation between users and providers is time consuming

THE SIX HATS METHOD

METHOD:

The six hats method was developed by Edward de Bono. It aims at untangling the thinking process. Not all aspects of thinking process are taken into consideration; rather one consciously concentrates himself only on a single thinking process. Each of the six hats presents triggering signals for the different aspects of thinking.

| | |
|-------------|---|
| White hat: | merely facts, figures and information |
| Red hat: | emotions, feelings, hunch and intuition |
| Black hat: | negative aspects and judgements, why it's going to fail |
| Yellow hat: | positive, optimistic thinking, very constructive |
| Blue hat: | directs and watches over the thinking process |

OBJECTIVE:

- 1 A clearly outlined role playing
- 2 Steering attention towards 6 different aspects
- 3 A prompt switch to other ways of thinking
- 4 Consideration of most important aspects of problem solutions

PARTICIPANTS: Groups with 6-12 persons

RULES:

This method can be relived in different variations. One possibility is for one participant to put on a hat and identify himself with the corresponding »Thinking-role«. The blue hat thinker makes sure that the rules of the game are abided by. One can also change or as the case may be, put on the hats during an innovation meeting.

ADVANTAGES:

- Possibility of multiple thinking capabilities
- Simplifying the thinking process
- Necessity of assuming certain thinking patterns

DISADVANTAGES:

- Coordination and inferences become complicated



White hat:

**White is neutral and objective.
Basic facts and figures.**



Red hat:

**Red signifies irritation, emotions, anger.
Emotional view**



Black hat:

**Black is bleak and negative.
Negative aspect.**



Yellow hat:

**Yellow is sunny, bright and positive.
Positive thinking.**



Green hat:

**Green signifies vegetation and growth.
Creativity and new ideas.**



Blue hat:

**Colour of the sky which is above all others.
Directing, organising and controlling..**

ENVIRONMENTAL PROTECTION ANALYSIS

METHOD:

The environment protection market has witnessed a high growth rate. A pronounced manifestation of environmental protection has become indispensable for every organisation. It has therefore become necessary to observe innovations from the background of

- Environmentally friendly products
- Economisation of raw materials
- Environmentally friendly production process
- Economisation of energy and
- Substitution of harmful ingredients

OBJECTIVE:

The ecological challenge can only be confronted with the best possible innovation strategy. Objective of such an aim must be:

- sourcing for environmentally compatible materials should be paramount
- substitution of environmentally harmful products
- introduction of environmentally compatible production processes

DURATION: Depends on the complexity of the problem

PARTICIPANTS: 4-12 participants with relevant knowledge

RULES:

- 1 Determining the »must« demands of the environment
- 2 Determining procedure for problem solution
- 3 Determining major innovation methods
- 4 Preparing solution recommendations in a team
- 5 Presentation of solution proposals to a plenum
- 6 Decision making

ADVANTAGES:

- Appreciation of chances
- Erecting entry barriers for competitors
- Erecting exit barriers for customers

DISADVANTAGES:

- Conflicts between ecological and economic goals
(*Return on investment versus compulsory investments*)

3 MAIN FOCUS OF INNOVATION: PRODUCT, PROCESS AND STRATEGIC INNOVATIONS

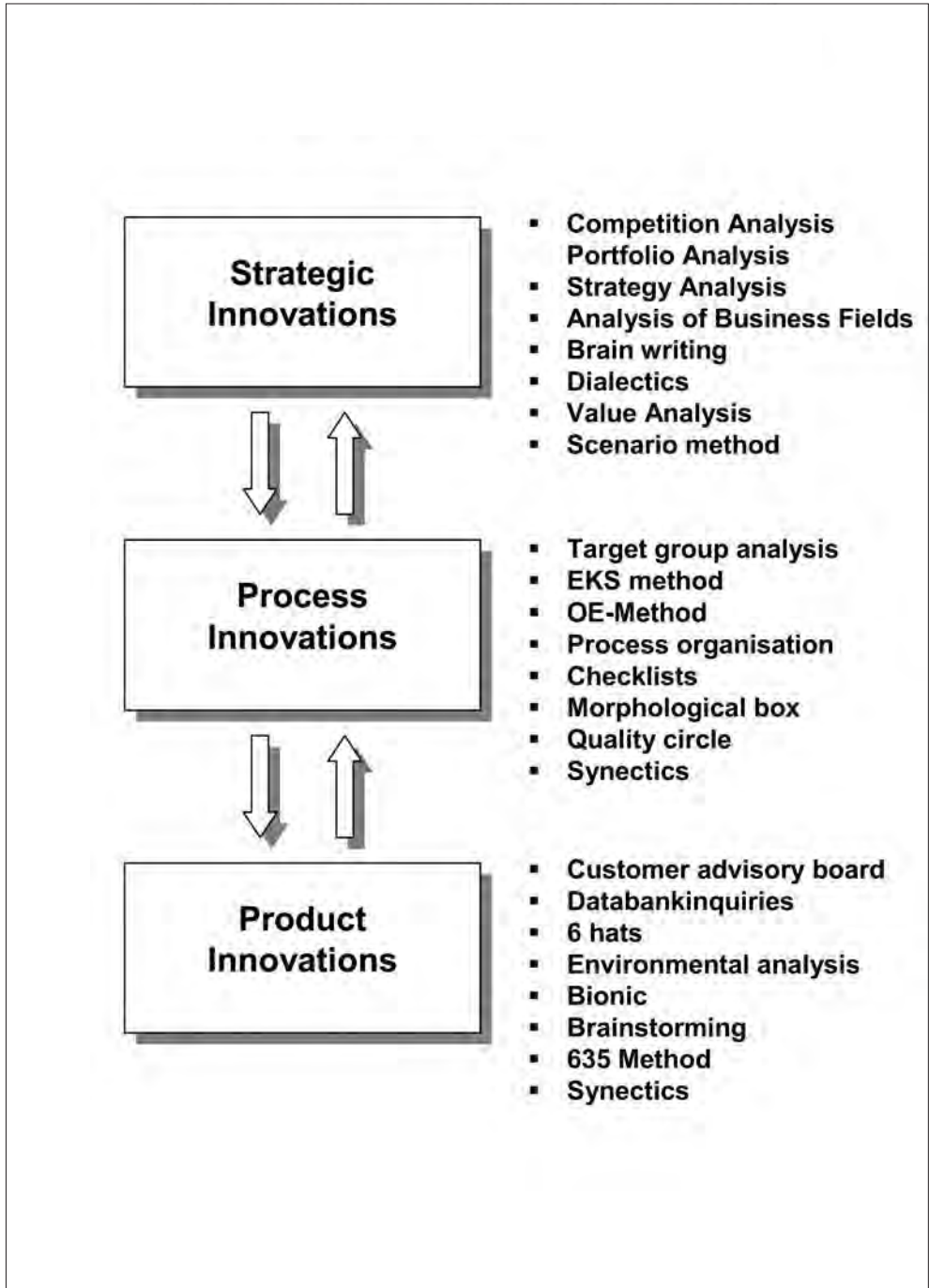
In the past, but also increasingly in the present, product-innovation stood, and still stands at the centre stage of innovative thinking. In order to achieve competitive advantages over competitors, it was and it is still necessary to offer the right products at the right time to the right target groups.

In the past, competitive advantages could be measured by an optimal product policy, often measured in years. Nowadays, the picture is increasingly changing. Temporal competitive advantages can only be measured in months. Staff members are always in a position to copy and improve on products within the shortest time.

In future, it will no longer be sufficient to simply offer single, isolated products on the market. Whoever believes that he will be able to achieve complete turnover figures by offering only a pump on the market in the 90s will have a difficult situation on his hands. What the market requires in this case is a complete disposal system. To manufacturers, this means that they can no longer continue to think only in line of products, rather they have to offer complete system solutions.

Apart from product innovations, process innovations and strategic innovations are increasingly becoming important. The methods described in the last chapter mostly allow for categorisation into major areas (see »Innovation main points and Creativity methods«), even though there are other methods that can be applied in all topic areas. While the main emphasis of product innovation and problem solution lies in the area of economical production, the emphasis of process innovations are to be found in organisational and logistical areas.

In future, it will increasingly depend on aligning the processes with the various business partners. It is no longer a matter of the optimisation of ones own system, rather it is increasingly a matter of optimising both customers and suppliers organisations. Innovations with this kind of set goals attempt to achieve an optimisation of organisational processes. The more successful it is to harmonise these organisational processes on a winner-winner-basis, the more successful one becomes.



| Critical success factors Processes | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | Amount | Grade |
|---------------------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|--------|-------|
| | 1 | | X | X | | | X | X | | | |
| 2 | X | | | X | | | | | | 2 | 2 |
| 3 | X | | | X | X | X | X | X | X | 7 | 4 |
| 4 | X | X | | | X | | | | | 4 | 2 |
| 5 | | | | X | | X | | | | 2 | 1 |
| 6 | | | | | | | | | | 0 | 2 |
| 7 | X | X | | | | X | X | | X | 5 | 4 |
| 8 | | | | X | X | | | | | 2 | 2 |
| 9 | X | | | | | X | X | X | X | 5 | * |
| 10 | | | | | | | X | | X | 2 | 2 |
| 11 | | X | | | | | | | | 1 | 1 |
| 12 | | | | X | | X | | | | 2 | 2 |
| 13 | X | | | | X | X | | | X | 4 | 4 |
| 14 | | X | | | X | | X | X | X | 5 | * |
| 15 | | | | X | | X | X | X | | 4 | * |

92 | Processes and critical success factors

The development of process innovations means that all involved in the processes must continuously use the time to fine tune their knowledge of customer needs until they get to the point where an absolute customer satisfaction is achieved. As a result, a duplication of work will be avoided, mistakes reduced and time needed for development drastically reduced. Egoistical approach of individual departments can not be tolerated in such a process. Staff members become joint entrepreneurs; they think and act integrally, entrepreneurially and become innovative. With the assistance of process innovation, it is possible to create the ability to bring tailor-made products and services on to the market on a stable basis. Process organisation can therefore be the basis for »Simultaneous engineering«, meaning that not only construction and development are supported by a new method, rather all specialised branches and departments coordinate their functions together. Through organisation process, there emerges an interwoven effect system and information system. If one wants to obtain indications as to which processes should be improved upon, then a classification of operational processes can provide a clue to the critical success

factors (see »Process and critical success factors«). If the first process were for example meant to influence (assuming »Order Processing«) several success factors (2, 3, 5, 6 and 8), it will become clear that this process is of great significance to the success of the organisation. In the column »Quantity«, we see how many success factors are influenced by the process; the column »Score«, we can observe hints on the appraisal of the processes. There is therefore a need for action on the processes score badly. If no scores were to be awarded in the »Score« column, this means that the process must be completely reorganised.

Try to develop the success factors important for your activity/institution (for more on this, see the contribution »Management of Success Factors« in this chapter). Enter this in the matrix and finally, verify which processes support individual success factors and how you can appraise the quality of this process. From such an analysis, you will receive concrete information for necessary improvements and the development of innovative solution principles. For the improvement of processes, the availability of a concrete »Yardstick« is desirable. In this regard, the specifications can be for example:

- Running time in production is 2 days for Product C
- The order processing time is to be reduced by 30%
- Deadlines agreed with customers are to be complied with 100%
- Reaction time of field service, measured from the time of problem detection to problem treatment- is to be reduced by X hours.

Within the scope of process management, innovation is at the background of optimisation of processes. This goes on to optimisation of the limitations of the various working teams, departments, segments and the corporation as a whole. All these must be optimised. Most important is the need for interlaced thinking. Especially at the centre point of this consideration is the input of logistic and information systems. A few examples should throw more light on this.

- Information linkages have over the years not been confined to the borders of an organisation. This has made an enormous rationalisation reserves possible, whenever manufacturers and component suppliers come together to plan a common way of conducting their common business. This is known in the automobile industry as »just-in-time«. By this, one has achieved two goals: first is reduction of supply time. In this case, the time between delivery schedule and delivery is only eight hours- as compared to four days in the past. Secondly, warehouse stocks of both component suppliers and automobile manufacturers will be greatly reduced.
- A haulage company offers its customers an efficient distribution system. This has made it possible so that the company is able to provide its services to several other companies on all questions concerning general logistics. Logistics is being handled professionally and being offered as a service packet, supported by information technology.

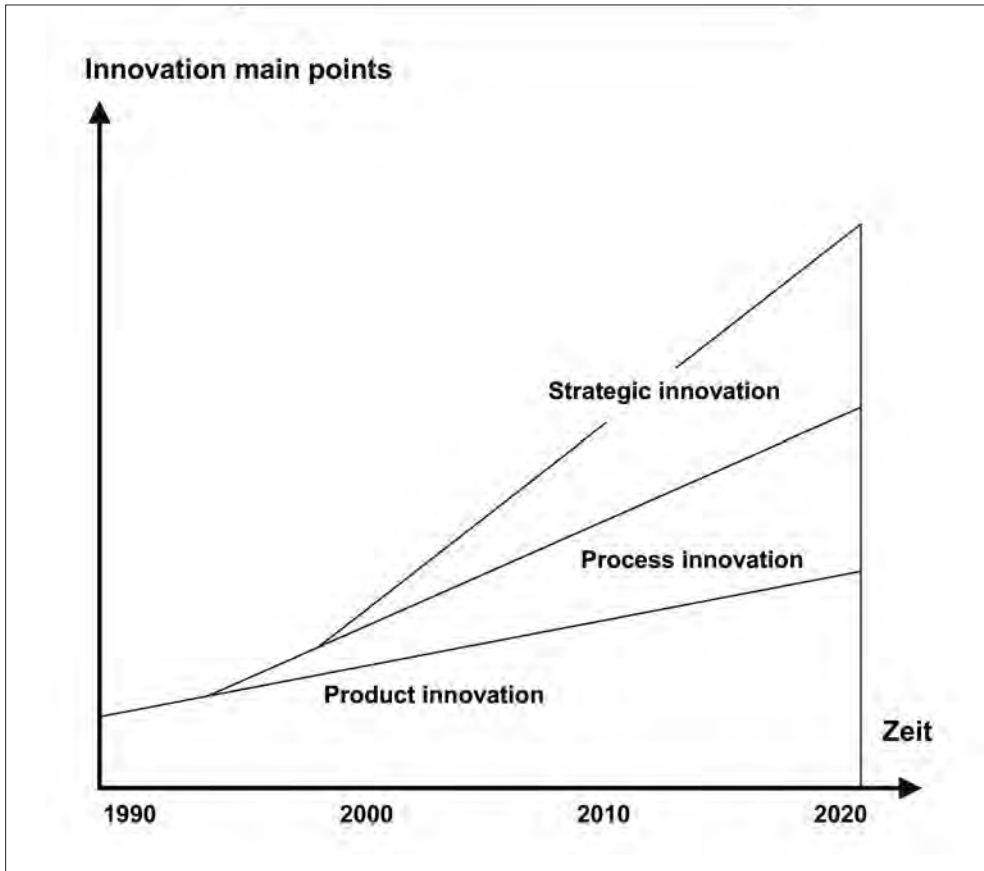
- With the help of computer controlled warehousing, a trading company is able to guarantee supply of spare parts within 24 hours.
- In the insurance branch, the goal is to process claims in dialogically so as to minimise total input and to be able to regulate claims as fast as possible. What will initially appear as a favour to the customers by claims being paid out to claimants in record time later emerges as an effective instrument for increasing competitive capability. As by-product are advantages of an intensive integration of electronic data processing with several organisational and operational systems. An important impact of this integration involves »Claim reserve«, the total stock of contractual obligations that are still open. This claim reserve will be automatically actualised with each single regulation administered dialogically and separately according to the different types of performances. Through this, the company management is in a position to initiate systematic counter measures against any questionable claims.
- In the meantime, there are several district offices that take pride in the fact that they don't only open in the morning, but also in late afternoons. Registrations as well as deregistration and notice on change of address are conducted dialogically, a process which basically reduces required processing time. If this used to be three hours in the past, now it is only fifteen minutes. Due to the fact that each procedure is being conducted integrally on the monitor by the official in charge, there is no further need for reprocessinghence the extended opening time in late afternoon. These offices offer added value in many respects by means of computer-aided systems. A treat for customers: wish-licence plate numbers have become a common service in registration offices. Complaints about processing in the past belong to the past.

Apart from process innovations, strategic innovations are rampantly becoming relevant (see »Innovation development«). At a time where a lot of things behave similar to quicksand, where changes are becoming erratic, the strategic orientation of an organisation is a parameter for its survival. Strategies are not to be seen as something inflexible, rather they are subjected to a permanently changing process.

They provide answers to modified parameters- and because the conditions can change abruptly, one requires innovations especially in strategic sectors. That is why it is evident everywhere nowadays that an anticipation and a recognition of customers needs (before the customers express these needs), is the key to success. As a result of this, successful companies implement strategic changes from the present and future change processes of the market. If we have to understand the »existence of a company in the future« as a strategy, then it is of a great importance to think of innovations in these segments. Possible approaches can probably raise the following questions:

- 1 Do we know what kinds of threats can be caused by our staff members?
- 2 Do we know the attractive markets?
- 3 Can we recognise in which market segment growth is to be expected?
- 4 Can we develop solutions for respective segments which are clearly distinguishable from competitors?
- 5 Can we conduct appropriate organisational and personnel adjustment processes for the development of these segments within our establishment?
- 6 Which of our customer groups have which concrete needs?
- 7 Which strategic advantages could be exploited as a result of collaboration with suppliers?
- 8 How can we increase entry barriers for new market entrants?
- 9 Which endangerments can substitute products cause?
- 10 Do we know the chances of our products/services in the future?
- 11 Do we have a clear strategic orientation in all we do (also with the development of innovations)?
- 12 Which chances are created as a result of customer and market orientation through
 - Service orientation?
 - Quality orientation?
 - Price orientation?
 - Marketing orientation?
 - Process orientation?

Strategy innovations should basically be applied in discovering market chances and customer needs. Important however is that all innovations should be market oriented, this means that the market must have the potential to assimilate new products and must be able to guarantee product life cycle. Furthermore, the product is not to be allowed to be copied by other competitors within a short time of its introduction, or in any other way devaluated. For new products and market possibilities, one must



93 | Innovation development

- Keep his ears to the ground in the market,
- Involve customers and customers` customers in development processes,
- Use technical innovations adapted from others.

The more small companies search for gaps in the market, the more creative and successful they become. Of importance in this respect is the understanding of customers' problems and desires. This alone leads to the recognition of future market opportunities. A customer-friendly organisation with a high service performance will be able to create competitive advantage, alone through an appropriate image. However, it must be observed that the customers, the market and the public have developed an intuition, a high sensibility, whether there is a real »conviction« behind the »face« a company is displaying, or if the company has only put on a temporary »facade« of deceit. For staff members, it is basically easy to identify themselves with a company that fully

stands up to its basic business principles rather than for only profit. They will repay the company with personal initiatives and creative actions.

Within the scope of strategic innovations, a very big attention is paid to the influence of the environment. The manufacturing process of products has called for a new way of thinking. The integration of ecological aspects into an organisation's philosophy and the new orientation into ecological economy is gaining ground. The interplay between innovative measures demanded by the environment and free market economic ramifications is making a high demand of innovationfriendly companies. For future-oriented companies, an environmental orientation to products and processes presents them with problems to be taken seriously, but simultaneously they also present a fundamental competitive factor.

4 CHECKLIST OF INNOVATION MANAGEMENT

This checklist consists of four question complexes:

- Entrepreneurial maturity
(promotion of creativity within the organisation),
- Maturity of the management
(promotion of maturity by the management),
- Staff members maturity
(promotion of maturity by staff members),
- Our image outside
(judgement of our creativity by the customers).

The first question appraises conditions for creativity within the entire organisation. The second checklist attempts to provide indicators on the promotion of creativity by the management. The third checklist evaluates creativity tendencies by staff members. Together, all three checklists provide the Self-perception from the perspective of the organisation in question. This can also be verified in a certain way through the way we are perceived by customers (4th checklist). In the first instance, try to find out the degree of maturity of the company, the management and staff-members. Try as much as possible to be objective. Award each question a point between 0-6. You can also consult the following orientation aids for the evaluation:

| | | |
|---------------|-------------------|------------------|
| 0 = no | 3 = partly | 6 = yes |
| not available | fair | very good |
| no occurrence | medium occurrence | full occurrence. |

By providing answers to each question, you will be able to observe respective strengths and weaknesses. Try to initiate necessary activities, whether as a staff member, management or as decision maker with responsibility for the whole organisation.

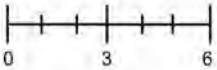
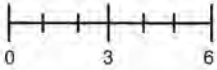
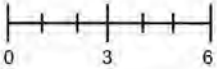
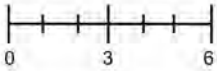
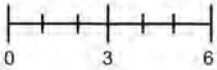
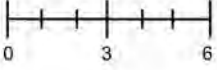
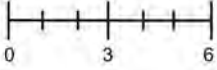
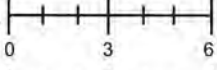
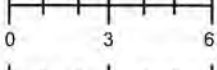

You can know how customers perceive your activities by means of questionnaires. You know yourself which quantity of responses will provide a representative picture. Here also, the analysis with the necessary measures is indispensable.

In conclusion, you can ascertain the scores for each checklist and transfer this onto »Analysis of Innovation Management«. The ascertained facts show you the characteristic of the four degrees of maturity.

FIRST TEST: PROMOTION OF CREATIVITY WITHIN AN ORGANISATION (DEGREE OF ENTREPRENEURIAL MATURITY)

| | |
|--|--|
| 1. We analyse successful actions of the company in innovative environments and processes. | |
| 2. We attempt to analyse development of innovation principles within the branch as a whole. | |
| 3. We compile a systematic profile of our customer groups. | |
| 4. We cater to the development of the customers and attempt to optimally cover their needs in a target-group-oriented way. | |
| 5. We try to lead in product innovations. | |
| 6. Process innovations occupy a very important position. As a result of this, we have been very successful. | |
| 7. Strategic innovations are necessary to our survival. We are constantly in search of innovations in business fields, market segments and customers segments. | |
| 8. We are constantly initiating innovation meetings with the customers. | |
| 9. For our future activities, we are not only thinking about our customers, but also of their customers. We are also innovative in this respect. | |
| 10. The atmosphere necessary for innovation is as best as possible in our company. | |

SECOND TEST: PROMOTION OF CREATIVITY BY THE MANAGEMENT (DEGREE OF MATURITY OF THE MANAGEMENT)

| | |
|---|--|
| 1. I try to motivate staff members to creative actions through my leadership behaviours. |  |
| 2. "Open minded thinking" is encouraged by me. |  |
| 3. I accord a great meaning to conditions that encourage creativity. |  |
| 4. I look for innovative goals from within goals the departments have set for themselves. |  |
| 5. Innovative targets are agreed upon with the teams and staff members. |  |
| 6. I teach my workers to always challenge and ask "why?" They should always have this on their minds. |  |
| 7. Around me, respective publications on generation of new ideas will be systematically analysed. |  |
| 8. I try to apply relevant creative techniques with my workers. |  |
| 9. I support realisation of even "crazy" ideas of my staff once I am convinced of its creativity. |  |
| 10. I try to carry innovations over to other departments. |  |

THIRD TEST: PROMOTION OF CREATIVITY BY STAFF MEMBERS (DEGREE OF MATURITY OF STAFF MEMBERS)

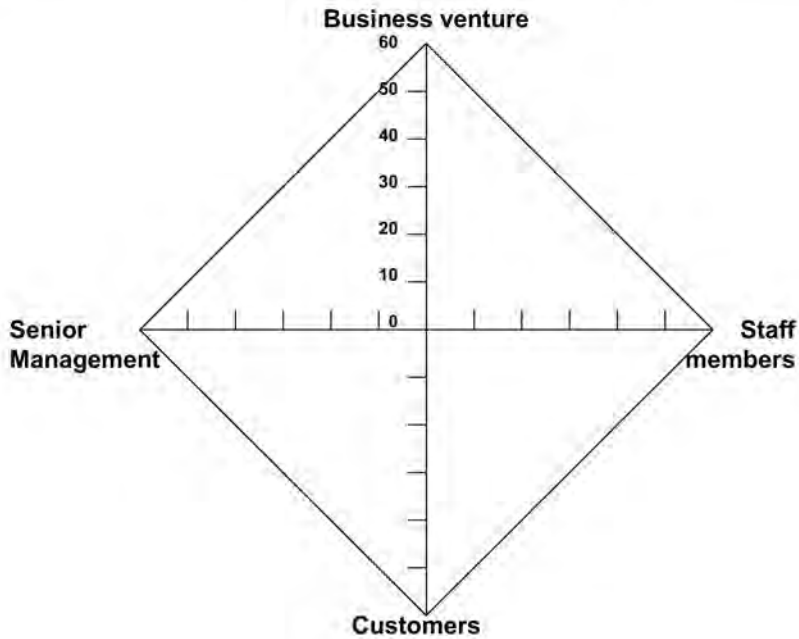
| | |
|--|--|
| 1. I have a positive attitude and a high personal motivation towards innovations. | |
| 2. I can easily overcome deeply entrenched habits. | |
| 3. Those principles and ideals which I have assumed do not lame my innovative capabilities. | |
| 4. I have the confidence to be creative. | |
| 5. I find it easy to transform thoughts into pictures and convert these into a "Vision" . | |
| 6. I try to win other colleagues for new ideas. | |
| 7. I don't have only one solution, but mostly several. | |
| 8. I am of the opinion that playful thoughts can promote a serious brainstorming & a search for solutions to problems. | |
| 9. In the search for solutions to problems, I don't limit myself only to my personal area of speciality. | |
| 10. I always try to think entrepreneurially in my suggestions on product, process or strategic innovation. | |

FOURTH TEST: WHAT THE CUSTOMERS THINK OF OUR CREATIVITY (DEGREE OF IMAGE PERCEPTION BY OTHERS)

| | |
|--|--|
| 1. Customers sense that a positive innovation atmosphere prevailing in our organisation. | |
| 2. We are sensitive to latest developments of products and services and solution to problems & we apply these. | |
| 3. Customers and suppliers processes are being implemented in our company as best as possible. | |
| 4. Our strategies for market segments, business fields and Customer groups can be described as very innovative. | |
| 5. Compared to our competitors, we are ahead as far as innovations are concerned. | |
| 6. Generally, we are active innovators and we set innovation trends. | |
| 7. Product development take place in our company with an intensified involvement of customers. | |
| 8. Complaints and suggestions activate a concrete learning process and an improvement in products, organisation or strategies. | |
| 9. Environmental orientation is being adapted as best as possible in our strategies, processes and products. | |
| 10. Customers have the impression that our innovations are based on a winner-winner-principle. | |

The realisation of innovation management

- Evaluation of questionnaires -



ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

7 IMPLEMENTATION OF TRENDS

GOAL(S):

This article reveals the significance of trends. Using three methods, it will be shown which principles are possible for which concrete applications.

CONTENT:

- 1 Workshop on trend analysis on the basis of development-pressure and competence counter-pressure
- 2 Scenario technique
- 3 Market map

INSTRUMENTS:

- Spreadsheets
- Charts
- Brainstorming using cards

APPLICATION(S):

- Ascertainment of trend
- Product analysis

UTILITIES:

- A systematic analysis of developments
- Presentation of competences
- Consumers awareness and product trial

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Applicable in all areas of activities
- Products and product groups and services
- Consumer behavior

1 WORKSHOP ON TREND ANALYSIS ON THE BASIS OF DEVELOPMENT-PRESSURE AND COMPETENCE-COUNTER PRESSURE

This method assumes a trend which can be touched and felt. Of importance is to be able to recognize the developmental tendencies as early as possible. The earlier one mounts his antenna, the more success-promising the first receptions will be. It will then be possible to convert this into an action concept.

For an understanding of trend, concrete answers must be provided to the following questions:

- 1 What is the general meaning of trend?
- 2 What does trend mean to us?
- 3 How urgent is it to us; how fast are solutions required?
- 4 How competent are we in handling trend?

In the following contribution, the procedure will be presented in concrete steps as it is in practice.

FIRST STEP: INITIATION OF A WORKING TEAM FOR TREND ANALYSIS

This working should consist of a reasonable mix of:

- Elderly and younger staff members,
- Representatives of classical thinking as well as unconventional thinkers and
- Members of different functions and departments.

The goal is to achieve a temporal competitive advantage as compare with the competitors by being able to recognize trends early and being able to implement these through concrete measures. The size of this working group should not exceed 8 members. In smaller organizations, only three to four members can take care of this assignment.

During the first meeting, the goals of the working group will be pronounced. One of the members will take over coordination of the whole operation. In order to avoid the danger of »incest«, all staff members of the organization in this working group will be informed and called upon to pass on to the coordinator what may appear to them to be important trends and observations.

During the first meeting, the major concentration of the assignment should be narrowed down and the sources of information comprehensively presented.

The following come in question:

- Publications, symposiums, analysis and interviews from professional associations, universities, and market research institutes..... («the average German is ever retreating into his personal privacy«)
- Branch data and conjuncture data («in next year, a slump in demand of eight percent is expected«)
- Daily information from any media (daily newspapers, magazines, the television). Observe in a selective way, broadcasts and publications which influence global opinions and attitude towards life of the consumers. This will make it easy to follow and recognize drifts immediately and be able to think along with the customers. This makes it imperative for a manufacturer of construction machines for example to study industry information on civil and structural engineering. A manufacturer of sports wears for the youth should switch on to MTV on regular basis so as to better understand how his young customers are thinking.

Members of the working group are hopefully sensitized after the meeting so that they can prepare their antennas for a powerful reception of trends. From now on, they are expected to operate and instigate the feeling for trends as a measure of ensuring the existence of the company in the future.

SECOND STEP: EXAMINATION OF THE GENERAL MEGA TRENDS, TRENDS WITHIN THE BRANCH AND SPECIFIC CORPORATE TRENDS

The members will narrate their impressions and perceptions during the meeting. Brainstorming with the assistance of cards can be initially applied for the general collection of trend ideas (see the contribution III 4). All the participants will be requested to write down their experiences on cards with markers, whereby the following applies:

- A card for each trend,
- It must be written clearly and boldly,
- Not more than seven words on a card.

Other contributions from other staff members submitted to the coordinator will also be displayed on the pin wall. It is recommendable to structure these contributions into three categories:

- 1 General mega-trends,
- 2 Trends within the branch,
- 3 Specific corporate trends.

For general mega-trends, the following assertions can be made (e.g. relating to customers):

Customers

- are becoming increasingly unpredictable and contradictory;
- are demanding integrated and systems solutions;
- are increasingly dividing themselves into micro segmentations,
- are becoming increasingly environmentally conscious;
- are becoming increasingly critical and choosy of quality, service, innovations and »emotional added values«;
- are demanding the highest individuality.

Trends within the branch allow assertions such as:

- In branch X, the share of general corporate contracts increase in overall turnover.
- In branch X, the ISO certification is increasingly being discussed.

Within the organization **itself**, such developments can occur as in following patterns:

- Approximately 25% of turnover is being realized in the meanwhile from products which are no older than 5 years in our branch.
- Three very important competitors are increasingly integrating suppliers in their business processes.

The most important trends will be summarized and the team members will provide background information and data on these topics according to possibility.

THIRD STEP: CHOOSING THE MOST IMPORTANT TOPICS

The group should choose four to six most important of the developed topics. The following three criteria can be decisive in the choice of topics:

1 Meaning

This concerns the significance of the topic

- (a) general and
- (b) for the organization.

2 Urgency

The question reads: how urgent is the development of solutions?

3 Our competence

The competence criterion expresses how good our capabilities are in accomplishing trends.

Trend analysis

| Trend | General meaning (x 1) | Meaning to us (x 2) | Urgency until/when does the customer need solution? | Our competence (x 5) | Priority (A, B or C) | Possible measure | Responsibility | By A- priority: responsible task | Solution suggestion until: |
|---|-----------------------|---------------------|---|----------------------|----------------------|------------------|----------------|----------------------------------|----------------------------|
| Customers | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Competition | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Technology and market trends | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Suppliers and sales intermediaries | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Macro environment | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

(1) Meaning of development: 5=very great meaning, 4=great meaning, 3=average meaning, 2=minimum meaning, 1=no basic meaning
 (2) Urgency: "Until when does customer need a solution?" 5=immediately, 4=within a year, 3=in the next two years, 2=solution initially not priority
 (3) Our competence: 5=very high competence, 4=high competence, 3=average competence, 2=minimum competence, 1=we possess absolutely no competence
 (4) Priority effects: A=Priority=immediate measures taken by taskforce; B=Priority=initialising action-to short term adjustment process; C=Priority=no measures but continuous observation

Workshop from: _____ **Next workshop on:** _____ **Mailing list to:** _____

Trend analysis

(Example of questionnaire for fictive company)

| Customer Trend | general meaning (x 1) | meaning to us (x 2) | urgency until .. does the customer need solution? (until 1 year) | our competence (x 5) | Priority (A, B or C) | possible measure | responsibility | by A- priority: responsible task | Solution suggestion until: |
|--|--|----------------------|--|------------------------------------|----------------------|---|---|--|----------------------------|
| "customers becoming environmental conscious" | 5 ¹ (very great meaning) | 4 (great meaning) | 3 ² (until 1 year) | 2 ³ (low competence) | A ¹ | 1. Review and secure environmental friendliness of research 2. Securing the marketing of measures 3. Conduct a cost, utility and controlling analysis | Research and development, production Marketing and distribution Controlling | Ms Deginhart (Head) Mr Nickl Ms Blaesink Mr Franke Ms Schinack | |
| "Customers becoming quality conscious" "The customer" | 4 | 4 | 3 | 3 | B | | | | |
| Competition | | | | | | | | | |
| "Marketing expenses increasing in the branch" | 3 | 3 | 2 | 3 | C | | | | |
| (1) Meaning of development: 5=very great meaning; 4=great meaning; 3=average meaning; 2=minimum meaning; 1=no basic meaning (2) Urgency: "Until when does customer need a solution?" 5=immediately; 4=within a year; 3=in the next two years; 1=solution initially not priority (3) Our competence: 5=very high competence; 4=high competence; 3=average competence; 2=minimum competence; 1=we possess absolutely no competence (4) Priority effects: A-Priority=immediate measures taken by taskforce; B-Priority=initialising action-to short term adjustment process; C-Priority=no measures but continuous observation | | | | | | | | | |

The procedure will be explained below.

1. CONDITION FOR THE MEANING OF DEVELOPMENT

In finding out about meaning, the following apply:

- 1 = no fundamental meaning
- 2 = minimal meaning
- 3 = average meaning
- 4 = big meaning
- 5 = very big meaning

- Conditions for general meaning of trend
Here the question will be put about on what kind of meaning this development has in the branch, within the society etc. scores between five (very big meaning) and one (meaningless) can be awarded according to above mentioned system. With a meaning of between one and three, one has to put a further processing of the aspect at the background.
- Conditions for meaning to our organization
Now the concrete question will be answered on how this refers to the specific situation of the organization. A deeply considered estimation is of utmost importance. We can also award scores from one to five as above.

2. CONDITIONS NECESSARY FOR URGENCY

The following apply for urgency:

- 1 = solution should not be sought initially
- 2 = solution must be available within the next two years
- 3 = solution must be available within a year
- 4 = solution must be available within six months
- 5 = solution must be provided immediately

Which urgency does the development of a solution have; until when do we have before we come up with the answer on the market? Here you can award scores as well from one (solution should not be sought initially) to five (we need a solution immediately). Please don't think here of a situation that describes the latest deadline possible. The earliest possible deadline should be the benchmark for the urgency of a solution and answer. Only if you think in this way and make great efforts in the process of looking for solutions will your vigilance be rewarded with a true competitive advantage.

3. CONDITIONS FOR COMPETENCE

The following conditions apply to competence:

- 1 = absolutely no competence is available to us
- 2 = limited competence
- 3 = average competence
- 4 = high competence
- 5 = very high competence

Which competence is available to your company in developing an appropriate solution? Are you still absolutely incapable of coping with trend related problems within your organization (= one point), or you possess a very high competence in this area, so that there is actually no need to take special measures (= five points)?

4. CONDITIONS NECESSARY FOR THE PRIORITY OF TREND

You should define three levels of prioritization which require different ramifications and measures.

The key is:

- A-Priority: Immediate measures should be taken with a taskforce taking responsibility.
- B-Priority: Short and medium term process of adjustment should be commenced upon which applicable to the responsible branches.
- C-Priority: No concrete measures are necessary but an observation of the whole development is still required.

EVALUATION OF PRIORITIES FOLLOWS THREE STEPS.

First step:

You multiply the scores for »urgency« (e.g. = 3) and from »meaning to your organization« (e.g. = 4), each with factor 2 and add the result of these to the score for »general meaning« (e.g. = 5). We have for example a total sum of 19 points. We name this value »**External development pressure**«.

Second step:

Now we multiply the score from the criterion »our competence« (e.g. = 2) with factor 5. Result from our example = 10 points. This value describes to you the »**Competence counter-pressure**«.

Third step:

You ascertain the difference between »external development pressure« and your »competence counter-pressure«. The bigger the difference, the more essential it is to initiate measures. In our example, the difference is 19 minus 10 points, or simply 9 units.

When the difference is greater than 4, you should award an A-Priority (see example = 9). A difference of between 4 and 2 points results in a B-Priority.

Differences which are less than 2 require no measures at the moment, they receive a C-Priority.

With A- and B-Priorities, you should determine appropriate measures to be taken in the Workshop and at the same time persons should be appointed to take over responsibility of implementing these measures. A-priorities normally require the appointment of a taskforce charged with presenting result of its work within a stipulated period. Also the process of adjustment with B-priorities must also have a predetermined time schedule. As a matter of principle, a protocol of all the results of the workshop must be taken.

It is recommended to provide other branches with the results of the meetings. This should afford staff members with comprehensive information on latest developments. Simultaneously, it becomes obvious to all within the company how the organization reacts to these challenges; corporate policies will become more transparent. This will increase the will to take more active part in the organization.

2 SCENARIO TECHNIQUE

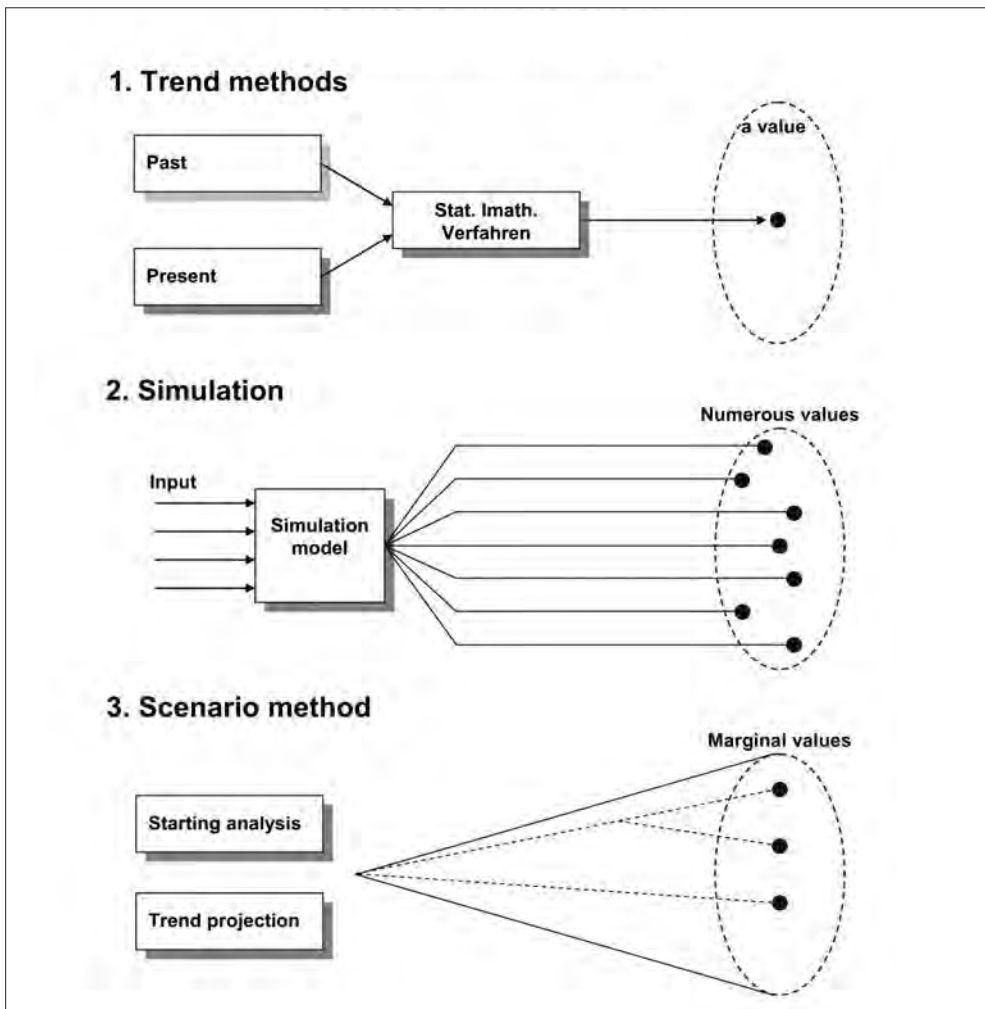
Scenario technique is characterized by two objectives:

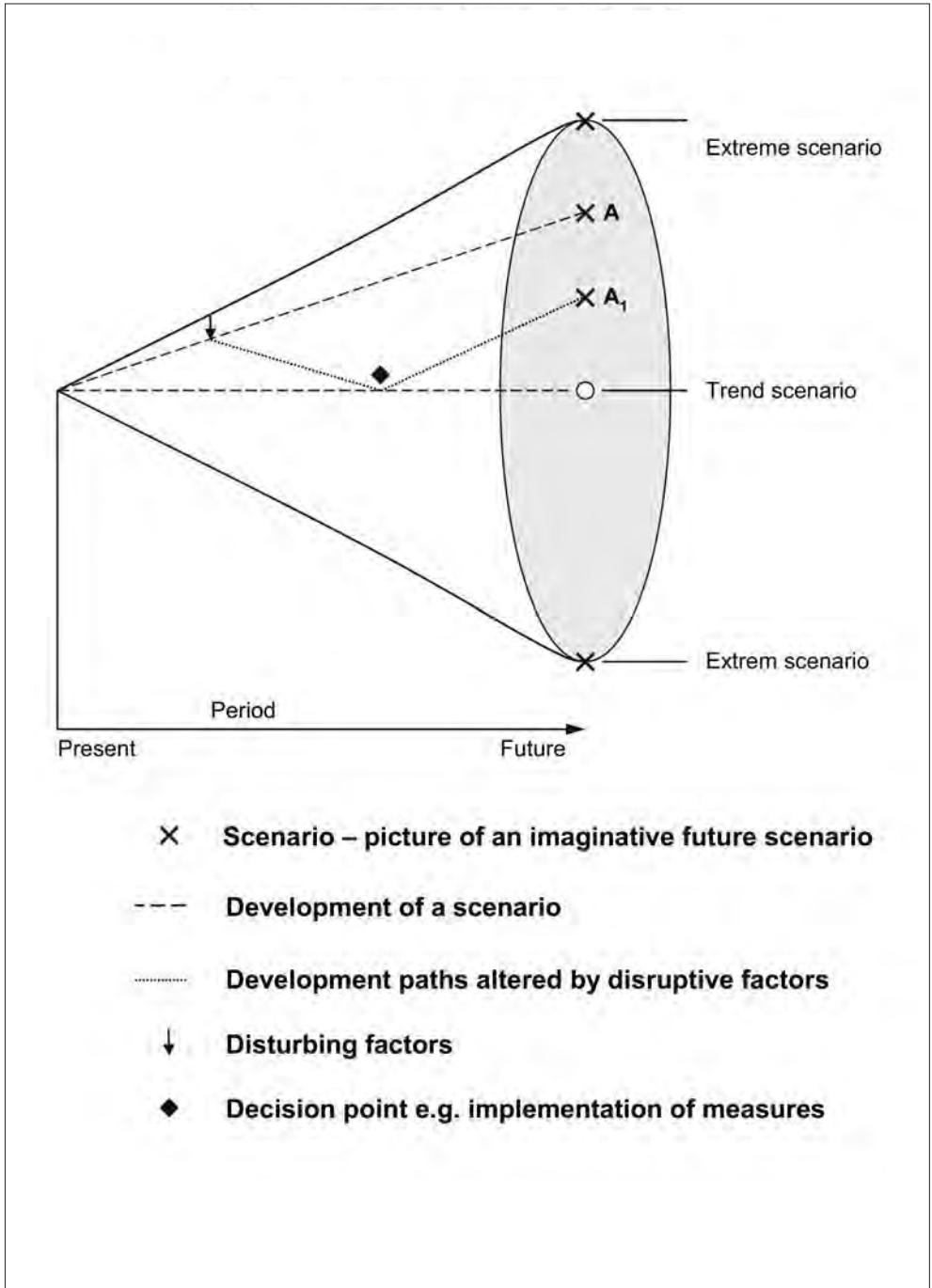
- 1 Out of the present, different scenarios will be developed for the future. This should be conducted systematically. In the process, only a few values can be gained in comparison to stimulation and trend methods (see Table »Prediction methods«).
- 2 The scenarios provide conditions for strategies and objectives.

FOR THE APPLICATION OF THIS PROCESS, THE FOLLOWING STEPS ARE RECOMMENDED:

First step: **Structuring of the examined field**
 (Object of the examination, classification of the assignment, elevating the current data)

- Second step: Determination of influence areas on the examined field**
 (Gathering the influencing factors, determining strengths of the influencing factors, connecting the factors i.e. compiling mutual influence, graphical presentation of ascertained interdependencies)
- Third step: Projection of the current situation on desired planning horizon**
 (e.g. five years)
 (Involvement of conducted prognosis, experts knowledge, differentiation of trends according to risk classes)





Fourth step: Establishment of acceptance packages

(The basis can be a trend scenario, a scenario for best possible case (best case), a scenario for the worst case (worst case): analyze disruptive factors) (for more on this, see Figure »The scenario method«.)

Fifth step: Deduction of practical consequences

(Classifying measures in short and medium terms, developing an early warning system, continuous controlling of deductions, alignment of the model)

3 MARKET MAP

Ottesen has developed a process which follows the following two objectives:

- 1 Supply of valuable information during the development of marketing strategies.
- 2 A simple visual presentation of consumer consciousness as well as of product application.

In applying this method, the following steps are recommended:

FIRST STEP: DATA COLLECTION

Initially, it is necessary to furnish oneself with data on consumer consciousness as well as data on the use of the product to be examined. It is sufficient to break down consumer data into four categories:

- Consumers who know the product, against those, who don't know the product.
- Consumers who have tried out the product and would prefer it to other products (preference consumers).
- Consumers who have tried out the product but show no strong preference (indifferent consumers).
- Consumers who have tried out the product and rejected it (rejection consumers).

Should these four categories not be sufficient for the specific case, then add a fifth or sixth category (e.g. for consumers who have tried out the product but don't use it regularly). You can collect the data yourself (if these are not readily available) or can get this from a market research institute. Conduct the data collection yourself. For this purpose, a telephone survey is recommended because you will receive a high quote of response compared with sending questionnaires by post. Under no circumstances should you link the name of your company with the questioning.

SECOND STEP: PRESENTATION OF A MARKET MAP

A market map is to be created for each product. On the vertical axis, enter in percentages the amount of those consumers who knows the product and have tried it out (Trial). The horizontal axis presents consumers consciousness, i.e. only the percentage of consumers who knows the product will be entered.

EXAMPLE:

Let us consider a product with a consumer consciousness rate of 70% and a product trial rate of 65%. Out of the consumers who have tested the product, only 5% of them shows a clear preference, 20% is indifferent while 40% rejects the product.

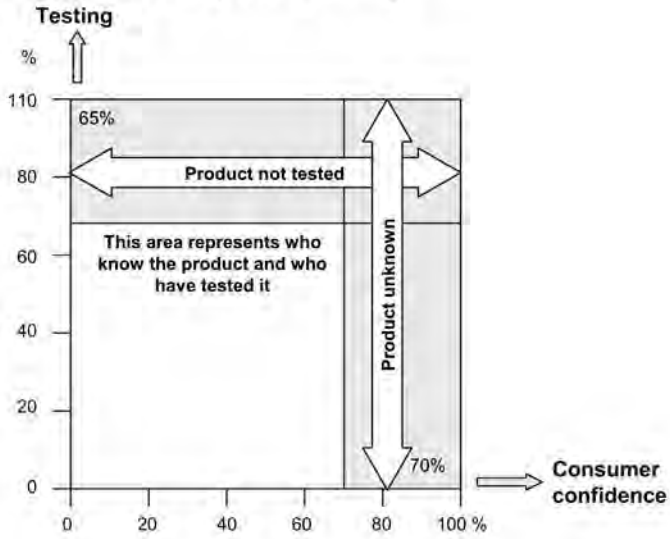
THIRD STEP: EVALUATION OF THE MARKET MAP

The market map elucidates to us where the basic problems and challenges lie with a particular product. If these maps were to be updated at chronological intervals, then one will get a good picture of the development of the market and of the success of the implemented measures. It is recommended to also create the same type of map for competitors' products.

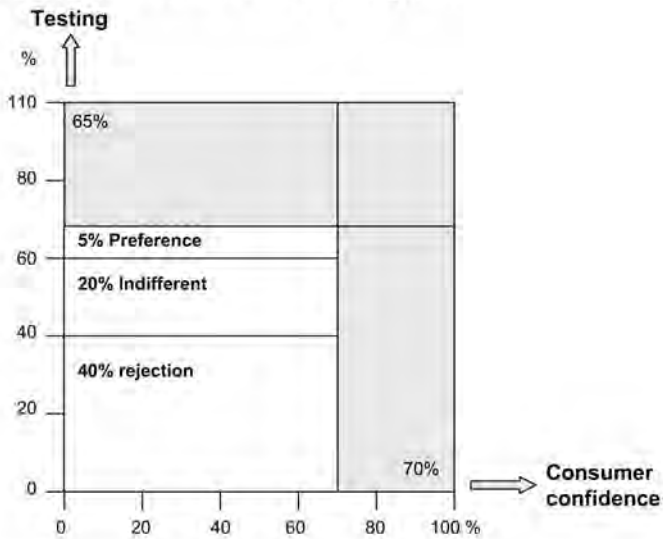
Relating to the presented example, the market map can be interpreted as follows:

- Out of the 70% of consumers who knows the product, 65% actually uses it. This means that consumer consciousness has successfully led to product trial.
- A distinctive preference can be recognized with only 5% of the consumers. By the indifferent and rejection customers (together 60%), decisive activities are necessary. The figure could give, for example hints on improvement of the product or marketing promotional measures (see Figure »Market map«).

Consumer confidence and product testing



Classification of the consumer info 3 categories



ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

8 SIGNALS AND TRENDS

IN CORPORATE MANAGEMENT

GOAL(S):

The success of an organisation is often based on being able to recognise trends on time and its ability to detect new developments. Any company that proceeds systematically will be able to realise chances and be in a position to confront potential dangers. This contribution shows trends in competition with the customers as well as the political economic and global economic developments.

CONTENT:

- 1 Detection of Changes
- 2 Competition
- 3 The customers
- 4 Political economic and global economic developments

INSTRUMENTS:

- General tendencies
- Change indicators in the branches

APPLICATION(S):

- Strategic management
- Distribution management

UTILITIES:

- Improvement of competitive situation
- Reduction of risks

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Customers segmentation
- Process optimisation
- Utility argumentation

1 DETECTION OF CHANGES

It is not the intention of this contribution to supply any comprehensive and exhaustive trend analysis. On the one hand, this will not put any restriction on the number of pages; on the other hand, by the simple virtue of the nature of trend phenomenon, this will not be possible at all because trends are constantly changing. Out of small storms today, a large sweeping current will appear which are not often predictable. For this reason, I will limit myself to a few general mega trends with which very many organisations will be confronted, beginning already from the end of the last century. During the presentations, I will concentrate on such trends according to the level of their importance and their strong complexities, as they can be observed today. The analysis is limited to

- Competition,
- The customers and
- Economic and global economic developments.

At the same time however, it has to be your duty to permanently go in search of trends, taking advantage of your extensive and specific knowledge of your branch. If you consequently and systematically proceed, you will be able to recognise chances and dangers on time and be able to pin-pointedly engage these. An early recognition of trends however makes little sense if no appropriate actions are taken by means of strategic re-orientation processes. Because of this, trend thinking must always be entrenched in the realisation.

It must be stressed that classical methods of estimation of needs belong to the past. It is an illusion to think that customers' wishes and needs and the uncontrollable market changes can be predicted with regression analysis or any other statistical fantasies. Not without reasons are more and more companies going over to the idea of reducing or in numerous cases, completely eradicating their bloated operations and research and market research departments. Although results of market researches (here notably Life style studies) must still be the basis for market oriented decisions, their meanings in the future will become subordinated. Organisations that tend to engage customers on the basis of mere figures and »bloodless« data rather than personal contacts on human to human basis, will have it extremely difficult in the future. This is because they will succumb to the illusion that they already know both their markets and the customers.

Signals and trends will be sub-divided into three chapters

- The competition,
- The customers and
- The political economic and global economic developments.

Information on respective tendencies are summarised in an overview:



2 THE COMPETITION

2.1 SUBSTITUTABILITY OF SUPPLIERS IS INCREASINGLY INCESSANT

In future, it wouldn't matter to the customer where and from whom he purchases services. This is the reason why it is necessary to offer customers added values, it doesn't matter if this is in qualitative, service-related, innovative or emotional respect, as long as it provides competitive advantages for the company. The stress on time components makes it clear that the competitors will in future be able to close secured competitive advantage gaps faster than they do now. Competitive advantages are nowadays no longer being measured in years, rather in months, even in days. Product life cycle is being dramatically shortened in the last several years. Surveys have shown that product life cycles e.g. of medications, have reduced from 24 to eight years in the last

30 years; of cosmetics, from 11 to 3 years or tools from 16 to four years. With a market oriented innovation, the innovator can normally reckon with a relatively high profit for a limited period. However, organisations which rise up to the occasion much later than their competitors by offering new technology at a latter stage under the same market conditions, are making losses. Segment saturation has set in, the attraction of newness has disappeared with customers, and technology leaders have already developed new products with better technology.

2.2 FROM PRODUCT SOLUTION TO PROBLEM AND PROCESS SOLUTIONS

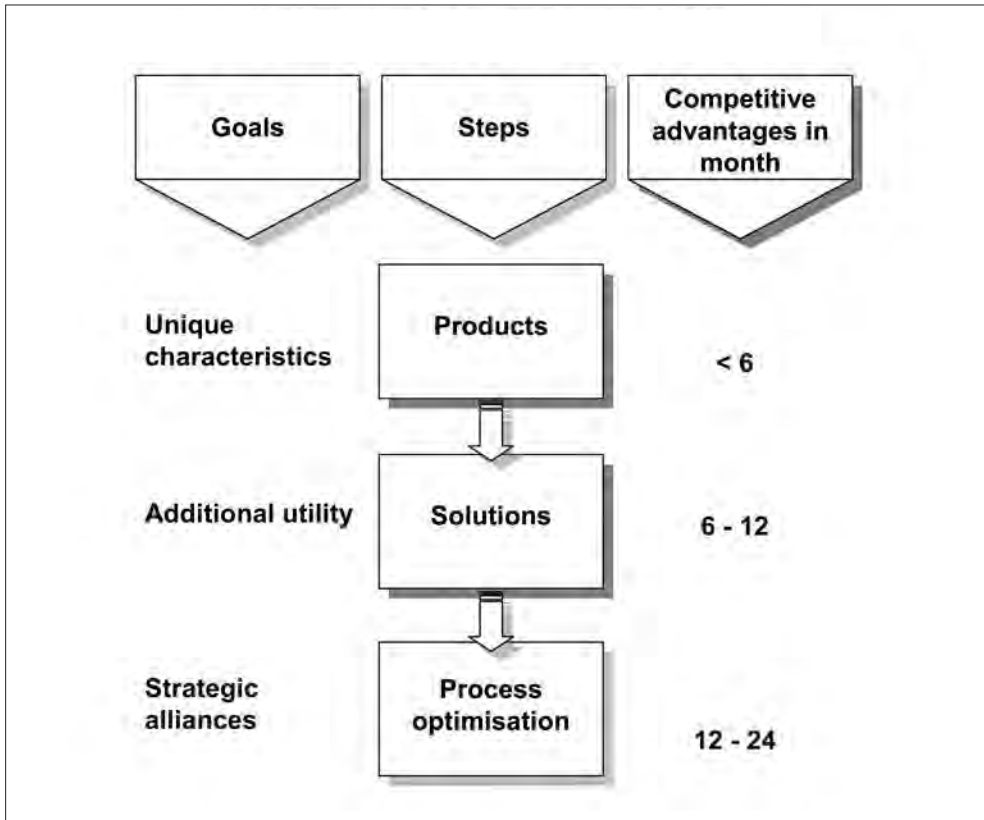
Standard products and standardised services are increasingly becoming replaceable. Most especially is the fact that foreign competitors are in a position to appear on the market as imitators within a short period of time. They often offer their products and services cheaper. In some cases, one actually knows the companies that supply the competitors with machines and materials because we also purchase from them. The competitive advantages for innovators don't usually last more than a maximal period of twelve months.

If one wishes to temporally extend competitive advantages, then it will be appropriate to offer solutions to problems for target groups. This offer provides each customer segment with additional values. Solutions to problems cannot simply be copied within the shortest time without complications. More often, a precise knowledge of customers' problems is required in individual target groups. Based on these conditions, competitive advantages can be reckoned with in a period of one to two years.

Successful organisations have realised how important it is to apply logistic processes as a strategic weapon for long term competitive advantages. As a last consequence, Process optimisation means the ability to link the organisation of the partner and the development of advantages derived from strategic dimensions (see »From product solution to problem and process solutions«).

2.3 THE FUTURE BELONGS TO INNOVATORS

The era of innovation competition has begun. Technology appears today (sooner or later) to be in a position to provide solutions to all problems. Modern science has created unimagined possibilities. Immense investments in research and development have become the basis for survival in many branches (see information technology and pharmaceutical technology). At the same time, it must be ascertained with a great reflection that the Federal Republic of Germany is hopelessly underrepresented in the world as far as core technologies are concerned, compared with international competitors. In comparison, Germany invests almost half of what Japan, its biggest international competitor invests in research and development activities.



101 | From product solution to problem and success solutions

The assertion »that is not possible, we cannot do that« led numerous organisations to declarations of bankruptcy in the 90s. The reason is, after only a short period of time, your competitors will prove that they can accomplish the impossibilities and even offer these on your market. Innovation policies must be extremely customer and market oriented, tailored towards meeting the actual needs of customers. Also, we often establish an exaggeration of overengineering. It shouldn't be a taboo in future to copy sensible solutions from competitors.

Japanese companies have been able not only to copy products but also to improve on the solutions, thereby making great competitive advantages out of it. As a result of this, cooperation between research and development projects will assume an increased relevance in future. The intensive discussions on the topic »Strategic alliances« tend to clearly qualify this. Hewlett Packard has had an enormous innovation boost in adapting Japanese printer technology by taking over its Japanese competitor Canon. Canon has even left its Asian competitors behind by using its own special know-how to improve its products quality.

2.4 SPEED-COMPETITION MAKES CLEAR THAT IT IS NOT THE BIG THAT WILL CONQUER THE SMALL, RATHER THE FAST ONES WILL CONQUER THE SLOW ONES

Quick and flexible organisations will conquer the big and passive ones. Nowadays, the small size of a company is no longer a competitive disadvantage, rather almost a condition for competitive capability. This is why even big organisations in the most diverse branches carry out downsizing and reduction processes in order to achieve an adequate measure of fastness in a world characterised by speed competitiveness.

2.5 INFORMATION GENERATE STRATEGIC COMPETITIVE ADVANTAGES

Information is becoming a fundamental competitive factor and production factor in an information competition era. Who knows less will lose. The quality criteria for information today are:

- Information value which expresses unqualified competitive advantages for its owner,
- The mobility of information, i.e. permanent availability of information, regardless of place and time,
- The actuality and novelty of the information.

The standards of knowledge and education of the people (seen from the perspective of workers within an organisation) will in this way decide the extent of information-necessitated competitive advantages of a nation (or as the case may be, of a company). In this case, societal dimension of development will become obvious.

2.6 INTERNATIONALISATION AND THE ASIAN CHALLENGE

Internationalisation of competition is increasing. Foreigners are attacking traditional home markets while indigenous companies are increasingly being forced to use export to compensate for domestic market losses. It was in this connection that Peter Drucker speaks of »Trans-nationality« of global economy and paraphrases with this term increasing international competitions and interconnections. Domestic companies have often been confronted by foreign competitors on their home markets, they have had to learn that the highly coveted home market has become a playing field for Korean automobile manufacturers, Spanish butcher's shops and French civil engineering companies. Challenges from the »Asian competitors« will be the touchstone for European and American companies in future. Priority will no longer be to defend ones strong posi-

tions, rather it will be an intensive effort expended to regaining some of the lost grounds. It has not been possible for very many companies even up till today, to adjust their picture of Japanese or other south Asian companies. But it is a more precise concentration on far eastern strategies and success positions that form the basis for the formulation of a future oriented response.

At this stage, it is not about dedicating efforts to a comprehensive analysis of the »Asian challenge«. Two central questions should be put. This makes clear to us that our picture of the copy-cats Japan, Honk Kong etc who offer cheaper products, is arcade and belongs to the past. The following short answers demonstrate to us which justification and dimension a far eastern strategy has on competitive strengths:

QUESTION 1: WHO ARE THE ASIAN CHALLENGERS?

At the forefront are Japanese companies who are today represented in almost every branch of the future; they occupy a leading position. A limitation to challenges pose only by Japanese companies will definitely be too one sided because countries like Thailand, Hong Kong, Singapore, Taiwan and South Korea have been able to almost triple their gross domestic products between 1980 and 2000. This development has only confirmed several prognoses. China is already being touted as the second biggest economic power of this century.

QUESTION 2: WHICH STRENGTHS CHARACTERISE ASIAN CHALLENGERS?

In answering this question, only keywords should be mentioned. This is not comprehensive:

- Future orientation and a high investment in key technologies. At the same time, it must be established that Asian companies are aggressively processing their international presence in such traditional branches like mechanical engineering or ship construction;
- An excellent customer orientation with the aim of providing for the needs of foreign cultures and markets;
- A very solid and aggressive marketing;
- A permanent improvement of existing products-kaizen;
- Most efficient and most modern production methods;
- Great personnel efficiency through high motivation, great specialised knowledge, longer working hours and partly lower salaries;
- Quality orientation;
- Good governmental interventions through protectionism, limited tax burden and good infrastructural conditions;
- Lower interest and inflationary pressures.

2.7 TRADING ENVIRONMENT IS GENERALLY BECOMING BLEAKER

Hubertus Tessar, managing director of the main Association of German retail industry (HDE) and the press spokesman of the Association of German retail industry in Cologne, writes on the tendencies in the retail industry:

»The atmosphere in German retail industry has become bleaker. Exposure to dangers is getting serious. Price wars are limiting profits. Politicians are impeding the conditions of the retail industry (stores opening time, discount law, end of season sales and allowance regulation). The surfaces are widening (according to statistics, the retail industry is opening a new shopping centre every week). A huge amount of anonymous amounts are being invested in retail. Only a few people still knows which company names to assign to which company businesses. Managers are being fired since 1993 in increasing dimensions and increasingly at short intervals, just like football trainers«.

In this scenario of the retail industry, more than 47% of the customers are frustrated about sales-services in specialist shops. They complain of lack of adequate knowledge required of sales personnel and most especially, sensitivity in contact with customers and lack of active purchase stimulation. This alarming data was compiled together in a survey carried out by Mercuri International Deutschland in Munich. More than 200 customers from different specialised businesses from all branches within Germany were interviewed. Customers particularly criticise lack of a »positive stimulation and motivation (55%). Younger customers (under 25) are particularly missing purchase stimulations. 47% of all interviewed customers criticise the missing sensibility and insufficient skill in customer contact. 34% are missing friendly attention while 33% notices a too little regard to their expectations and interests«.

A fundamental development in retail has also been the rising market influence of marketing agents or vendors. This has two reasons:

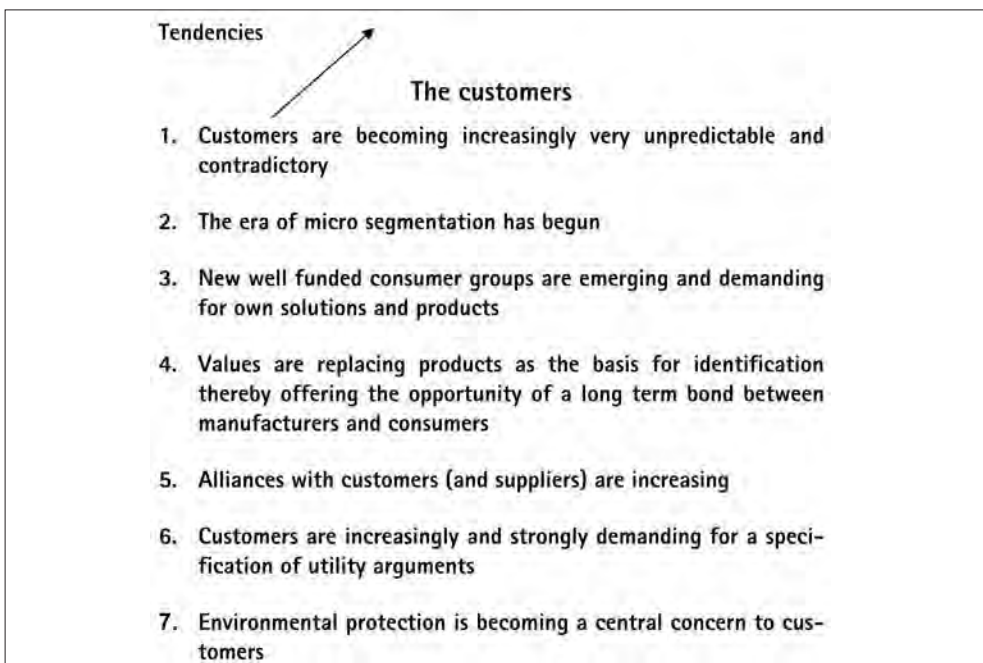
- The retail is witnessing increasing cooperation and concentration processes.
- Traders are carrying out own independent marketing policy which is often of conflicting interests to set corporate goals.

2.8 SOCIETAL FACTORS AND MACRO ECONOMIC FACTORS ARE INCREASINGLY INFLUENCING CORPORATE DECISIONS

Nowadays it is becoming increasingly necessary to consider societal and macro economic factors because they are increasingly determining business lives. Whenever French farmers protest against GATT- decisions, then McDonald's knows that it has to polish up its image as a great American company through comprehensive public relations campaigning. After the first restaurants would have been reduced to ashes and debris by the so called »agriculture rowdies«, American steaks

experts go on the offensive. They host press conferences, inform the customers in their restaurants and conduct a nationwide advertisement campaigns in which they emphasise that all their products come from domestically operated farms. The people's anger abates as a result of such measures.

Here is another example which even more clearly illustrates which meaning an active design of the macro environment must assume in terms of a consequent market orientation: a group of American interests associations succeeded in turning the hand of time in the USA to suit their imaginations. The »Daylight Savings Time Coalition«, which consists of neighbouring shops, fast food chains, manufacturers of confectioneries, grill accessories and sporting articles, through a series of activities significantly contributed to it that the Congress brought forward the beginning of summer time in the USA from the last to the first Sunday in April. The interests union was of the opinion that it will be an advantage to its members if there are longer afternoons. In this way, the fast food chain Hardee's claims that its weekly turnover will increase by 880 dollar in each of its stores by an extended summer time; the small shops chain 7-Eleven points to an increment in. turnover of 30 million dollars in the case of an extended summer. If the night could be shifted forward, it was expected that more women will shop in the small neighbourly shops on their way back home. The association of Barbecue industry pleaded for the extension of the grill season while the manufacturers of golf and tennis articles were convinced that the people will pursue their leisure activities earlier and longer than in normal time calculation. Their engagement at the highest political level paid off for these business associations and interests. The US Congress extended the summer time. The question now remains: »Who turned the time.....?«



3 THE CUSTOMERS

3.1 CUSTOMERS ARE BECOMING INCREASINGLY VERY UNPREDICTABLE AND INCONSISTENT

Customers consumption style allows for feasting as well as thriftiness; the price conscious purchase by Aldi is as equally as natural as a gourmet tour in expensive delicatessen stores; the daily drive to work in strong and powerful vehicles is being seen as normal as a very conscious purchase of ecological products. The purchasing behaviour is increasingly featuring irrational attitudes. The inconsistency is becoming a matter of course, a life philosophy.

This inconsistency is described by the direct marketer Friedhelm Lammoth in a wonderful and vivid way. This customer is a true challenge. According to a study by Leo Burnett, this »mystical creature« represents after all 6% of Federal Germany consumers (see Figure »The unpredictable and contradictory customer«).

Faith Popcorn, arguably the most successful marketing consultant in the USA describes this trend of customers with »99 lives at a once«.

Gert Gerken is of the opinion that the »this as well as that« behaviour is becoming important. According to his opinion, this lack of orientation is becoming relevant. He is of the view that two third of all consumers have meanwhile shifted from an optimising consumption attitude (always the same to best conditions possible) to an experimental consumption habit. The lack of orientation is characterised by an increased search for orientation, mainly social orientation. The new consumption sensation is called »anything goes«.

In this connection, Tom Peters establishes a fully new definition for our perceptions of product and service as something inconsistent and short lived fashionarticles. This trend has asserted itself, according to the author, also in a reinvigorated extent in the technology branch. One tries this product or that. Loyalty to a certain brand in the classical sense is disappearing.

3.2 THE ERA OF MICRO SEGMENTATION HAS BEGUN

The era of »Micro segmentation« (Gerken) and of individualisation of needs has started. The needs and life attitude of consumers are becoming more and more differentiated. There are increasingly less classical consumers of a particular product category. Different authors and studies have attempted to determine the different buyers' categories and to describe their consumption behaviours (see »New consumer groups emerging«).

The unpredictable and contradictory customer

"After all, our customer is exactly the type

- who sometimes stows away a Big Mac at McDonald's, sometimes it's a duck at Lehel or a dinner at Maitre Witzigmann;
- who doesn't know in the morning, whether he starts the day in a washed-out jeans or in a pin stripped;
- who has a mini roller packed beside a Porsche in his garage;
- who is sometimes on special diet while he at other times consumes one tin of fatty food after the other;
- of whom one never knows, whether he rides his bicycle to an ecological farmer in order to dig up biological potatoes, or at other times jets to London for a concert.

Here you have my free-style consumers and this is no exception, rather the multi-dimensional consumer, to whom we will have to adapt to in future because as a trend setter, he is "mega-in".

Friedhelm Lammoth

Different groups demand own products and services.

Let us once again observe by means of a good old bakery example, a totally trivial everyday example. Can you still remember what these shops looked like 15 years ago, when no pullovers, tennis stockings or wrist watches were being offered there? Three to four different types of bread or bread rolls, in addition to a few groceries. Today, it will appear that the classical brown bread has only been kept alive by a die-hard traditional minority.

Observe for a moment the variety of alternatives of extra options or additional performances offered by automobile manufacturers. So did VW name one of its most popular models after a middle sized American city »Golf Memphis«, »Golf Passadena«, »Golf Boston«. What is still missing will be »Golf Villingen- Schweningen«, or »Golf Castrop-Rauxel«. Or the models »Country« tailored for big cities close to nature with very good incomes, and »Genesis« for the ever young family man who finds a special attraction in music for grand dads. Of great attraction war models named after pop stars like Rolling Stones collection and Pink Floyd collection: offers for an increasingly decreasing fragments and short term needs. In this constellation, the classical 08/15 solution which each person can buy or own is being mercilessly rejected. Consumers who cherish their individuality are looking for individual products.

Of special interest in this relationship is the individuality strategy of the Swiss watch designers Swatch. The company has succeeded in positioning an innovative product in a mass market, which in spite of a great quantity of units sold, has been able to bestow its customers with that kind of desired individuality. Different types of models (the »classical Swatch«, the »Pop-Swatch«, the »Automatic Swatch«, etc.) are being sold and new collections are brought on to the market every half a year. Exactly how it should be in fashion industry. In this way, one has already created a maximum limit of diversity through which a simultaneously controlled shortage of the product (somehow, it is beyond imagination how fast the watch shops are »swept empty« immediately a new Swatch model appears on the market) ensures that two same models hardly encounter themselves, despite the fact that millions of people use Swatch watches.

Another example is »the product of the 1000 legends«, the »Walkman«. Sony has strewn the musical companions in 227 varieties on international market since inception.

Individuality is everything.

New consumer groups are emerging

- **The Skippies** (School kids with income and purchasing power)
- **The Global kids:** they engage themselves for environmental problems and deeply influence purchasing decisions of their families.
- **The Yiffies** (young, individualistic, freedom minded and few): the critical and individual consumers, they lay more value on immaterial things like happiness and life quality than on consumption
- **The New Health Age Adults:** consumers who accord absolute priority to personal health and that of the planet.
- **The Sandwichers:** adults who have to cater for their children and parents. Time and money for consumption: negative.
- **The Selpies** (The Second-life-people): wealthy consumers who want to lead another life after the time spent raising their children. They have much time for themselves and their hobbies.
- **The Puppies** (Poor Urban Professionals), the **Fruppies** (Frustrated Urban Professionals) **and the Woofs** (Well-Off Older Folks), represent the succession of former consumption-friendly, success-oriented and work-mania Yuppies (Young Urban Professional).
- **The Dobys** (Daddy Older, Baby Younger) and the **Mobbys** (Mummy Older, Baby Younger): "late fathers" and "late mothers", whose only desire is still to have a child. This will in turn completely fulfill their desire of **happiness and eternal youth.**

3.3 NEW WELL FUNDED CONSUMER GROUPS ARE EMERGING AND DEMANDING FOR OWN SOLUTIONS AND PRODUCTS

If we contemplate the movement of the population pyramid, it becomes clear that the share of senior citizens in Germany and in many other countries has been permanently growing. In this way, the average life expectancy between 1935 and 1995 has increased from 61 to 76. To this development comes a new attitude to life at the latter age, which is characterised by zest for life and spending preparedness. »Members of this age group (meant here is the age group of over 65 whose share of the population has increased by 16% between 1985 and 2000; Observation made by author) are today »egoists«, active and leisureoriented more than earlier generations. They spend more money for their personal wishes instead of saving for their children«, as opined by Kotler and Bliemel. As a result of this, the seniors will also emphatically demand for products in future, which suit their needs. The market for the seniors can hardly be described as one with a small niche at the moment, rather as one that is diverse with an over-proportional growth rate. So is for example the magazine »Modern Maturity« which directs itself mainly to the seniors. The circulation number for each issue is over 20 millions and its American biggest magazine.

Apart from the seniors, the youths will also become market relevant in term of purchasing power. According to researches, 56% of youths spend over € 250 in a month on consumables. Price plays only a subordinate importance to this category as long as it concerns a particular brand and label which is currently in trend. Of special importance is the family-internal trend setting and multiplier effect of the youths, who are increasingly playing a stronger role of experts within the family. Father's television or mother's computer are bought not only as result of expert counselling but also out of love of the children. Apart from this, the children also act as transmitters for television advertisements. If approximately 33% of children declare advertisement stations as their favourite TV show, then it is obvious that these shows should be accentuated to address children directly. Eventual purchases are therefore influenced by the wishes and favourite TV shows of the children. Even bigger family investments like the purchase of a new car, children have 20% judgement allowance. With furniture purchase, every third purchases is at the whims and caprices of the youths.

In the organisation or administration, we also establish the tendency of those buyers who are not the real decision makers for purchases. Computer purchases, decisions to buy a particular software solution or investment in new machine tools are strongly being influenced at other levels. This makes concentration of marketing activities on selective sectors of targeted organisations should make provision for this group of inconspicuous decision makers. The limitation of concentration only on the management as the contact person or marketing target-object is therefore a very strong constraint.

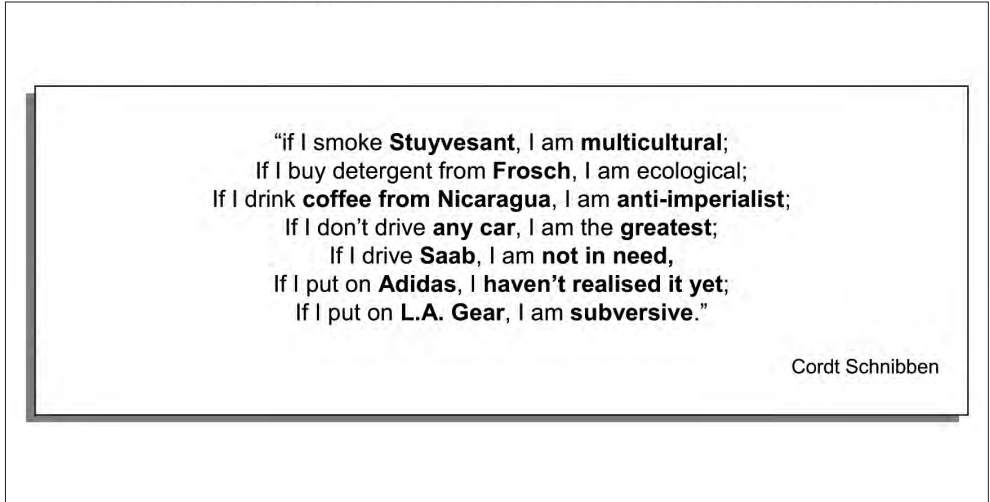
3.4 VALUES ARE REPLACING PRODUCTS AS BASIS FOR IDENTIFICATION THEREBY OFFERING THE OPPORTUNITY FOR A LONG TERM BOND BETWEEN PRODUCERS AND CONSUMERS

We can ascertain an increasing trend in long-term brand identification and corporate identification but only then when products bring certain convictions and attitudes to life. This is clarified by Cordt Schnibben with his examples (see »Brands identification and corporate identification«).

The product (or better the organisation and the brand) is ever becoming an identification object with which one can articulate life values and ideals. Benetton is today not just selling pullovers and jeans, but is also projecting world views which are presented in provocative advertisements. Esprit profiles itself as the medium of articulation for young people, in which the company gives its customers the opportunity to express their opinions on topics which moves them in double-paged advertisements. »What would you do?« the American fashion concern asks. »Opinions and convictions can not be taken off as easily taking off as a piece of garment which emanates from the fashion«. This could have been the marketing philosophy of Benetton and Esprit. Exactly here could also be the key to success with customers in future.

The tendency towards the question »From whom do I buy?« demands of market oriented companies »to have a moral, to represent social values« as the chief communicator for Esprit put it. Here, we land at one other fundamental trend which will touch and change every organisation of all sizes in future, whether big producers of consume goods or medium sized machine building company.

A further example which supports the described trend is that of Phillip-Morris-Advertisement who in their campaigns no longer refer to the fact that they actually want to sell cigarettes. Instead, a Minister is named for themes which touch on the life styles of their target groups. The ministers of Lifestyle are there for »Music and Nightlife«, for »Design and Fashion«, for »tomorrow« and for »Love«. Why then should another Health Minister warn? Also here, it becomes clear how important environmental and societal orientation is for companies; how much dependent they are in the future on searching for close connections between themselves and their customers at quite another level other than just consumption. We must have to learn to understand our customers; we must live in their world and not in the world of research laboratories and strategy offices. Organisations must produce more »emotional added value« instead of concentrating on their products which at the moment have the highest level of replace ability.



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3.5 ALLIANCES WITH CUSTOMERS (AND SUPPLIERS) ARE INCREASING

The following five points make the way free for alliances with customer and lead the way to a long lasting customer partnership.

- From processing
- to counselling
- to support services
- further to relationship and
- finally to bond.

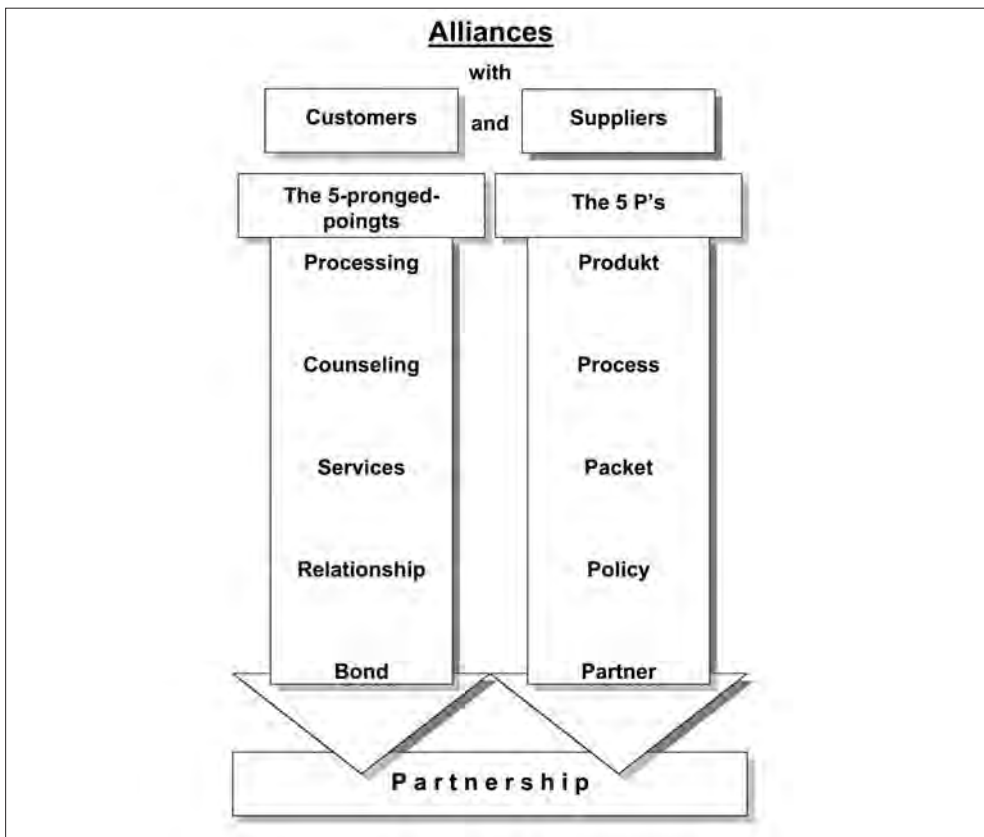
In the relationship and bond phases, normally the exit barriers for customers are as high as entry barriers for competitors. As far as suppliers are concerned, one still tries today to choose partners for longer period of time by means of an early selection. In this area, the process could be described using the P-Method:

- From the product
- to logistic process
- to hardware and software solution packets
- then to coordination of the policy and finally
- to a common appearance on the market as partners (see »Alliances with customers and suppliers«).

3.6 CUSTOMERS ARE INCREASINGLY DEMANDING FOR A SPECIFICATION OF UTILITY ARGUMENTS

Between 90 and 95% of German companies pursue the strategy of added values, i.e. they differentiate themselves from competitors not only through a very cheap price, rather through features such as quality, service, delivery punctuality, propositions on problem solutions etc. it is disappointing to see that only very few companies are known for their unique selling position. You can conduct a simple test: distribute empty sheets of papers to your workers and decision makers alike and ask the ladies and gentlemen to write down arguments for added values. You will in the end realise that the results are generally disappointing. Almost nobody is in a position to provide concrete arguments. Sure, this can even happen in a small group of staff members, when single arguments are written on different sheets of papers that these will not correspond. Very different statements are generated. How can someone convince the customers in this way?

My suggestion: proceed in the following three steps (see »The three steps to communicating utility«).



FIRST STEP:

Try to find out the general added value arguments for your company. Make a list of these arguments, go through this list within your organisation and with the customers and finally formulate the arguments on a sheet of paper. Ensure that all members of staff get to know the basic characteristics of the differentiation. A very good way of ensuring a direct access to these information by all is to store them on a computer system.

SECOND STEP:

After determining the general arguments, it is recommended to apply the benefits of the products and services to each basic target group. Every target group now has different decision criteria which have to be fulfilled. Also here it is advantageous to save the arguments on a data processing system. With this, it is possible to bring up the most actual benefit arguments before each target group during canvassing.

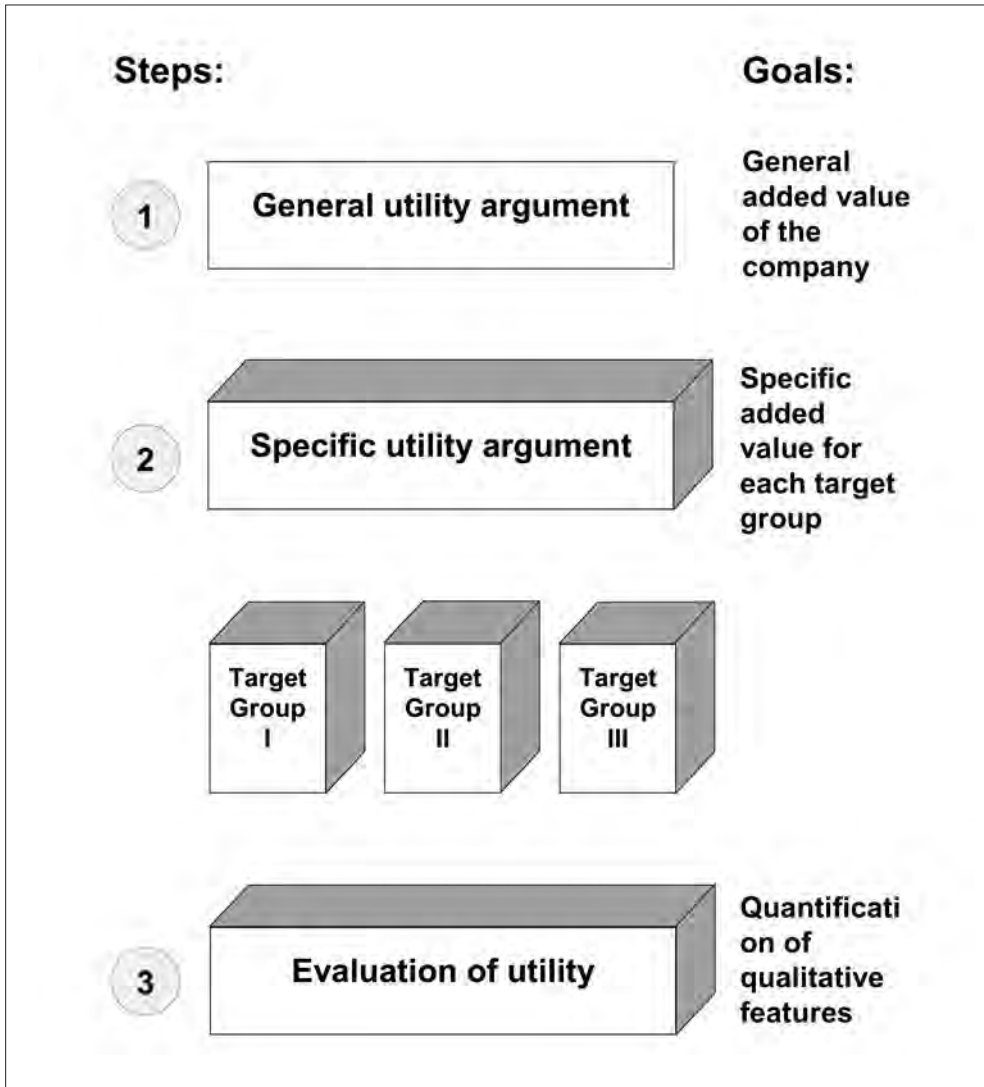
THIRD STEP:

The customers always want to know more and more on the offers of added values, i.e. what are the qualitative arguments worth? At this stage, applying value comparison will be a great advantage. We make clear to the customer what he stands to gain according to his personal expectations calculated in Euro. Give him this support.

3.7 ENVIRONMENTAL PROTECTION IS BECOMING A CENTRAL CONCERN TO CUSTOMERS

A variety of necessities justify the necessities of this rethinking:

- A comprehensive environmental orientation of the industries has become a question of survival, which is today taking existential dimensions.
- Basically, it has to be reckoned with that from a particular point of urgency and pressure from members of the public, certain obligations are demanded of by the state for products and their production processes (e.g. CFC ban or the regulation on taking back of recyclable packages by manufacturers). An early conversion to these measures will bring enormous competitive advantages.
- Our customers and the public are observing organisations more intensively and are judging them more from ecological points of view. Are the packages designed environmental friendly? Are PVC, CFC or other hazardous stuffs used in production? Will the manufacturer take back the products and dispose of them according to regulations? Exactly here will it be necessary to do more as it is being demanded of us by the many regulations. Sooner or later, they will become a reality. At the same time, it must be mentioned at this stage that this sort of environmental orientation will also have to be communicated in a sufficient measure, they must be »marketed« in order to present a real competitive advantage.



106 | The 3 steps to communicating utility

Environment orientation should neither be understood as a pure PR-gag in the future (our customers and the general public is too informed for this), or as rubbish from some selected sandal bearers (the topic is too momentous and is decisive for competition). Environmental orientation must become an integral part of a market oriented corporate management, whereby societal responsibilities of an organisation are often to be categorised higher than the operational costs-utilities-considerations.



4 POLITICAL ECONOMIC DEVELOPMENT AND GLOBAL ECONOMIC DEVELOPMENTS

The basic trends will be reproduced here in key points.

Political economic developments:

- The independence on international markets and global economic developments will remain for a leading exporting country like Germany.

- German economy will also in future have to live with the following burdens:
 - the least working hours per head in the world,
 - the highest wages and social services (78% more than, for example Great Britain),
 - one of the shortest life working time and
 - unavailability of raw materials.
- A higher growth of national products is still going to be reckoned with.
- The relevance of producing industries are diminishing. Services and trade industries are branches of the future. This trend applies to all developed nations.
- In order to offer German industries a better and competitive base, a radical change will have to take place at the top of the political hierarchy concerning economic policies. Worth of mentioning here are political initiatives towards research.
- Problems associated with Germany as an investment and industrial location are to be found within the premise of massive tax burdens.
- Increasing burden through societal costs (social welfare state, development costs for East Germany etc).
- The high educational standard, training standard and qualifications standard of German employees as well as specialised and leadership qualities of the management are becoming more and more our most important production factors.

Global economic developments:

- In future, there will also be no coordination of global economic development.
- The three economic blocks of North America (NAFTA), Europe (EU) and the Far East will continue to determine world trade.
- Despite an increase in goods and capital movements at the international stage, the three commercial zones will continue to separate themselves from one another (»economic nationalism«). Victims of protectionism are underdeveloped countries. Also, European companies are going to witness massive sales problems as a result of this constellation. This trend is going to be intensified as a result of the policy of relocation of production plants abroad by numerous Japanese companies in their effort at circumventing import restrictions.
- Fluctuations in global currency system is leading to permanent burdens on trade relationships.
- New markets in Eastern Europe and China provide a great market potential if the political and economic situations in these countries can allow for a permanent stability.

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

9 THE TOOL BOX OF »PRACTICAL CORPORATE MANAGEMENT«

IN THE INTERNET (GETTOP.DE)

GOAL(S):

The »Practical corporate management« comprises at the moment of about 300 instruments and methods of corporate and personal success. With the help of these tools, decision making processes will become transparent, objectified and comprehensible. This contribution provides an overview of the basic instruments highlights structures of selected method-packets and provides an example of application of the Tool-Box.

CONTENT:

- 1 Objective
- 2 An overview of the methods of »practical corporate management«
- 3 Examples of the different structuring of the methods
- 4 Application example: utility analysis- a method to assist in taking better decisions

INSTRUMENTS:

- Strategy tools
- Financial management tools
- Personnel management tools
- Organisational tools
- Procurement tools
- Production tools
- Distributions management tools
- Self management tools

APPLICATION(S):

- In all branches of corporate management
- In all personal branches

UTILITIES:

- Optimisation of the goals
- Objectification of decisions
- Making complex

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Applicable in all branches of business ventures
- Applicable in all organisations, regardless of branch and size
- Applicable in every personal branch

1 OBJECTIVE

The publisher of »Practical corporate management« has been intensively involved with methods, models, instruments and processes in theory and practice in the last two decades.

A fundamental core area of »Practical corporate management« is development, modification, takeover, and application of methods.

The work comprises of about 300 methods in the meantime. In order to ease the use of the methods in practice, the first 70 methods/method-packets were put online (gettop.de).

The contribution is structured in the capitals:

1 OBJECTIVE

2 OVERVIEW OF THE METHODS OF »PRACTICAL CORPORATE MANAGEMENT«

- Strategy management,
- Financial management,
- Organisational management,
- Personnel management,
- Procurement and production management,
- Distribution management,
- Self management.

3 EXAMPLES OF THE DIVERSE STRUCTURING OF THE METHODS

- Making better decisions- a vital success factor for organisations
- Structuring of selected methods »Decisions in the area of Information Technology«
- Structuring the methods to the packet »8-hour-corporate-analysis«
- The methods in the 4-hour-coaching-analysis

4 APPLICATION EXAMPLE: UTILITY ANALYSIS- A METHOD FOR TAKING BETTER DECISIONS

- Objective of the method
- Advantages and disadvantages of the analysis of utilities
- The approach to the application of the analysis of utilities
- Blank forms
- Practical example

2 OVERVIEW OF THE METHODS OF »PRACTICAL CORPORATE MANAGEMENT«

In »Practical corporate management«, most of the described methods/methodpackets have been comprehensively treated. The reader will find these in the respective chapters.

Much more comprehensive methods are available on the internet under gettop.de.

The following objectives can be achieved with the Tool-Box:

- Transparent presentation of the circumstances
- Optimisation of the objective/influencing factors
- Cultivation of »belly decision«
- Early recognition of potential strengths and weaknesses of the organisation
- Objectification of the influencing factors on Decisions
- Structuring of complex issues
- Flexible and quick application
- Plausibility of decisions

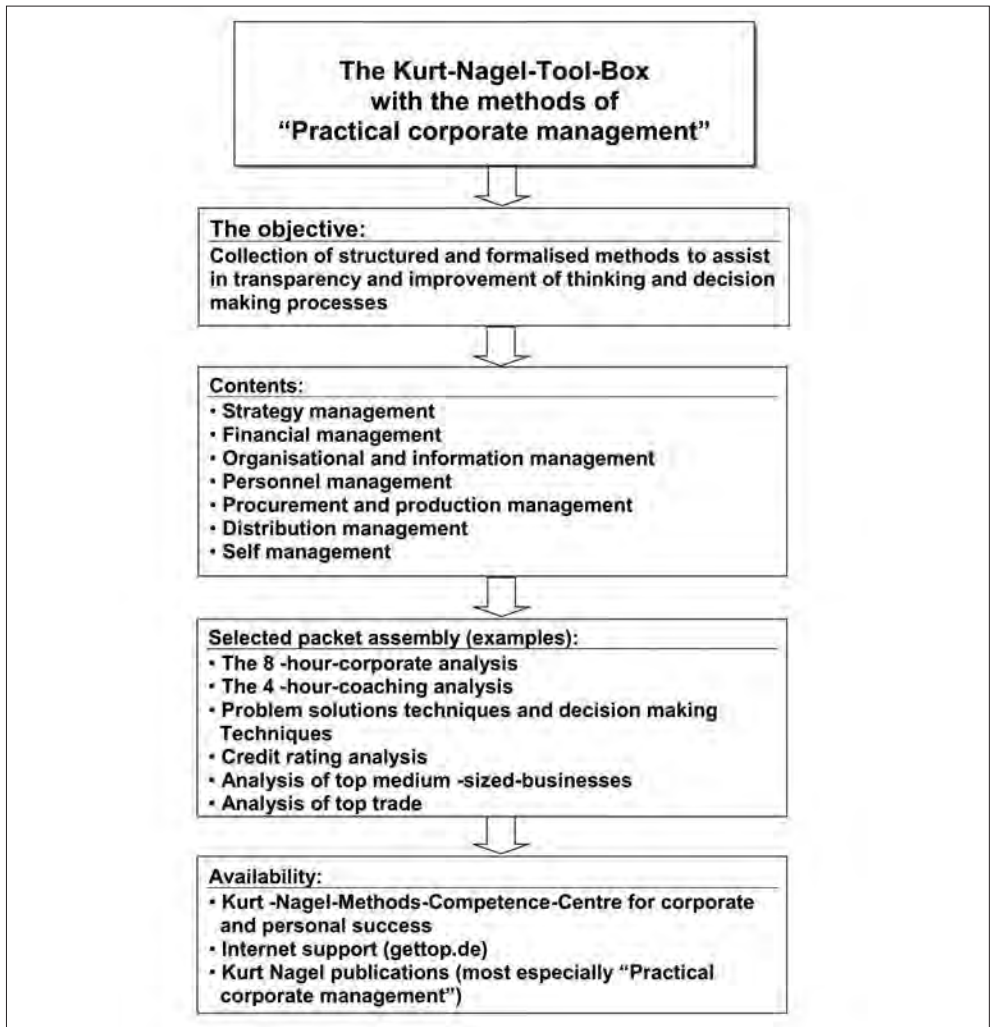
In the application of Tool-Box, the choice of certain methods and its transfer into practice must take cognisance of the following aspects:

- Target orientation,
- Holistic concept,
- Flexibility,
- Transparency,
- Simplicity,
- Completeness,
- Formalisation and standardisation,
- Profitability,
- User friendliness,
- Solution time,
- Problem adequacy,
- IT support,
- Solution probability

Normally it is sufficient, when the most important of the criteria are fulfilled. The presentation and contents of method descriptions vary with each method. Normally, the following are aimed:

- 1 Objective of the method,
- 2 Advantages and disadvantages of the method,
- 3 Application of the method,
- 4 The form/forms,
- 5 Application example (on this, consult the portrayed application example in item 4).

The following table »The Kurt-Nagel-Tool-Box with the methods of Practical corporate management« shows a rough structuring of the Tool-Box.



| Methods of strategic management (1) | | | |
|--|---|--|---|
| Method | Objective | Examples | Time |
| Analysis of competition forces | The analysis model assumes 5 competition forces: 1. The competitors 2. Customers 3. Suppliers 4. New entrants 5. Substitute products | How do we best protect ourselves against competition forces? How could we positively influence the competition forces? | Depends on the intensity. At least ½ day by simple structures |
| Competition analysis | This analysis provides an overview of the strengths and weaknesses of the competitors | Status of - Competitors - The branch Strengths and weaknesses of competitors | The extent of detailing determines needed time input |
| Customer portfolio and competitor portfolio | The criteria have to be presented according to their importance to the customers and their positions in competition | What is important to the customers and how could we fulfil these service performances in comparison to competitors? | For a rough analysis, at least 1 hour |
| Portfolio technique | Where do products, staff members, projects stand in the evaluation? | Are we adequately represented with our products on the market? Where do the products stand in view of market attractiveness and competitive strength? | 4-8 hours |
| Strategic orientation | The general strategic orientation can be determined through: 1. Cost leadership 2. Differentiation 3. Niche strategy | Profiling can be achieved through e.g. - Quality - Service - Price leadership - Problem solution | Determination of orientation is a fundamental decision which have to be taken quickly |

| Methods of strategic management (2) | | | |
|---|--|---|---|
| Methods | Objective | Examples | Time |
| Strategy innovations Process innovations Product innovations | The major point of innovations can lie in: - Product/ services - Processes - Strategies | - Disposal system - Customer databank - Strategic alliances | Depends on the intensity of the analysis |
| Dialectic | A thesis is placed against an antithesis. The contrast is then presented in a synthesis | 1. Current situation (thesis) 2. Target situation (antithesis) 3. Harmonisation (synthesis) | Approx. 1-2 hours |
| Success factors system General SF Branch SF Specific SF | General success factors apply to every organisation. Each branch has own success factors, the same applies to every organisation | - Flexibility - Quickness - Customer nearness - Co-workers - Products | Progress assessment per approach, approx 1-2 hours. |
| Trend analysis Pressure against counter pressure | The trends are concretised and positioned against available competence | - Environmental development - Customer Developments - Technological influences | For each trend, approx 1 hour |
| The utility system 1. General 2. Specific 3. Evaluation in € | Utility is evaluated 1. Generally, 2. For each target Group 3. In Euro (€) | - Image - Adherence to deadlines - Service - Quality - Co-workers | For all 3 steps approx 1-2 hours |

| Methods of financial management (1) | | | |
|---|---|--|---|
| Method | Objective | Examples | Time |
| Business figures | Where do we stand with our figures a) in own development? b) in the branch? | Do we enjoy any advantages compared industry-wide? How is our development with regard to the major figures? | Depends on level of data processing |
| Quick Test on financial stability and results situation | Evaluation of the company according 1. Own capital 2. Cash flow 3. Income return 4. Debt redemption | - Own capital is above branch average - Debt redemption duration under 3 years | With figures available, approx 30 minutes |
| Value benefit analysis | Which alternatives is the best from several? Where exactly are concrete advantages? | Which supplier can be chosen for our organisation? | 1-2 hours |
| Prioritisation of investment 1. economical 2. strategic 3. urgency | Which investment is most sensible for my company? Evaluation according to several criteria | Do we invest in a new warehouse or better in new machines? | 2 hours |
| Value analysis Recommendations A- category B- category C- category | Products, processes etc are classified into A, B or C categories, analysed and solutions developed | - Cost reduction of x-% - A-ideas are to be implemented within a year | Depends on the intensity of the analysis |

| Methods of financial management (2) | | | |
|--|--|---|--|
| Method | Objective | Examples | Time |
| Investment Static Dynamic | Evaluation of investment plans based on different criteria | <ul style="list-style-type: none"> - Cost comparison - Amortisation - Capital value - Annuity - Return on investment | For each method, depending on availability of materials, approx 30 minutes |
| Analysis of utility Advantages/ Utility categories | Evaluation of quantitative and qualitative benefits in Euro | <ul style="list-style-type: none"> - Costs reduction - Reduction of defaults of claims - Better information | Approx 2 hours |
| The 8-hour-corporate analysis | The corporation is analysed in 8 hours: 1. Problem analysis 2. Success analysis 3. Market analysis 4. Financial analysis | This analysis makes it possible to conduct a complete diagnose of organisations on the basis of 20 instruments | Outline: 4 hours Normal process: 8 hours |
| Strategic balance sheet analysis | An organisation is comprehensively analysed and evaluated on the basis of 10 different components | <ul style="list-style-type: none"> - How fit is the company today? - Which perspectives does the company have? | 1-2 days |
| Rating System (Scores): <ul style="list-style-type: none"> - Profitability - Financial situation - Market situation - management | Credit institutes conduct a kind of "Risk management" with rating system | <ul style="list-style-type: none"> - Constant observation of debtors - Loan request by new customers | Depends on figures and the details |

| Methods of organisational and information management (1) | | | |
|---|---|---|-------------|
| Method | Objective | Examples | Time |
| Consultant workshop for solutions to problem | How do we go about finding ideas to solving our most important problems? | Which ideas are appropriate for improving on speedy reaction? | 1 hour |
| Matrix Meaning Ability to Influence | Which problems are relevant to us in the company and how solvable are they? | - Introduction of target agreement - Customer databank - Process Organisation | ½-1 hour |
| Matrix Importance Urgency | What is important and urgent for our company? | Which problems do we have to solve first? | ½-1 hour |
| Integration matrix Active Passive | Which factors wield the strongest influence on result, i.e. which factors are specially active? | Leverage factors are for example: - Strategy - Co-workers - Leadership | 1 hour |
| Problem funnel | How do I go about solving a bundle of problems? | How can the problems be prioritised and systematically solved? | 1-2 hours |

| Methods of organisational and information management (2) | | | |
|--|---|---|---|
| Method | Objective | Examples | Time |
| Cause-Effect analysis | How do I solve my most important problem? | Can we introduce cooperative target agreement? | 1-2 hours |
| OD Method Factual level + Relationship level | The goal is to bring both soft and hard factors within the organisation into harmony | - Making participants out of those affected - Formulate objectives together | Depends on the duration |
| Process organisation | Information and logistic processes between suppliers (S) and customers (C) have to be optimised | - Solving internal processes - Optimising external processes | Complexity and level of detail determine time requirement |
| Project management Analysis Realisation Introduction | Efficient steering of projects on the basis of proven instruments | - Introduction of a new product - Rearrangement of the organisation | Depends on the size of the project |
| Organisational techniques - as-is analysis - to-be analysis - evaluation methods | The goal of the technique is to collate facts and concepts, to document and to evaluate | - Questionnaire - Interview - Multi moment - Simulations - Structure charts | The methods determine time input |

| Methods of personal management (1) | | | |
|--|--|--|---|
| Method | Objective | Examples | Time |
| Target agreement Goal Priorities Data | Both management and co-workers develop together the objectives, priorities and the measurement criteria | <ul style="list-style-type: none"> - Quality standard - Turnover target - Further training - Customer orientation | Approx 1-2 hours for meeting to decide on target objective |
| Competence Profile Professional, Social and Corporate competence | The ability of all members of staff will be ascertained | <ul style="list-style-type: none"> - Professional competence - Method competence - Social competence - Corporate competence | Approx 1 hour for fixing the data |
| Staff members pass Competence (Today, Future) | Each staff member becomes a pass which concretely identifies his development and advancement | Classification of competence e.g. according to 0= basic knowledge 1= can work under Supervision 2= can work Independently 3= experts | Approx 1 hour for fixing the data |
| Staff member portfolio | The objective is to comprehensively classify co-workers' competence in a matrix | Possible evaluation criteria could be: <ul style="list-style-type: none"> - Professional competence - Social competence - Corporate competence | Once the competences have been compiled, time input for classification is minimal |
| Leadership-style analysis <ul style="list-style-type: none"> - Self picture - External opinion - Transfer | For the analysis of leadership style, there are numbers of tests with which both strengths and weaknesses are recognisable | <ul style="list-style-type: none"> - Authoritarian leadership - Cooperative leadership - Situational leadership - Laissez-faire | Depending on the test, between ½-2 hours |

| Methods of personal management (2) | | | |
|---|---|--|---|
| Method | Objective | Examples | Time |
| Motivation analysis (Influencing factors) | The influencing factors will be analysed and evaluated applying known tests | <ul style="list-style-type: none"> - Freedom - Leadership style - Working environment - Monetary Encouragement | According to test, between ½-2 hours |
| Sensitivity analysis <ul style="list-style-type: none"> - Opinion survey - Tests | Opinion polls serve the purpose of ascertaining the working environment in an organisation | <ul style="list-style-type: none"> - Interviewing staff Members - Interviewing the Management | Depend on the number of workers and how comprehensive the questions are |
| Personality and Team success analysis PC program PERTAN | This PC program attempts to comprehensively diagnose a person | <ul style="list-style-type: none"> - Decision behaviour - Attitudes - Personal success factors - Team analysis | For each worker, approx 1 hour |
| 4-hour-Coaching: <ul style="list-style-type: none"> - Preparatory stage - Analysis stage - Follow-up-stage | Coaching serves the purpose of occupational performance and the advancement of operational competence | The test has 5 modules 1. Problem analysis 2. Self analysis 3. Environmental Analysis 4. Strategy analysis 5. Analysis of priorities | 4 hours for the diagnose; 1 hour for coaching talk |
| Flexible remuneration system 1. Fixed remuneration 2. Variable I: Performance 3. Variable II: corporate performance | Remuneration system integrate more and more performance and corporate performance | Possible formula: 70% fixed 20% performance 10% added value | Compilation of an operational specific system requires time and a subtle proceeding |

| Methods of procurement and production management (1) | | | |
|--|---|--|--|
| Method | Objective | Examples | Time |
| Scenario technique Today Future | The idea is to play through different scenarios for relevant developments and be able to deduce possible consequences | <ul style="list-style-type: none"> - What is the best development? - What can happen in the worst case? - Which development is realistic? | Depending on the intensity of the analysis, 2 hours to 2 days |
| 5 P's in the mistakes analysis: 1. Product 2. Production analysis 3. Processes 4. Program 5. Persons | The objective of the 5 P's is to reduce mistake quota to a minimum. The causes often lie in the 5P's | <ul style="list-style-type: none"> - Too many parts - Tolerance problems - Material defect - Lacking training | Normally ½ a day |
| Lean management System General Conditions Specific Conditions | A system that tries to optimise success factors as best as possible and to also efficiently shape it | <ul style="list-style-type: none"> - Analysing sources of losses - Transparent costs calculation - Budgeting - Profit centre | Model analysis approx ½ a day, otherwise, a continuous process |
| Logistic management | Logistic is developing more and more to a strategic success factor in competition | <ul style="list-style-type: none"> - Procurement logistic - Production logistic - Distribution logistic - Disposal logistic | Depends on the processes |
| Outsourcing Partial complex | Outsourcing can follow different goals: <ul style="list-style-type: none"> - Concentration on core business - Cost reduction - Higher flexibility | <ul style="list-style-type: none"> - Extended work-bench - Use of competences - Partnerships | With availability of decision aids, decisions can be taken quickly |

| Methods of procurement and production management (2) | | | |
|--|--|---|---|
| Method | Objective | Examples | Time |
| Environmental protection ROI "MUST" | Within the scope of environmental protection, both the "Must investments" and criteria for economic efficiency have to be optimally integrated | <ul style="list-style-type: none"> - Risks analysis and threats - Analysis of costs and utility - Analysis of chances | Time commitment depends on the degree of details, between 1-3 hours |
| Quality circle Problem | Exactly in procurement and production branches, it is important to constantly accord high level of importance to questions relating to quality and safety of processing time | <ul style="list-style-type: none"> - Cost reduction - Improvement of processing time - Quality improvement | Depends on the problems. It can lead to permanent support |
| Supplier choice Methods: 1. Economic efficiency 2. Physical 3. Strategic | Objective is the objectification of choice of suppliers. This choice process has to be optimised | <ul style="list-style-type: none"> - Economic, - Physical and - Strategic supply performance | With available evaluation model, approx 2-3 hours |
| Methods of quality guarantee | The methods of quality assurance serve the purpose of guaranteeing achieving quality goals | <ul style="list-style-type: none"> - Interviews on customer satisfaction - Sigma quality standard - Cause-effect-diagram | Depending on the method, between 1 hour and a day |
| Methods of product development <ul style="list-style-type: none"> - Process development - Technological input - Lean production | How can product development time be reduced? | <ul style="list-style-type: none"> - Kanban/Pull-Principle - Just-in-time - CIM systems | Depends on applied methods and goals |

| Methods of distribution management (1) | | | |
|--|--|--|--|
| Method | Objective | Examples | Time |
| Target group analysis | Customer segmentation has the goal of fulfilling decision criteria of each target group as best as possible | Target groups can be for example: - Seniors - The youths - Athletes - Trade/industry | Approx 1-2 hours. |
| 5-pronged-customer orientation 1. Processing 2. Consultation 3. Support 4. Relationship 5. Commitment | The 5-pronged-points make it clear that it is no longer sufficient to observe only classical customer problems | - Customer data - Customer support concept - New distribution channel - Common strategies | Analysis of the checklist, approx 1-2 hours |
| Customer advisory council Customer demands | The customer advisory council makes concrete recommendations towards current and future businesses | - Appearance - Organisation - Products - Innovations | Between 3 hours (minimum) and 3 days (maximum) |
| Databanks | Information produces competitive advantages. The idea is to develop databanks and use them | - Customer behaviour - Trends - Branch figures - Income return/ profits | Depends on the researches (access, volumes) |
| The 7-point customer orientation 1. Attraction 2. Appearance 3. Inquiry 4. Offer 5. Completion 6. Transaction 7. After sales service | The 7 points clearly point to the factors which are prerequisites to success in business | - Communication - Individual solutions - Service - After sales service | For the development of behavioural recommendations, approx 3-4 hours |

| Methods of distribution management (2) | | | |
|---|--|---|--|
| Method | Objective | Examples | Time |
| Methods of complaint management CLAIMS = PROMOTIONAL ACTION | Complaints are to be processed as best as possible. Active complaint management precedes actual incidences | <ul style="list-style-type: none"> - Rules on transaction - Analysis and evaluation - Temporary agreements - Daily transactions | Time for forming the rules, approx 1-2 hours |
| Business fields | Core competence has top priority in building success positions. They should be the basis for business fields | <ul style="list-style-type: none"> - Competence in control engineering - Competence in Robotics | Analysis of business fields approx 1-2 hours. |
| Matrix of customer productivity Net price Costs | Productivity can be determined for every customer. The four matrix fields allow for concrete strategies | Apart from costs and prices, it is advisable to put turnover as the third dimension. | The following are to be determined for each customer (customer class). <ul style="list-style-type: none"> - the net price, - the costs and - turnover |
| Service portfolio Corporate service Personal service | Corporate service and personal service both have to be in harmony | Examples of highest service: <ol style="list-style-type: none"> 1. 100% adherence 2. accessibility round the clock 3. optimal processes | For filling out the matrix, approx 1 hour |
| Event management Philosophy of stage communication | Staging of events doesn't present the product but an image with which customers identify with the product | <ul style="list-style-type: none"> - Click off - Road shows - Customer clubs - Shows - Staging | Philosophy, 1-2 days |

| Methods of self management (1) | | | |
|---|--|--|--|
| Method | Objective | Examples | Time |
| Methods of strength analysis - EKS - Hirt - Großmann | The methods assume that the development of strengths produces personal success | - Strength analysis - Chance analysis - Problem analysis - Overall concept Analysis | Understanding and applying models at least 1 day |
| Methods of weakness analysis Weakness and Measures | Goal of these approaches is to identify and eliminate weak points | - Weakness analysis - Self perception - External perception - Objectives - Measures | Analysis of measure catalogue 1 day |
| Stress management technique Environmental Tasks Person | In order to avoid stress, the following methods are available 1. the environment 2. the tasks 3. the person | - Approaches - Objectives - Physical fitness - Mental fitness - Intellectual fitness | Permanent process |
| T = Tasks T = Time B = Buffer period D = Decisions N = Notes | Methods of medium and long term time planning | The assignments are to be temporally estimated and prioritised and then transferred into a plan book | For each planning cycle 1 hour |
| Paretos Law Activities and Success | 20% of activities bring 80% success | - Turnover with customers - Waste - Sick days - Profit | Approx 1-2 hours |

| Methods of self management (2) | | | |
|---|---|--|---|
| Method | Objective | Examples | Time |
| Communication model Message = 1. Factual Content 2. Self appeal 3. Relevation 4. Contact | The message of a broadcast station to receivers contains four basic aspects | <ul style="list-style-type: none"> - Information - Message - Contact - Appeal | Understanding the model 1 hour |
| Visualisation technique Visual Inszenario | Facts are clarified with figures and symbols | <ul style="list-style-type: none"> - Presentation of the processes - Interpersonal Relationships | ½-3 hours |
| Learning techniques <ul style="list-style-type: none"> - Mind map - Super learning - 5-Point methods | The learning techniques were developed for the structuring of knowledge and for a better retention of learnt stuffs | <ul style="list-style-type: none"> - Active learning - Media input - Situational methods | 1 hour- several days |
| Presentation techniques The prerequisites of a presentation | The presentation techniques help in achieving an effective and a vivid expression | <ul style="list-style-type: none"> - Rhetoric - Didactic - Methodical | Depends on the assignment and the goals |
| OCLOPP systems O = Own initiative C = Considerateness L = Leadership O = Organisation P = Performance P = Principles | The OCLOPP systems attempt to describe factors for personal success and recommendations for possible actions | <ul style="list-style-type: none"> - Waitley - Garfield - de Bono - Harris - Vester | Understanding the system ½-1 hour |

3 EXAMPLES OF DIFFERENT STRUCTURING POSSIBILITIES OF THE METHODS

3.1 TAKING BETTER DECISION – A VITAL SUCCESS FACTOR FOR ORGANISATIONS

Within the scope of corporate line of activities, decisions are always being taken more often involving substantial risks. The success of the organisation often depends on the quality of these decisions. A single wrong decision on an important circumstance can e.g. lead to destruction of the business. It can be ruinous if a considerable part of »less important« decisions are taken wrongly. In this respect, one should know pretty much more than usual on how rational decisions are taken. The goal of systematic decision process is to reduce the likelihood of wrong decisions to the barest minimum.

Senior management often encounter difficulties in finding correct decisions. Reasons for this could be the following:

- The real problems are not often recognised.
- Human being take decisions based upon his habitual attitude.
- Objectives and decision criteria are not always known.
- The information are not always sufficient.
- Generally, only a few alternatives are always considered.
- Decisions are always being taken under time pressure.

The most difficult is the resolution.

(Franz Grillparzer)

In contemplation, one can hesitate, however the contemplated act has to be immediate.

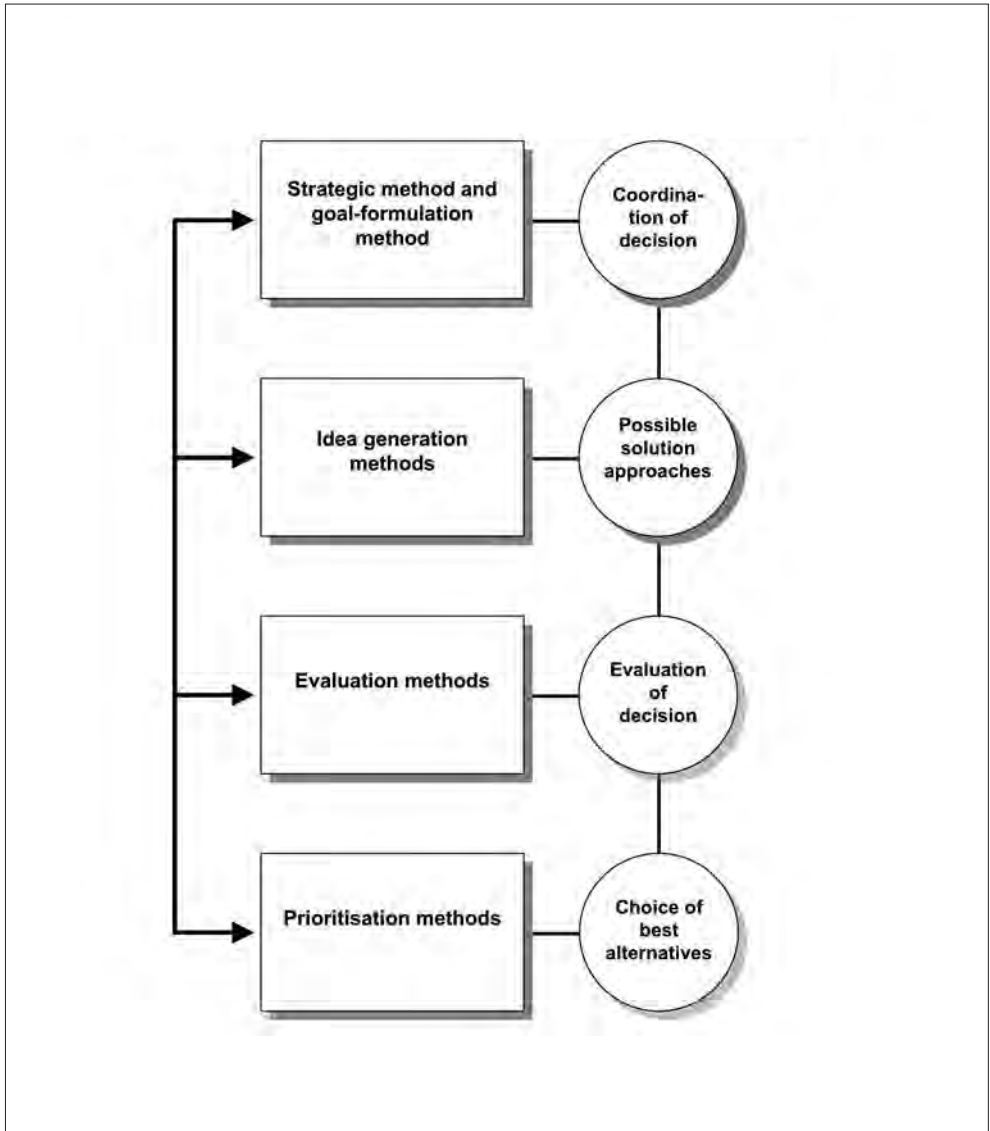
(Thomas von Aquin)

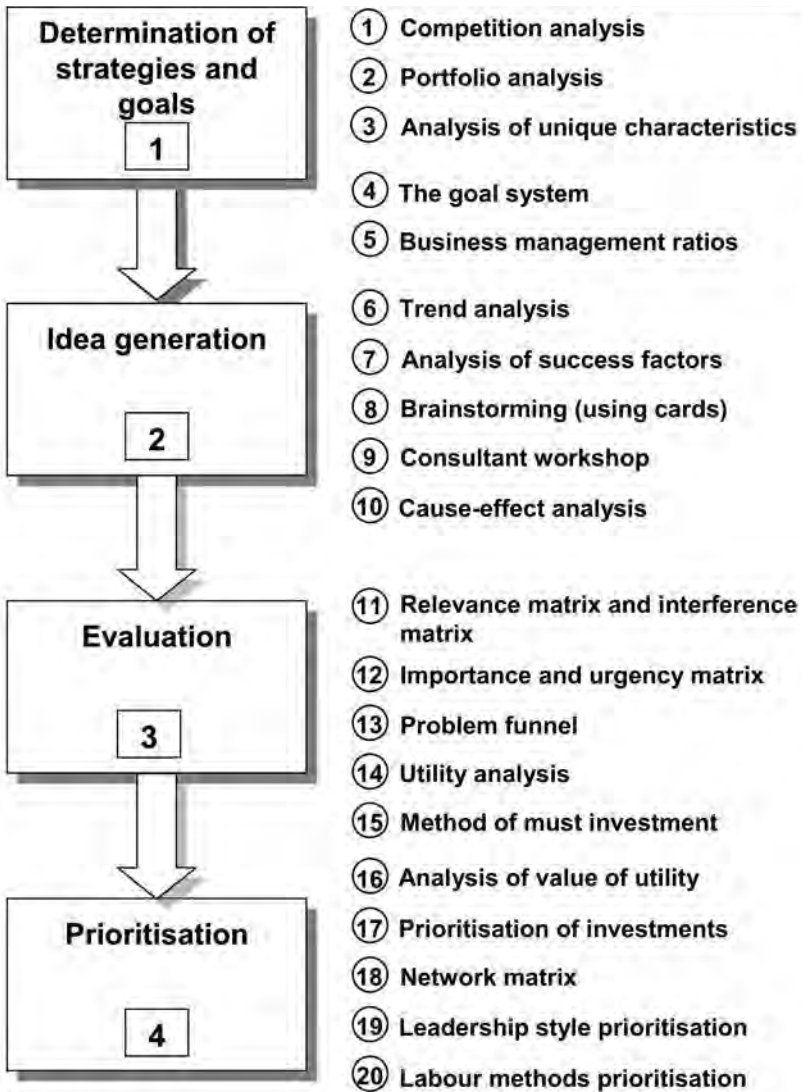
Our biggest enemy is our lack of resolution!

(Folklore)

The following mentioned methods make it clear how »instinctive decisions« can be cultivated. The objective is for organisations to take decisions which are objective, transparent, and comprehensible and if possible, which are optimal for the whole company.

An overview of the chosen methods produces the following illustrations »Structuring of problem solution and decision techniques«, »Classification of methods of structural components«, »Decisions in the IT-branch«, »The 8 hours analysis«, »What can one achieve in 8 hours?«, »Contents and chronology«, »The 8 hour corporate analysis – structure and methods« and »Advantages of 8 hour analysis«.





3.2 STRUCTURING OF CHOSEN METHODS, DECISIONS IN THE ITBRANCH

Decisions in the IT-branch

① Why should we invest in IT?

- **Competition analysis**
- **Success factors analysis**

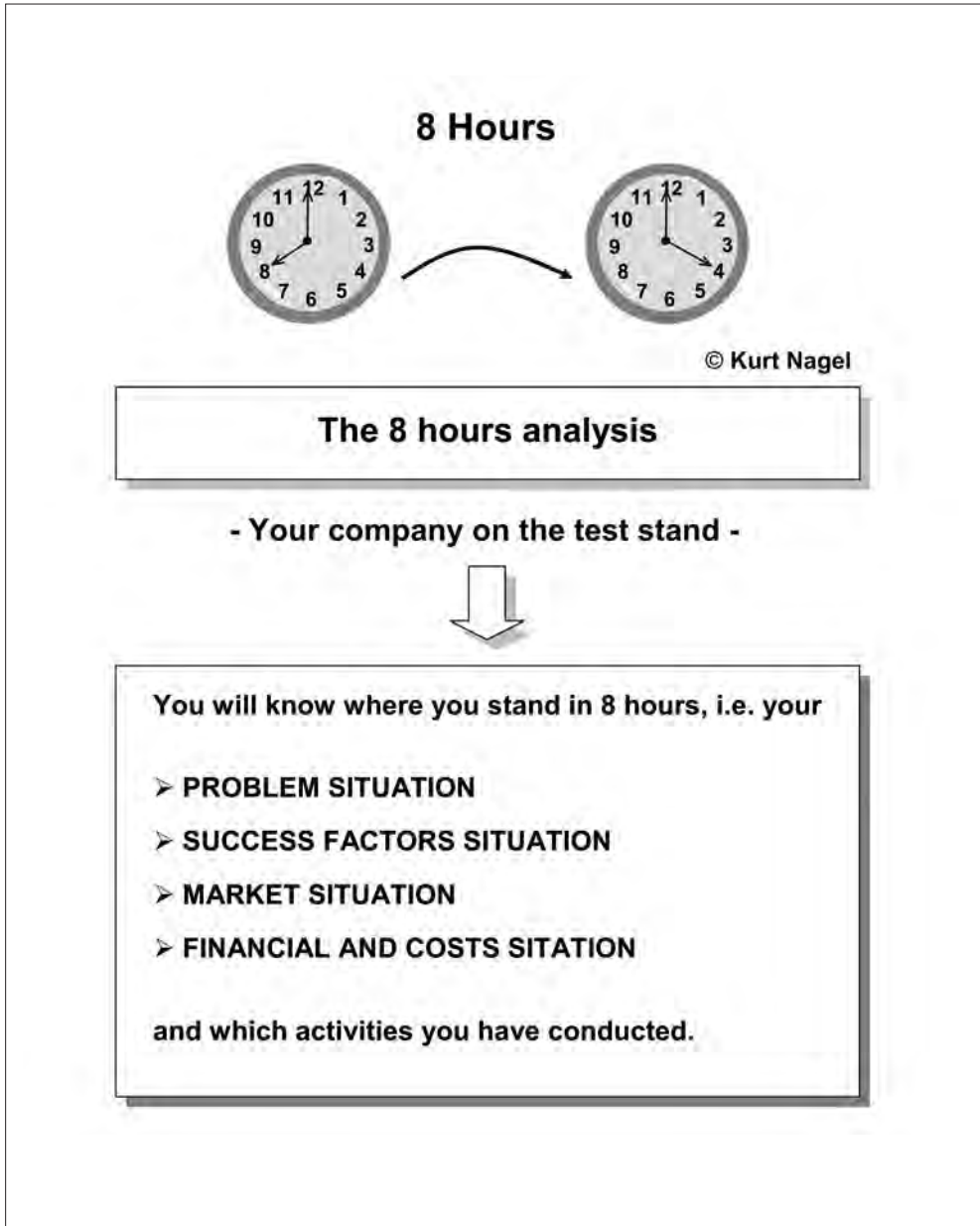
② How do we perceive costs and utility?

- **Utility analysis**
- **Prioritisation of investments**

③ For which systems provider have we decided?

- **Analysis of utility value**
- **Method of value comparison**

3.3 STRUCTURING THE METHODS OF »8-HOUR CORPORATE ANALYSIS«



What can one achieve in 8 hours?

- Fly to New York



- Participate in 2 marathons



- observe the process of milk becoming yoghurt



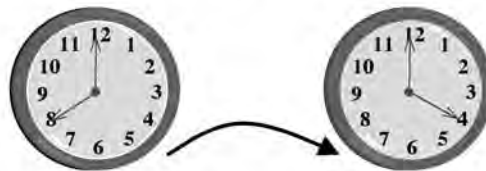
- Participate in boring meetings









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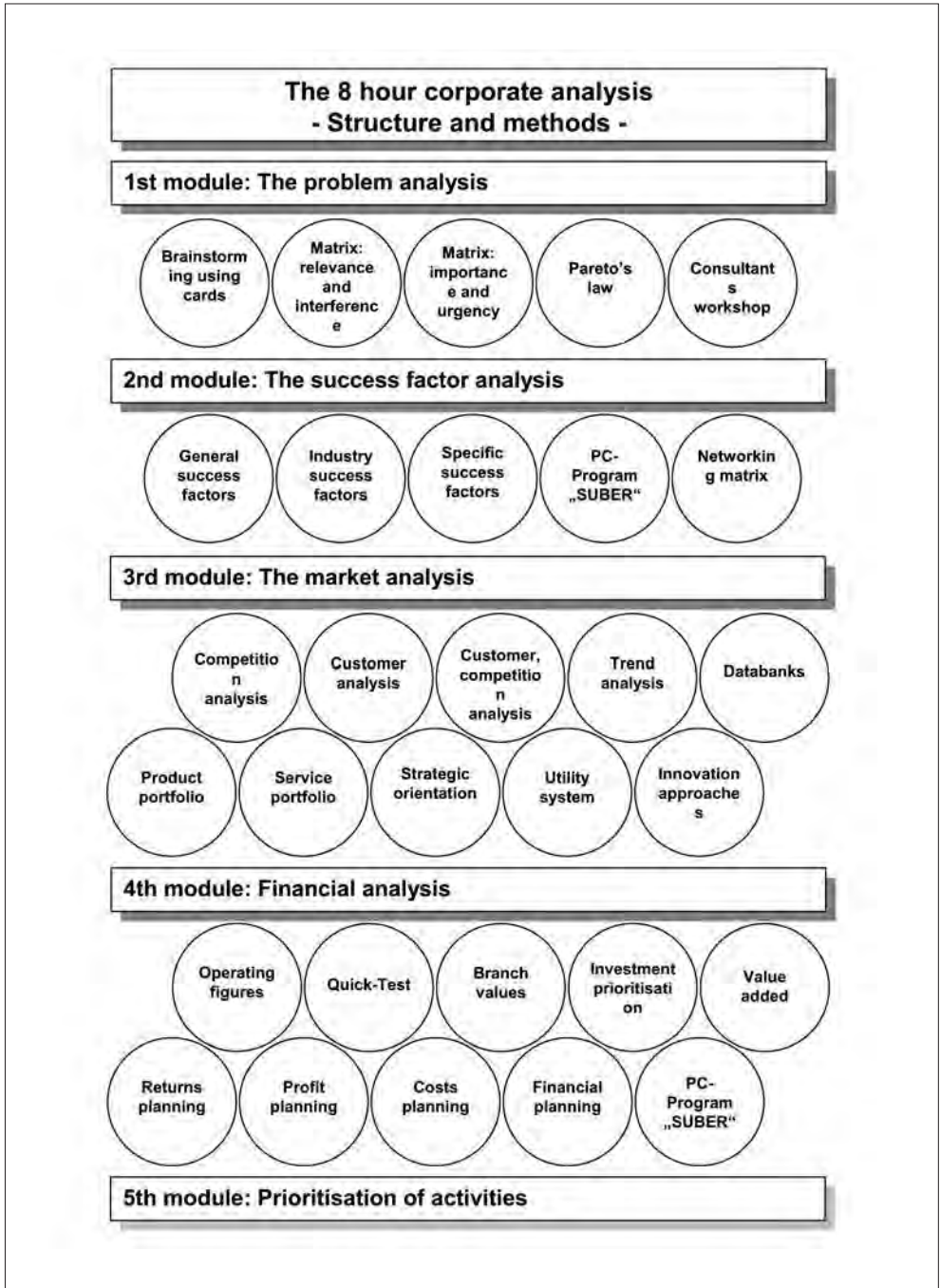
or

- Conduct an 8 hours corporate analysis



Contents and chronology

| Time | Module | Result |
|---|--|--|
|  | 1. Our problem situation | <ul style="list-style-type: none"> • Specify most important problems • Development of solution recommendations |
|  | 2. Our success factor situation | <ul style="list-style-type: none"> • Characteristic of success factors from own and customer perspective • Proposals for further development |
|  | 3. Our market situation | <ul style="list-style-type: none"> • Analysis of competitors, customers, products/ service performances • Sketching of solution approaches |
|  | 4. Our financial and cost situations | <ul style="list-style-type: none"> • Analysis of basic financial and cost ratios • Looking for solution recommendations |
|  | 5. Our networked activities from module 1 – 4 | <ul style="list-style-type: none"> • Evaluate and prioritise the activities • Create a catalogue of measures |
|  | 6. Conclusion of the 8 hour analysis | |



Advantages of the 8- hour- analysis:

- Comprehensive observation
- Timely and cost efficient conclusion
- Integration of those involved
- Results arrived at fast
- Well proven tool boxes
- Need-oriented action
- Case by case application of computer program
- Concrete stipulations
 - the weak points
 - the strengths
 - market positions
 - cost situation and financial situation
- Transparent and comprehensible results
- Modular application
- Comprehensive experiences
- References

4 APPLICATION EXAMPLE: UTILITY ANALYSIS – A METHOD OF MAKING BETTER DECISIONS

4.1 OBJECTIVE OF THE METHOD

The goal of this method is to make a choice between decision alternatives on the basis of several criteria of subjective ideals. Only alternatives with the highest utility will be chosen. The method should always be applied whenever the choice of best alternatives from several is required.

Utility analysis serves the purpose of objectification and systemisation of decision processes. It is meant to contribute to reducing probability of wrong decision. In commerce and administration, decisions are being made- mostly involving risks. A single wrong decision in an important circumstance can lead to the destruction of an organisation. It can be ruinous if a considerable part of »less important« decisions are taken wrongly. In this respect, one should know pretty much more than usual on how rational decisions are taken. As a result of this senior management must know who one makes rational decisions in an organisation.

1. Occupational problem analysis

- Coaching rules,
- Catalogue of questions,
- Test of satisfaction / dissatisfaction,
- Efficiency and effectiveness analysis,
- Problem funnel,
- Cause-effect-analysis

2. Occupational self analysis

- Strengths-weaknesses analyses
- Analysis of basic attitude
- Analysing sources of energy/causes of fatigue
- Self motivation checklist
- Analysis of stress and strain
- Checklist: my creative potential
- style of acting at work

3. Occupational environment analysis

- Analysis of own leadership style
- Staff members interview
- Examining leadership style
- Communication analysis
- INSCENARIO
- Personal success and team analysis

4. Occupational strategic analysis

- Problem analysis matrix
- Situational analysis matrix
- Environmental analysis matrix
- Innovation analysis matrix

5. Prioritisation and transfer activities

- The dialogue (form)
- The measures (form)
- The agreements (form)

4.2 ADVANTAGES AND DISADVANTAGES OF UTILITY ANALYSIS

If one were to summarise the advantages of utility analysis, the following arguments ensue:

- Several goals can be pursued,
- Differentiation of individual criteria,
- Decision making is made transparent,
- Decision will be objectified,
- A differentiated standardisation guarantees comprehensiveness,
- The very many evaluation rules allow for certain flexibility in application.

As far as the disadvantages are concerned, of special relevance is the objectification in quantification of criteria and the fixing of significance.

The illustrated advantages however make it clear that these arguments are no longer solid by a systematic procedure. How can one describe a decision made in the head? Is the part played by one's subjectivity not higher by such decisions?

4.3 THE PROCESS IN THE APPLICATION OF UTILITY ANALYSIS

In the following, the process is described with an example of a purchase of a new delivery van (see table »Analysis of utility value: Purchase of a delivery van«).

FIRST STEP: DEFINING OBJECTIVE OF THE DECISION.

Our example concerns the purchase of a new delivery van.

SECOND STEP: ASCERTAINING THE NEEDS WHICH THE DECISION HAS TO ABSOLUTELY FULFIL.

Under this condition, we have all those needs which the alternatives have to absolutely fulfil in order to be considered as a choice.

In the current example, we have »Must needs«

- Price < €17.500
- Loading space with euro-pallets (75x100)

THIRD STEP: SETTING UP THE CHOICE CRITERIA.

Each criterion will be weighted according to its relative importance. This is how one can often assume a total quantification of all criteria with 100% by the application of this method. Quantification follows at the specific background of its meaning to the decision maker.

In our example, the described choice criteria have the following values:

- Price 30%
- Re-sale value 10%
- Petrol consumption 15%
- Tax 5%
- Insurance 7%
- Wheel base 5%
- Service network 10%

FORTH STEP: DEVELOPMENT OF THE ALTERNATIVES

Emphasis here is to ascertain all possible alternatives. It is important that these fulfil the unconditional needs. In our example, letters A, B, C and D stand for specific delivery vans.

FIFTH STEP: EVALUATION OF THE ALTERNATIVES.

In the easiest case, each of the alternatives will be ranked. In our example, the understanding is that 1 = the best fulfilment and 4 = the worst fulfilment. For the criterion »price«, each of delivery van alternatives will be categorised under the following values:

- A = 4
- B = 2
- C = 3
- D = 1

This implies that the alternative D is the cheapest as far as price is concerned, while the alternative B is next cheapest etc.

After entering the respective values in the form, the quantifier (Q) shall then be multiplied with the value (V). In our example, we have the following picture on price (column Q x V):

- A = 120 points
- B = 60 points
- C = 90 points
- D = 30 points

SIXTH STEP: CHOICE OF THE BEST ALTERNATIVE.

The alternative will be chose which shows the best conformity to the choice criteria. In our example, one is going to decide for the alternative D. it has the lowest point by a wide margin.

An examination of the calculation results is thereby possible. One adds the ranks and multiplies with 100. For our example, we have:

Sum of ranks: $1 + 2 + 3 + 4 = 10$

Total point of all alternatives: $100 \cdot 10 = 1000$

A = 324

B = 232

C = 258

D = 186

= 1000; that means that the result has been correct ascertained calculative.

For the application of this method, the table »Analysis of utility value« can be used. Make use of this formula in your organisation in finding out the best alternatives.

| Analysis of utility value | | | | | | | | | | |
|-------------------------------------|--|---|---|----------|---|----------|---|----------|---|-----|
| 1 Objective of decision | | Purchase of a delivery va | | | | | | | | |
| 2 Unconditional requirements | | 1. Price: approx 35.000€ 2. Cargo area with euro-pallets | | | | | | | | |
| | | 5 Alternatives | | | | | | | | |
| | | A | | B | | C | | D | | |
| 3 Choice criteria | | 4 | | 6 | | 6 | | 6 | | |
| | | G | V | QxV | V | QxV | V | QxV | V | QxV |
| Price | | 30 | 4 | 120 | 2 | 60 | 8 | 80 | 1 | 30 |
| Resale value | | 10 | 1 | 10 | 3 | 30 | 4 | 40 | 5 | 50 |
| Petrol consumption | | 15 | | | | | | | | |
| Tax | | 5 | | | | | | | | |
| Insurance | | 7 | | | | | | | | |
| Wheelbase | | 6 | | | | | | | | |
| Service network | | 20 | | | | | | | | |
| ... | | | | | | | | | | |
| ... | | | | | | | | | | |
| ... | | | | | | | | | | |
| ... | | | | | | | | | | |
| Results | | 100 | | 324 | | 232 | | 258 | | 186 |
| 7 Decision | | | | | | | | | | |

| Analysis of utility value | | | | | | | |
|--|----------|--------------------------|----------|----------|----------|-------|--|
| 1 Objective of decision | | | | | | | |
| 2 Unconditional requirements | | | | | | | |
| | | 5 Alternatives | | | | | |
| | | A | B | C | D | | |
| 3 Choice criteria | 4 | 6 | 6 | 6 | 6 | | |
| | G | V QxV | V QxV | V QxV | V QxV | V QxV | |
| | | | | | | | |
| Results | | | | | | | |
| 7 Decision | | | | | | | |

4.4 CASE STUDY: ANALYSIS OF GROWTH STRATEGY

OBJECTIFICATION OF EMOTIONAL DECISIONS

In the area of growth and expansions, quite a lot of decisions are being taken in very many organisations based on pure emotion. Could be that these decisions eventually prove to be dead correct, the fact still remains that an uneasy feeling of uncertainty remains.

This is more important now than ever in a business world being strongly influenced by the environment, to make transparent decisions and to solve problems objectively in a methodical manner. (see »Analysis of growth strategy«).

In the below-mentioned analysis, the following procedure was practised:

- Making a list of growth alternatives,
- Making a list of growth criteria,
- Putting the criteria in percentage,
- Ranking the growth alternatives,
- Ascertain evaluation figures: the multiplier x rank.

EVALUATION:

- Evaluation figures of each alternative can be ascertained through addition – to be favoured is the lowest evaluation figure
- First second-choice – the five highest quantified criteria were used
- Second second-choice – the three pure economical criteria were used

CONCLUSION:

With this objectified and structured method of analysis, personal and emotional tendencies can be neutralised. The company will be helped in achieving heightened decision making confidence and shown the way to a successful corporate growth.

Analysis of growth strategy

| Alternatives to growth Growth criteria | Quantification in % | I. Internal growth | | II. New business fields | | III. Expansion of a branch | | IV. Take over of a company | | V. Cooperation, strategy alliance | |
|---|---------------------|--------------------|------------|-------------------------|------------|----------------------------|------------|----------------------------|------------|-----------------------------------|------------|
| | | Q | QxV | Q | QxV | Q | QxV | Q | QxV | Q | QxV |
| Investment | 7 | 1 | 7 | 3 | 21 | 4 | 28 | 5 | 35 | 2 | 14 |
| Amortisation | 13 | 1 | 13 | 4 | 52 | 3 | 39 | 5 | 65 | 2 | 26 |
| Profitability | 18 | 1 | 18 | 4 | 72 | 3 | 54 | 5 | 90 | 2 | 36 |
| Competitive advantages | 8 | 5 | 40 | 3 | 24 | 2 | 16 | 1 | 8 | 4 | 32 |
| Market share | 9 | 5 | 45 | 3 | 27 | 2 | 18 | 1 | 9 | 4 | 36 |
| Personnel structure | 23 | 3 | 69 | 4 | 92 | 5 | 115 | 1 | 23 | 2 | 46 |
| Creation of additional utility (added value) | 5 | 5 | 25 | 4 | 20 | 3 | 15 | 1 | 5 | 2 | 10 |
| Compatible with head office (conception) | 4 | 1 | 4 | 2 | 8 | 3 | 12 | 5 | 20 | 4 | 16 |
| Increasing access barriers | 4 | 5 | 20 | 4 | 16 | 3 | 12 | 1 | 4 | 2 | 8 |
| Increasing exit barriers (customer) | 4 | 2 | 8 | 1 | 4 | 5 | 20 | 4 | 16 | 3 | 12 |
| Internal organizational structure | 5 | 1 | 5 | 3 | 15 | 4 | 20 | 5 | 25 | 2 | 10 |
| Prioritization according to evaluation figures | 100% | 2. position | 254 | 5. position | 351 | 4. position | 349 | 3. position | 299 | 1. position | 246 |
| Run-off for the most valuable criteria | | 2. position | 185 | 5. position | 267 | 4. position | 242 | 3. position | 195 | 1. position | 176 |
| Run-off according to operational criteria | | 1. position | 38 | 4. position | 145 | 3. position | 121 | 5. position | 200 | 2. position | 76 |

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

C FINANCIAL MANAGEMENT

| | | |
|---|-----------------------------|-----|
| 1 | OPERATING FIGURES | 330 |
| 2 | INVESTMENT MANAGEMENT | 382 |

1 OPERATING FIGURES

AS A METHOD OF CORPORATE ANALYSIS

GOAL(S):

The goal of this contribution is in portraying operating figures as an instrument of corporate analysis from the perspective of the management of a medium scale industrial establishment, which provides strategically relevant information required for each analysis area.

CONTENT:

- 1 Introduction
- 2 Characteristics of operating figures analysis
- 3 Operating figures system for corporate analysis
- 4 Operating figures system as a method of analysis of corporate culture
- 5 Operating figures system for procurement analysis
- 6 Operating figures system for production analysis
- 7 Operating figures system for distribution analysis
- 8 Operating figures system for financial analysis
- 9 Operating figures system for analysing technological potential
- 10 Operating figures system for personnel analysis
- 11 References

INSTRUMENTS:

- Catalogue of operating figures for the analysis of the corporate culture, procurement, production, distribution, finance, technological branch and personnel

APPLICATION(S):

- Medium scale industrial establishment
- Management

UTILITIES:

- Quick and systematic analysis of important areas of the company
- Compilation of the information in compact form

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Through the analysis, operating figures can be applied in planning and control

1 INTRODUCTION

In the Federal Republic of Germany, medium scale companies provide 68% of total employment whereby over 99% of all companies belong to this group. With a participating quota of approx 44.1% in value creation and 44% of gross investments, they constitute the strongest economic strength in Germany. Medium scale industries therefore play a very important part in German economy.

This fact has been consistently confirmed by numerous researches on business management because the analysis of dimensional-specific problems has been the subject of numerous publications. Scientific research of medium scale organisations has come to the conclusion that one of the main causes of failure of these companies lies in lack of leadership quality. Leadership weaknesses are in many cases the result of insufficient managerial qualifications of the senior management, the limited application of methods and instruments, as well as a considerable information deficit of decision makers. The preparation towards decision making in companies makes an analysis necessary. It has been scientifically proven that strategic information on the situation of the company positively influences corporate success. The analyses have the task of reducing the complexity of information. Apart from this, dynamic environmental developments have led to it that corporate actions of companies have been characterised by fast changes. As a result, it has become important to have a short reaction time and a reduction in the complexity. In view of the ever shortening reaction times, information extraction has to be quick.

At the same time, medium sized companies have become known for their distinctive concentration on the operative side at the expense of missing planning, controlling and analytical activities. As a result, one can observe in these branches a high information requirement on the side of the management, a fact substantiated through actual developments in the industrial world. After a law was passed in 1998 on control and transparency in industrial establishments (KonTraG), all companies must exhibit differentiated monitoring and risk management systems. The improvement of corporate governance, i.e. the responsibility and control in the company, is an actual problem in the practice and an important task for the economy.

In addition to this, the Basel Commission for Bank Supervision issued a Basel equity capital provision, a kind of rating for medium scale organisations, using several quantitative and qualitative criteria which serve as basis for determining their credit worthiness, liquidity and solvency. Consequently, scientific research has the task of developing efficient analysis systems for evaluation, monitoring and risk management. A possibility of exterminating the mentioned weak points and to meeting the needs of external interests is the application of operating figures within the realm of management function. An analysis of operating figures enables a target oriented and quick extraction of strategically relevant information which form the basis for decision making process of the company.

It is not the aim of this contribution to design a generally applicable operational figures analysis. The great differences of the branches, their services and performance abilities (e.g. from the small handcraft business to globally known manufacturers in special segments) will not permit a common and general approach. This work provides however, a fundamental systematic of operation figures which can be suited to fit respective organisations.

2 IDENTIFICATION OF OPERATING FIGURES ANALYSIS

Operating figures are values »which collect collectible the qualitative facts in concentrated form«. There are two types of operating figures,

- Absolute and
- relative operating figures.

Absolute operating figures are single figures which stem from (e.g.) totals, differences or medium values. Relative operating figures are relative figures which arise as a result of relating different values to one another. One can differentiate between proportional figures, relationship figures and index values. Proportional figures express the relationship of a part to the whole. In relationship figures, two features with different definitions are associated with one another. Index values constitute the development of a particular circumstance within a particular timeperiod. Operating figures comparisons can take place at the company level or at the inter company level, either taken as temporal comparison or targetperformance comparisons. In carrying out an analysis of operating figures, the disadvantages of this method must be taken into account. As a result of information condensation, there is the danger that the circumstances relating to the development of individual values will not be accorded sufficient consideration, which in any case can lead to an erroneous evaluation of the situation. Another disadvantage of operating figures for the analyst lies in the fact that he can not factually obtain any coherence that is not presently available through a mathematical combination of the values.

The developed operating figures systems can however lay no claims to completeness; rather they offer a kind of basic skeletal structure which can be adaptable to suit individual situations.

3 OPERATING FIGURE SYSTEM OF ORGANISATIONAL ANALYSIS

An instrumental perspective is the basis of establishing a connection between the term organisation and corporate analyses. This means that organisation presents a potential of the company. Under the term organisation, one understands in essence the »totality of structural and process controls«. Organisation functions as a leading instrument of control and coordination of actions in the company. It is being expressed in the form of rules, which determine allocation of responsibilities and integration of responsibilities within a business enterprise.

Organisation incorporates two branches: the company organisational and operational structures. »Company organisational structure occupies itself with the segmentation of responsibilities and competences as well as the coordination of responsibilities and those responsible. The result is the formal organisational structure of the business.« Organisational structure shares responsibilities and competences among the units within a company and it determines the coordination instruments. It precedes operational structure. »Operational structure is the space-time structure of processes«. Operational structure determines factual, temporal and spatial proceedings of actions. Operational structure synthesises organisational structure.

At the centre point is the analysis of organisational structure. The developed catalogue of operating figures comprises some important aspects relevant to corporate analysis of organisational structure (see »Operating figures systematic«).

| Operating figures systematic | | |
|-----------------------------------|---|--|
| Analysis criterion | Definition | Operating figures |
| <u>Organisational efficiency</u> | Relative contributions to the goals of the organisational measures will be collated. | <ul style="list-style-type: none"> - Level of achievement of goals - Survival ability - Synergic extent of organisation compared with a not so coordinated procedure) |
| <u>Organisational flexibility</u> | An organisation's ability to adapt to changes in achieving set objectives in a dynamic and changing business environment. A difference will be made between temporal and content related flexibility. | <ul style="list-style-type: none"> - Extent of job rotation - Personnel reserves - Degree of efficiency of machines - Degree of utilisation of information systems - Cooperation capability with other companies (amount of agreements with other companies) |
| <u>Adaptive organisation</u> | Adaptability to changes and the constitutive influences on relationships. Structures are the features of a viable or adaptive organisation. In an adaptive organisation, an organisational scientific basis is being created and constantly developed upon. | <ul style="list-style-type: none"> - Level of decentralisation of organisation (amount of Profit centres) - Market orientation of the organisation - Extent of team work - Error culture - Innovation orientation and extra-orientation of corporate structure - Number of hierarchical levels |

| Systematic of operating figures | | |
|---------------------------------|--|---|
| Analysis criterion | Definition | Operating figures |
| Delegation | The analysis of delegation structure, or of allocation of responsibilities leads to information on the level of centralisation and decentralisation within the company; on the efficiency of performance structure; on objective-conformed allocation of competence, congestions and dependency. | <ul style="list-style-type: none"> - Management spread = number of subordinates, to whom a boss is responsible. Specifications are of uppermost relevance to management spread and the average management spread are based upon management spread on hierarchical level - Management gap = total number of hierarchical levels. Specifications are the maximum, average and branchspecific management gap - Functional instruction spread = number of factually determined positions, i.e. it comprises also of not directly implied positions - Management intensity = the quotient of all sums of leading and supporting positions as well as the sums of direct productive positions. This relationship predicates something about the share of administrative expenses in the production process - Degree of centralisation of decision making process |

4 OPERATING FIGURES SYSTEM FOR ANALYSING CORPORATE CULTURE

There exists no generally recognised definition of corporate culture in the textbooks. One of the reasons for this is the fact that the term is being used in different scientific disciplines. For the purpose of this contribution, the examined branch of organisational research defines corporate culture as »the totality of all norms, values and pattern of thought which determines the attitude and behaviour of all members of the organisation as well as operational reference framework«.

In actual management research, corporate culture is seen as a fundamental »soft« success factor because it has an effect on all corporate activities through its filter function. Its influence on execution of strategies and plans of action is remarkable. Strategies and corporate culture are to be coordinated for the purpose of a successful realisation of corporate strategies and action plans. Corporate culture can be defined on the basis of certain beliefs and orientations which determine workers' conduct. This means that corporate culture significantly influences actual and future capacity of action. As a result of this, this field of analysis is of great importance in assessing the situation of the company within the scope of corporate analysis. Corporate culture is not always homogenous, rather it can also exist from different sub-cultures. Sub-cultures can for example

originate from regional, functional, hierarchical or interest-specific aspects. These sub-cultures constitute the total corporate culture on the basis of existing relationships. On this basis, the most important available sub-cultures are to be identified as the first step in analysing corporate culture before they are subjected to more intensive analysis.

**OPERATING FIGURES ANALYSIS:
STRENGTH OF CORPORATE CULTURE**

→ »the extent to which norm and value systems is shared and accepted by the totality of members of a culture«.

The strength of corporate culture can be measured through an assessment of values and norms on the basis of the following criteria:

– **CONCISENESS**

This feature constitutes the clarity and enthusiasm, with which staff members accept the norms and values. Where we have a strong corporate culture, the norms and values are clearly defined, they unambiguously dictate behavioural activities and employees orientate themselves enthusiastically to them.

– **DISSEMINATION RATE**

Dissemination rate is the yardstick with which the number of employees who share the norms and values of the organisation are qualitatively measured. The more members of an organisation live its corporate culture, the stronger it becomes.

– **DEPTH OF ANCHORAGE**

This feature measures the profundity with which corporate culture is deeply rooted in the employees. This depth of anchorage can be determined through the length or comprehensiveness of common experiences of employees.

THE CHARACTER OF CORPORATE CULTURE

→ which elements distinguish corporate culture and in which combination?

The qualitative characteristics of corporate culture will be analysed here. This follows for example with the assistance of Bleicher's typology.

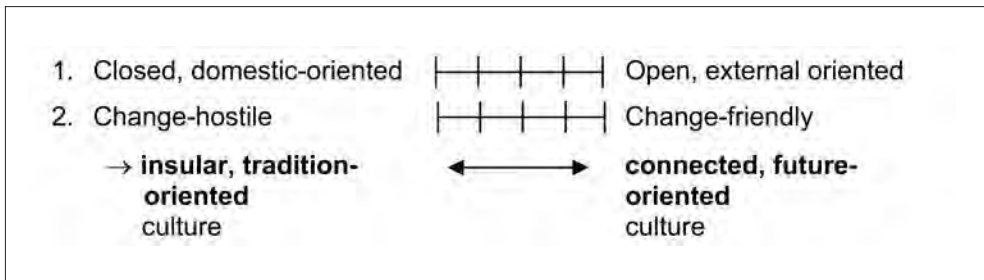
Bleicher developed a kind of type-formation which is based upon eight qualitative features. These eight features represent the specific development prerequisites of a company. Through oversimplification, we have a distance to reality which is considered in the analysis. Corporate analysis with

this feature can be conducted by means of interviews, group discussions or observations. It is out of the different characteristics of individual dimensions that Bleicher developed different types of corporate culture. He distinguishes the following dimensions and types of corporate culture.

OPENNESS OF CORPORATE CULTURE

We have a closed, domestic oriented corporate culture when external relations (e.g. to customers, suppliers or the market) of an organisation stands at the background of daily corporate activities. Corporate activities are basically focussed on the optimisation of function areas. Corporate culture is open and external oriented when service can be interpreted as performance situation before third parties, as well as when changes within the environment can be recognised and acted upon.

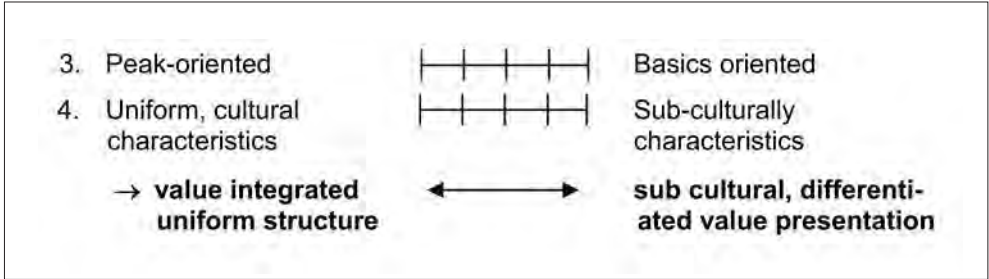
A change-friendly corporate culture is characterised by a constant change process which serves possesses a challenge. Change-hostile cultures are fixed upon available operational order and categorises changes as unwanted disturbances capable of disturbing operational processes. The following culture types ensue:



DISSIMILARITY OF CORPORATE CULTURE

There is a horizontal differentiation of culture with the basic orientation and peak orientation features. The first is characterised by the influencing of corporate activities from the bottom to the top. The management consolidates and canalises all activities. A peak orientation is available when an organisation’s activities are mainly determined from the top.

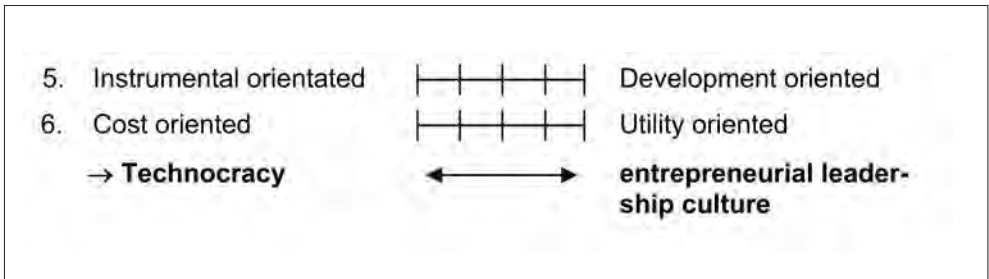
In characterising the uniformity of corporate culture, individual values are integrated in a uniform and generally accepted set of values. Sub culturally definable corporate culture characterises itself through differentiated value preservation of individual departments or levels. Members of staff identify themselves with their respective departments. The organisation only serves to leading activities.



CULTURE-CHARACTERISED ROLE OF MANAGEMENT

An instrumental culture characterisation is present when technocratic structures determine workers’ behaviour and when assigned tools put in place by the organisation show an instrumental character. Were the structures characterised by a creative evolutionary process and not by inflexible rules, then its culture character is development oriented.

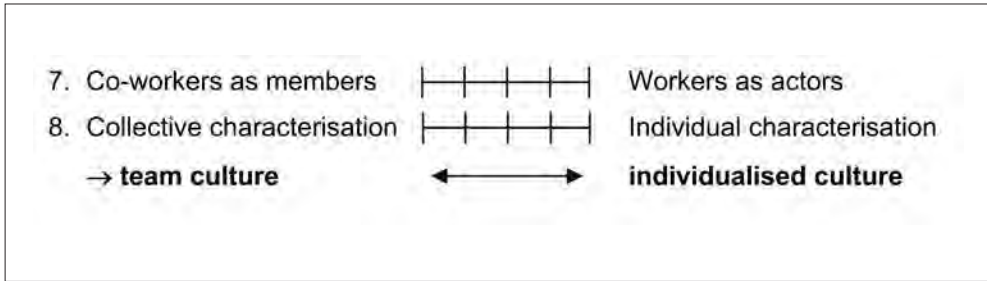
Corporate culture portrays itself as cost-oriented when the wealth creation process ensues under cost efficiency conditions. Utility orientation means that new utility potentials and structures are being sought.



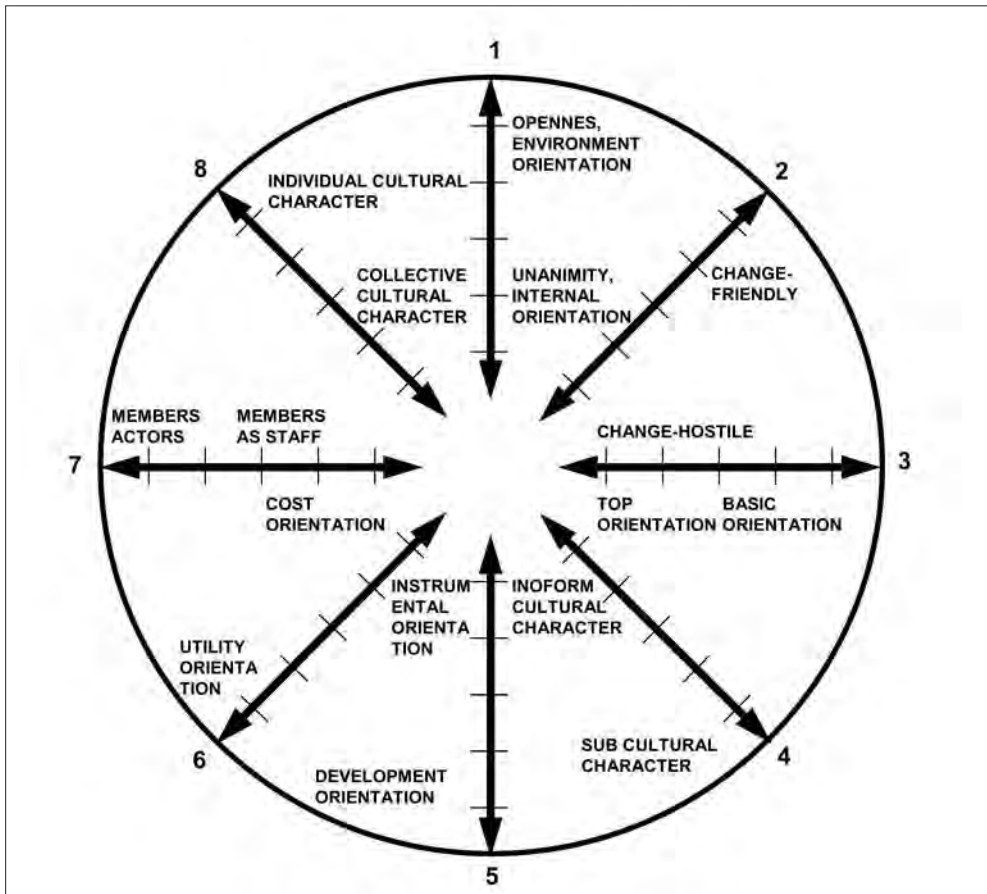
CULTURE-CHARACTERISED OF CO WORKERS

How workers understand the various roles is also being determined by corporate culture. In membership orientation, workers’ loyalty to the organisation receives a high evaluation. In corporate culture, one observes staff members as actors and this is why individual contributions to total performance of the company stand at the background during evaluation and honouring.

Individual cultural characterisations are strongly subjected to the strong orientation of the company on its individual workers. Collective culture form emphasises team feeling than those elements characterised by corporate structure. A strong we- feeling characterises corporate culture.



In order to gain an overview on corporate culture, the characterisations of the company regarding the individual features are to be recorded on a bi-polar scale in the represented graphic web in the following table (see »Characteristic features of corporate culture«).



EFFECTS OF CORPORATE CULTURE

Corporate culture can have both positive but also negative effects on an organisation. These effects are also to be collated during an analysis of corporate culture. Belonging to positive effects are coordination, integration, motivation and representation. The danger of self overestimation, reduction of one's sensitivity to the environment, perception filtration as well as hindrance of strategic new orientation, structural adaptation, innovations and organisational principles are all possible negative effects.

To operationalisation of corporate culture within the scope of the mentioned operating figures, different instruments are suitable according to Hofstede. To be analysed are words and actions of members of an organisation. For evaluation purposes, interviews, questionnaires, projective tests as well as speech analysis, talks and documents can all be applied. Through laboratory and field experiments, direct observation as well as the application of available, describable and statistical materials, the analysis precedes actions.

5 OPERATING FIGURES SYSTEMS IN PROCUREMENT ANALYSIS

Textbooks define the term procurement uniformly. Procurement encompasses »all procurement activities which an organisation undertakes to provide for its production processes with material which it does not produce by itself«. However, concerning the extent of the objects of procurement, the textbooks represent different views. Some authors understand the term procurement on a wider basis by including all other factor-inputs of the company in their definition. These include personnel, capital, assets, materials and information. Others define the term procurement narrower by limiting procurement goods as real capital (assets and materials). Still a narrower definition which supports this opinion and at the same time widely popular in practise considers only real capital of the working capital- i.e. materials (raw materials and supplies) and commodities- as procurement goods (see »Operating figures system in procurement analysis«).

| Operating figures systems in procurement analysis | | |
|---|--|-------|
| Area of analysis | Operating figures | Value |
| 1. Importance of procurement to an organisation | <ul style="list-style-type: none"> - Quota of good and material input - Share of material costs - Purchase volume | |

| | | |
|---|---|--|
| 2. Economic efficiency ratios | <ul style="list-style-type: none"> - Purchase volume share - Capital commitment of dormant stock - Procurement cost share - Delivery cost share - Storage costs - Operating figure p | |
| 3. Structural ratios and framework ratios | <ul style="list-style-type: none"> - Number of suppliers - Average purchase value for each supplier - Service level - Schedule delivery - Centralisation level of procurement organisation - Number of workers responsible for procurement processes - Complaint quota - Rejection quota - Supply delay quota - Average replacement quota - Import share - Average warehouse stock - Turnover rate | |

1 OPERATING RATIOS IN THE EVALUATION OF RELATIVE IMPORTANCE OF PROCUREMENT TO AN ORGANISATION

- quota of good and material input $= \frac{\text{material input} \times 100}{\text{turnover}}$
- share of material costs $= \frac{\text{material cost} \times 100}{\text{total cost}}$
- purchase volumes $= \text{total value of purchase}$
(raw materials and supplies, externally sourced prefabricated parts for production)

2 OPERATING FIGURES OF ECONOMIC EFFICIENCY

- purchase volume share $= \frac{\text{purchase volume} \times 100}{\text{turnover}}$

The values are to be collated and compared over several periods of time. Changes to these ratios allow for conclusion drawing on the development of profitability of the company.

- capital commitment of dormant stocks

- procurement cost share
$$= \frac{\text{procurement costs} \times 100}{\text{purchase volumes}}$$

This measurement is an average value which reflects the significance of procurement costs for the organisation.

- delivery cost share
$$= \frac{\text{delivery cost of a period} \times 100}{\text{purchase volumes}}$$
- storage costs
$$= \frac{\text{purchase costs} \times 100}{\text{average stock}}$$
- p
$$= \frac{\text{price reduction of own selling price}}{\text{reduction of cost price}}$$

The operating ratio p is an indicator for the success of supplier policy of the organisation, from which tendency information could be deduced. Tendency information are partly to be analysed in detail. This operating ratio compares price development of distribution market with that of procurement market. When $p > 1$ is, then the organisation must strongly reduce its selling prices than the suppliers; this means that the price reduction will be partly compensated through the suppliers. If $p < 1$, then supplier prices will have to be strongly reduced than the company's selling prices, this means that the price pressure of the company can be passed on to suppliers.

3 STRUCTURAL OPERATING FIGURES AND FRAMEWORK RATIOS

- Number of suppliers
Divided according to inland/foreign, regular suppliers/rest, manufacturer/ wholesaler/retailer, the share in purchasing volume, regional distance and with/without connection to electronic data exchange.
- Average purchase value by each supplier
$$= \frac{\text{total purchase volume}}{\text{number of suppliers}}$$
- Service level (%)
$$= \frac{\text{total number of satisfied need-requirements}}{\text{Number of all need-requirements}}$$

Service level is a measurement for material liquidity and for supply readiness of the organisation.

- On schedule delivery
$$= \frac{\text{total number of on schedule deliveries}}{\text{total number of deliveries}}$$

On schedule delivery will be determined for each of the suppliers to be analysed. This operating figure serves the purpose of measuring the reliability of suppliers and also the delivery preparedness of the organisation.

- Degree of centralisation of procurement management
Through the development of procurement organisation, there arise advantages and disadvantages for the company. The advantages of central procurement include increase of purchasing power, alleviation of collation of needs as well as standardisation and typification, reduction of stock wares, improvement of overview of financial requirements and the employment of specialists. Disadvantages accrue possibly through ignorance of consumer needs and desires, an elaborate material handling, elaborate receiving inspections and the danger of bureaucratisation. Direct consequences of these disadvantages are the advantages of decentralised organisation.

- Number of workers responsible for procurement processes

- Complaints quota
$$= \frac{\text{value of complain supplies} \times 100}{\text{total number of supplies}}$$

Complaints quota can be ascertained for each supplier, material group, procurement object or for the whole purchase volumes within a time frame.

- Rejection quota
$$= \frac{\text{number of rejected supplies} \times 100}{\text{total number of supplies}}$$

A detailed classification according to wrong supplies, bad supplies, supply delays and delays involving missing pieces is possible

- Supply delay quota
$$= \frac{\text{number of late supplies} \times 100}{\text{number of supplies}}$$

A differentiation of late deliveries according to delay periods, e.g. 3 days, 3-7 days and more than 8 days can be arranged.

- Average replacement quota =
+ average time necessary for ordering and delivery
+ average delivery time
+ average check time, stocking time and retrieval time

Calculation of average replacement time can be done for each procured object or material types. It has a direct influence on the supply readiness of the organisation. It also has an influence on the height of stocks.

$$- \text{ Import share} \qquad \qquad \qquad = \frac{\text{imported materials/goods} \times 100}{\text{total sum of all materials/goods}}$$

From this operating figure, the independence of the organisation on foreign procurement markets is ascertained.

$$- \text{ Average warehouse stock} \qquad \qquad \qquad = \frac{\text{opening stock} + \text{closing stock} \times 100}{2}$$

The average warehouse stock is to be ascertained for a fixed period, e.g. 1 year. Warehouse stocks are to be valued at cost price (= purchase price + delivery costs)

$$- \text{ Turnover rate} \qquad \qquad \qquad = \frac{\text{cost of goods (goods turnover)}}{\text{average warehouse stock}}$$

The turnover rate dictates stock turnover and it is to be determined for a particular time, normally 1 year. The evaluation of stock is determined by cost price.

6 OPERATING FIGURES IN PRODUCTION ANALYSIS

Production as a phase of operational performance process is defined by Bea/Haas as »the combination of material and immaterial production goods (input factors) and their transformation to output goods (output factors)« (compare Bea/Haas 1997). Manufacturing follows the means of a combination of certain production-process -relevant factors of production. Included in these production factors are materials (raw materials and supplies), resources (ground, buildings, assets, furnishings and equipments, rights and knowledge) as well as human resources. Manufacturing process is described as the structure of production processes. The main goal of an organisation is to manufacture goods and determine the production area. In the analysis of production area, the set objectives for the branch in question are to be taken into consideration. Some objectives of economic efficiency in production include for example minimising production costs, improvement of productivity, enhancement of output quantity, increment of quality standard and the reliability or improvement of working conditions. The creation of an analysis area is based on the strategic information requirements of manufacturing; this means that the types and structuring of the potentials, programs and processes of the production branch will all go into the analysis. The operating figure systematic is being presented and elucidated in the following (see table »Operating figures system in production analysis«).

| Operating figures system in production analysis | | |
|---|---|-------|
| Area of analysis | Operating figures | Value |
| 1. Significance of production to the organisation | <ul style="list-style-type: none"> - Program spread - Manufacturing depth - Manufacturing cost share - Material intensity - Salary share - Production performance | |
| 2. Operating ratios for economic efficiency | <ul style="list-style-type: none"> - Average productivity - Production co efficiency - Production cost relation - Personnel cost share - Processing time - Total performance per worker - On schedule delivery - Number of production disturbances - Variety of parts - Stock capital commitment - Turnover rate | |
| 3. Structural ratios and framework ratios a) Potential factors 1) Production assets - Stock operating ratios | <ul style="list-style-type: none"> - Structure of equipments' age - Number of installed equipments of same type in a production area - Fixed assets - Maintenance costs - Maintenance costs for every machine hour - Stock flexibility - Development flexibility | |
| - Input operating ratios | <ul style="list-style-type: none"> - Idle time of machines - Share of idle time - Machine breakdownconditioned production disruptions - Asset-use-conditioned maintenance costs - Capacity utilisation | |
| 2) Personnel | <ul style="list-style-type: none"> - Level of training - Control margin - Effective working days - Overtime share - Average staff leaves per year - Training hours of each staff member - Improvement recommendations each staff | |
| - Repetitive factors/products | <ul style="list-style-type: none"> - Waste quota - Number of different types of materials - Share of special forms of energy - Share of energy costs - Manufacturing quality - Average warehouse stock - Material exploitation | |

1 OPERATING RATIOS IN THE EVALUATION OF RELATIVE MEANING OF PRODUCTION FOR THE COMPANY

- Program spread = indicates the number of different products which are to be manufactured in a production period.

The program spread is a measurement for the strength of diversification of production program of an establishment.

- Manufacturing depth = the extent to which adjoining production stages are established within a company.

The extent of outsourcing of production and assembling of pre-fabrications which are then assembled in a company directly influences manufacturing. Decision alternatives for manufacturing depth goes from own development and own production to capital investment in suppliers or buyers, supplier settlement concentrations, development cooperation, long term agreements, from annual contracts to spontaneous procurements on the market. The manufacturing depth has an enormous influence on the cost structure and competitive position of the organisation.

- Manufacturing cost share = $\frac{\text{manufacturing costs} \times 100}{\text{production cost}}$

- Material intensity = $\frac{\text{material costs} \times 100}{\text{production costs}}$

- Salary share = $\frac{\text{direct labour costs} \times 100}{\text{manufacturing costs}}$

- Production performance = actual output quantity of production per time unit, normally per day, on all products or for individual products.

2. OPERATING RATIOS FOR ECONOMIC EFFICIENCY

- Average productivity = $\frac{m}{r_i}$

for $i = 1, 2, \dots, n$, whereby m = quantity of output goods and r_i = quantity of production factor i (input).

– Production co-efficient
$$= \frac{r_i}{m}$$

for $i = 1, 2, \dots, n$, whereby m = quantity of output goods and r_i = quantity of production factor i (input). Production co efficiency rallies on statements about the productiveness of production factors.

– Production costs relation
$$= \frac{\text{current production costs}}{\text{target production costs}}$$

– Personnel costs share
$$= \frac{\text{personnel cost of production area}}{\text{capital expenditure}}$$

– Processing time of product i
$$= \frac{\text{processing time} + \text{storage time} + \text{wait time} + \text{transport time}}{\text{for } i = 1, 2, \dots, N}$$

The total processing time of a product begins with the removal of materials from the stock and ends with the manufacture of the product. The processing time is an indicator for the extent of capital commitment and of other ensuing capital commitment costs which should basically be reduced.

– Total performance per worker

– On schedule
$$= \frac{\text{number of on schedule deliveries} \times 100}{\text{number of deliveries}}$$

On schedule alludes to manufacturing area as well as to delivery appointments which was agreed to by both the company and its customers. It also alludes to internal contracts. This measurement is characterised for quality of manufacturing organisation.

– Number of production disturbances

The number of production disturbances based on certain period consists of following individual positions: disposition-based disturbances + personnelbased disturbances + material-based disturbances + resources-based disturbances.

– Variety of parts
$$= \text{number of required different types of materials needed in the production of a group of products or production program.}$$

This operating ratio is an indicator for the effects of a variation of the program spread on procurement management and material management and logistic. It is also possible to discover further starting points for reduction of variety of parts.

- Stock capital commitment = warehouse stock x calculated interest rate

Of relevance here is interim storage and end storage of the products being produced.

- Turnover rate = $\frac{\text{average turnover per period}}{\text{average warehouse stock}}$

Here, the rate of turnover is considered for the products within the manufacturing process, i.e. intermediate products and end products. The turnover rate has a direct influence on efficiency, i.e. whenever turnover rate climbs, efficiency also soars.

3 STRUCTURAL RATIOS AND FRAMEWORK RATIOS

a) Operating ratios in reference to potential factors

1) With reference to manufacturing facilities

→ Stock ratios

- structure of equipments' age = $\frac{\sum \text{of the age of all or specific equipments}}{\text{number of machines}}$

The modernity of manufacture, investment activities and amortisation potentials can be determined from the average age of the manufacturing plant.

- Number of installed machines of same type in a production centre
- Fixed assets: absolute or average value of asset investments.
- Maintenance costs of all machines in a particular time frame
- Maintenance costs of a Machine per machine hour = $\frac{\text{maintenance costs per year}}{\text{utilisation period} \times \text{operating time/ year}}$
- Stock flexibility : degree of adaptability of available potentials.
Stock flexibility is on the one side definable for manufacturing plants and on the other side for the personnel.

- Development flexibility = degree of development flexibility of available potentials

Development flexibility is to be determined for manufacturing plants as well for the personnel.

→ **Input operating ratios**

- machine idle time = capacity – utility time

Idle time means the time in which a machine is not in operation. For economical reasons, this should be minimised because costs ensue

- Share of idle time = $\frac{\text{production process conditioned idleness} \times 100}{\text{total possible utilisation time of the machine}}$

- Number and extent of production disruptions per year caused by machines

- Extent of maintenance costs as a result of running the machines

- Capacity utilisation = $\frac{\text{real output quantity} \times 100}{\text{maximal output quantity}}$

Capacity utilisation can be calculated for individual machines and for manufacturing as a whole. The evaluation of these values must prospectively follow constraining factors.

- Machine utility intensity = $\frac{\text{production quantity}}{\text{number of machine hours}}$

2) Operating ratios for the personnel

- Level of training = $\frac{\text{number of unskilled workers} \times 100}{\text{machine operating personnel}}$

- Control margin = number of staff members in production under a foreman

- Effective work days per year on the average

- Overtime share = $\frac{\text{number of overtime} \times 100}{\text{total work time}}$ (for a month)

- Average sick days per year

- Training hours per worker
- Improvement recommendations per worker

b) Operating ratios with reference to repetition factors and products

- Waste quota
$$= \frac{\text{waste quantity of a position} \times 100}{\text{total production quantity of a position}}$$

The waste quota is an indicator for the evaluation of quality standard of manufacture. It can be determined for intermediary products and end products.

- Number of different types of materials
- Number of special form of energy
$$= \frac{\text{consumption of a particular form of energy}}{\text{total energy consumption}} \times 100 \text{ for a year}$$
- Share of energy costs
$$= \frac{\text{energy costs} \times 100}{\text{production costs}}$$
- Manufacturing quality
$$= \frac{\text{quantity returned} \times 100}{\text{total quantity manufactured}} \quad \text{or}$$

$$= \frac{\text{defective products} \times 100 \text{ (postproduction)}}{\text{total sum of finished products}}$$

One determines quality of production on the products with production defects. The first operating ratio collates already supplied products; the second ratio relates to corporate internal area and considers identified defective products within the process of quality control.

- Average warehouse stock
$$= \frac{\text{opening stock} + \text{closing stock}}{2}$$
- Material exploitation
$$= \frac{\text{used materials in products} \times 100}{\text{total material input}}$$

The change in material exploitation is a sign for the necessity of verification of the production process.

7 OPERATING FIGURE SYSTEM IN DISTRIBUTION ANALYSIS

Distribution is defined as the »real sale realisation of generated outputs on the market«. Belonging to distribution realm are all activities which are directed at the relationships of a company with the market and as the case may be, markets. This definition permits a synonymous application of distribution and marketing, whereby the term marketing implies an additional active marketing arrangement. The meaning of trading area assumed strong relevance to medium sized organisation due to the transformation of markets from sellers' markets to buyers' markets. Because supplies surpass demands on buyers' markets, trading area has developed into a bottleneck sector. This has caused a transformation in organisations from being production oriented to becoming market oriented management. A sale oriented way of thinking makes the realisation of competition advantages possible. This makes the exhaustive examination of trading part of the analysis of corporate situation very important (see figure »Operating figure system in distribution analysis«).

| Operating figure system in distribution analysis | | |
|--|---|-------|
| Area of analysis | Operating figures | Value |
| 1. Economic efficiency operating figures | <ul style="list-style-type: none"> - Single-tier profit margin - Two-tier profit margin - Turnover rate of finished products - Order processing cost share - Average costs of customer order processing - Distribution costs for each order - Personnel efficiency - Advertisement benefit - Order profitability - Order cost intensity | |
| 2. Structural and scope operating ratios | | |
| a) Turnover related | <ul style="list-style-type: none"> - Break-even-point - Turnover structure Turnover structure relating to product groups - Turnover emphasis - Customer turnover - Export quota | |
| b) Related to distribution object | <ul style="list-style-type: none"> - Distribution program - Product program relation - Market potential - Distribution potential - Market volumes - Distribution volumes - Distribution quota - Share of decrement in earning - Market share | |

| | | |
|---------------------------------------|--|--|
| | <ul style="list-style-type: none"> - Relative market share - Degree of familiarity - Share of new products - Product profitability - Product share in turnover | |
| c) Related to distribution activities | <ul style="list-style-type: none"> - Readiness to deliver - Order entries for each article - Order processing - Order range - Average order size - Average delivery time - Complaints quota - Complaints structure - Intensity of sales promotion - Intensity of advertisements - Degree of exhaustion of sector - Rebate intensity - Service intensity | |
| d) Customer related | <ul style="list-style-type: none"> - Customer structure - Customer index - Customer index - Customer profitability | |

1 OPERATING RATIOS OF ECONOMIC EFFICIENCY

- single-tier profit margin:

$$\begin{aligned} & \text{turnover} \\ & - \text{variable costs} \\ & = \text{profit margin I} \\ & - \text{fix costs} \\ & = \text{operating result (profit/loss)} \end{aligned}$$

The profit margin can e.g. be calculated product-related, for turnover area or distribution channels and serves as basis for turnover analysis, cost analysis and profit analysis. Product based profit margin based determines the short term bottom price for the product.

- two-tier profit margin:

$$\begin{aligned} & \text{turnover} \\ & - \text{variable costs} \\ & = \text{profit margin I} \\ & - \text{product fix costs} \\ & = \text{profit margin II} \\ & - \text{general fix costs} \\ & = \text{operating result (profit/loss)} \end{aligned}$$

The two-tier profit margin allows for an exact analysis of products from the turnovers, costs and profits perspective. Product fix costs are costs which specifically ensue for the considered product, e.g. machine costs or wages.

- Turnover rate of finished products $= \frac{\text{average turnover of an article}}{\text{average warehouse stock of an article}}$

The turnover rate is to be ascertained for particular period. As a result of a rising turnover rate, capital commitment sinks by a simultaneous increment of economic efficiency.

- Order processing costs $= \frac{\text{order processing costs}}{\text{turnover}}$
- Average costs of customer processing
- Distribution cost per order
- Personnel efficiency $= \frac{\text{total turnover}}{\text{average personnel population}}$

Turnover per worker is an indicator for the productivity of the organisation because the number of workers means an immense operational cost factor. Personnel efficiency can be ascertained for certain personnel groups, e.g. distribution personnel.

- Advertisement benefit $= \frac{+ \text{advertisement-conditioned turnover}}{\text{profit margin} - \text{advertisement costs}}$ or
- Order profitability $= \frac{\text{profit margin of an order} \times 100}{\text{order volume}}$
- Order cost intensity $= \frac{\text{costs of the order} \times 100}{\text{turnover with the order}}$

2 STRUCTURAL AND SCOPE OPERATING RATIOS

a) Operating ratios with reference to turnover

- Break-even-point $= \frac{\text{fix costs}}{\text{turnover} - \text{variable costs}}$

$$\text{Break-even-point} = \frac{\text{fix costs}}{1 - \frac{\text{variable costs}}{\text{turnover}}}$$

Break even point tells us the units/quantities or the turnover value, at which an organisation makes a profit = 0. This point is relevant for the purpose of avoiding loss; the expected turnover, i.e. the total costs corresponds with total turnover.

$$\text{Turnover structure} = \frac{\text{part turnover} \times 100}{\text{total turnover}}$$

This operating ratio sheds light on the actual structure of share of different values in total turnover. Thinkable systematisations are customer groups, products, product groups, distribution channels, order sizes, distribution areas or payment variation. Out of this constellation, it is possible to draw conclusions on the significance of individual features of these dimensions for the organisation.

$$\begin{aligned} \text{Turnover structures relating} \\ \text{To product groups} &= \frac{\text{product group turnover of x dimension}}{\text{total turnover of the product groups}} \\ & \quad (\times 100) \end{aligned}$$

This ratio informs on the share of individual values (e.g. customer groups, distribution regions, distribution channels) in the turnovers of individual product groups.

$$\begin{aligned} \text{Turnover main focus} &= \frac{\text{product group turnover of customer groups}}{\text{total turnover of customer groups}} \\ & \quad (\times 100) \end{aligned}$$

The importance of individual products or product groups for the considered consumer or consumer group, is collated through this operating ratio.

$$\text{Customer turnover} = \frac{\text{total turnover}}{\text{number of customers}}$$

$$\text{Export quota} = \frac{\text{turnover in foreign markets}}{\text{total turnover}}$$

The export share supplies e.g. information on the risks from exchange-rate-conditioned anomalies and the competitiveness of the products.

b) Operating figures with reference to the sales object

- Sales program = type and quantity of products which are to be sold in a certain period.
- Product program relation = $\frac{\text{sales program}}{\text{production program}}$

This relation shows program policy leeway of the organisation.

- Market potential = the maximum absorption of a market concerning a certain product or a group of products.
- Sales potential = the maximum sales volume of a product or a group of products of an organisation in a particular market.
- Market volume = the actual realised sales volume of an entire branch.
- Sales volume = the actual realised sales volume of an organisation.
- Sales quota = $\frac{\text{sales volume} \times 100}{\text{sales potential}}$

From this analysis of sales volume and sales potentials, it can be determined whether the company should conduct additional marketing activities in order to be able to increase its sales quota. With a sales quota in the area of 100%, eventual expansion investments are necessary in order to increase capacity.

- Share of decrease in turnover = $\frac{\text{turnover decrements}}{\text{turnover}}$

This value shows to which extent the company can realise its list prices on the market.

- Market share = $\frac{\text{turnover or sales of the company} \times 100}{\text{turnover or sales of total market}}$
- Relative market share = $\frac{\text{market share of the company} \times 100}{\text{market share of strongest rival}}$
- Degree of familiarity = $\frac{\text{positive feedback tempo} \times 100}{\text{number of those interviewed}}$

The degree of familiarity of the product or of the brand is to be determined through views.

- Share of new products $= \frac{\text{turnover with new products} \times 100}{\text{total turnover}}$
- Product profitability $= \frac{\text{profit margin of the product}}{\text{total profit margin}}$
- Share of product turnover $= \frac{\text{turnover of a product}}{\text{total turnover}}$

c) Operating figures with reference to sales activities

- Preparedness to deliver $= \frac{\text{total sum of immediately delivered demands}}{\text{total sum of demanded products}} \quad (\times 100)$

The preparedness to deliver is to be ascertained for each product or group of products meant to be supplied as well as for products placed on order.

- Order entry for each article group
- Orders development $= \frac{\text{actual order entries} \times 100}{\text{order entries of comparable period}}$

Orders development is a ratio for comparing development of order situation of two periods.

- Order range $= \frac{\text{order stock in days}}{\text{daily production}}$

The order range shows how far available capacities can cope with available orders.

- Average order size $= \frac{\text{turnover} \times 100}{\text{number of orders}}$
- Average delivery time
- Complaint quota $= \frac{\text{value or number of complaints} \times 100}{\text{value of number of total deliveries}}$

Complaint quota is to be ascertained on the basis of wrong deliveries, product defection, transportation damages etc and they are to be categorised with an indicator for customer satisfaction.

- Complaint structure
$$= \frac{\text{value or number of certain complaints}}{\text{value or number of all complaints (x 100)}}$$
- Intensity of sales promotion
$$= \frac{\text{input into sales promotion}}{\text{product turnover}}$$
- Advertisement benefits
$$= \frac{\text{advertisement input}}{\text{product turnover}}$$
- Degree of exhaustion of area
$$= \frac{\text{number of customers in a region x 100}}{\text{number of customer of a possible region}}$$
- Rebate intensity
$$= \frac{\text{turnover decrement in monetary unit}}{\text{part turnover (x 100)}}$$

Rebate intensity can be determined for single customers, group of customers, products or a group of products.

- Service intensity
$$= \frac{\text{number of customers x 100}}{\text{number of service personnel}}$$

d) Operating ratios with reference to customers

- Customer structure
The entire customers will be sub-divided for example into domestic/ foreign, regular customers/rest, operational size classes, share in purchase volume, age, profession, sex, order quantity, method of payment or articles.
- Share of customers
$$= \frac{\text{number of cust. of a specific customer group}}{\text{total number of customers (x 100)}}$$

The share of customers indicates the percentage share of a particular customer group (compare with the operating figure »Number of customers«) in the total number of the company's customers.

- Customer index
$$= \frac{\text{number of customers in the examined period}}{\text{number of customers in base period}} \quad (\text{ x 100 })$$

This dimension shows the percentage change in customer number between two periods.

$$- \text{Customer profitability} = \frac{\text{profit margin}}{\text{customer turnover (x 100)}}$$

8 OPERATING FIGURES FOR FINANCIAL ANALYSIS

Capital resources are an important indicator for the capacity to act and react for a company; for example, for the development of new product groups, changing of production process, acquisition and cooperation strategies or the choice of location. Basically, sufficient capital resource is a necessary condition for the continued existence of an organisation. Therefore, the analysis of financial potentials of an organisation is of elementary significance (see figure »Operating figures for financial analysis«).

The superior objective of financial analysis concentrates on the examination of long term existential safeguard of an organisation, which depends on profit making and the assurance of sufficient liquidity. From this objective, other smaller objectives can be defined, like for example maximisation of corporate value (shareholder value), the assurance of financial solvency, optimisation of capital structure and the coordination of corporate strategy with financial policy. The analysis of the financial situation of an organisation bears (as shown in the following) on the examination of investments, financing, liquidity, returns and efficiency. The areas of investment, financing and liquidity provide information on the financial balancing of corporate activities and the areas of efficiency and returns on the return situation.

| Operating figures for financial analysis | | |
|--|---|-------|
| Area of analysis | Operating figures | Value |
| 1. Investment operating figures | | |
| a) Investment structure | <ul style="list-style-type: none"> - Capital constitution - Intensity of investment - Intensity of current asset | |
| b) Investment policy | <ul style="list-style-type: none"> - Investment quota - Investment coverage - Amortisation quota | |
| c) Investment analysis of turnover | <ul style="list-style-type: none"> - Plant utilisation - Supply inventory - Turnover rate of fixed, current and total assets - Duration of claims | |

| | | |
|-----------------------------------|---|--|
| 2. Financing ratios | | |
| a) Financing structure | <ul style="list-style-type: none"> - Equity ratio quote - Strain co-efficiency - Statistical debt to equity ratio - Dynamic debt to equity ratio - Reserve quota | |
| b) Financing duration | <ul style="list-style-type: none"> - Duration of supplier credit - Duration of bill credit - Duration of debt redemption | |
| 3. Liquidity ratios | | |
| a) statistical liquidity analysis | <ul style="list-style-type: none"> - Long term liquidity ratio: loan coverage A, B and C - Short term liquidity ratios: liquidity 1st, 2nd and 3rd grades - Working capital | |
| b) Dynamical liquidity analysis | <ul style="list-style-type: none"> - Cash flow - Funds flow statement | |
| 4. Efficiency ratios: | | |
| a) Profit oriented ratios | <ul style="list-style-type: none"> - Return on equity - Total return on capital - Net profit ratio - Return on investment | |
| b) Cash flow oriented ratios | <ul style="list-style-type: none"> - Return on equity - Total return on capital - Net profit ratio | |
| 5. Results ratios | <ul style="list-style-type: none"> - Personnel intensity - Material intensity - Amortisation intensity - Turnover dominance | |
| 6. Miscellaneous ratios | <ul style="list-style-type: none"> - Creation of value - Shareholder value - EVA | |

1 INVESTMENT RATIOS

Investment analysis provides information on the structure of the assets side of the balance sheet and is classified cross-sectional as follows:

a) Analysis of investment structure

The operating ratios of investment structure supplies information on the flexibility of the company and the extent of capacity utilisation:

- Capital constitution
$$= \frac{\text{fixed assets} \times 100}{\text{current assets}}$$

This ratio is to be compared over several periods for the examined organisation.

$$- \text{ Investment intensity} \quad = \frac{\text{fixed assets} \times 100}{\text{total assets}}$$

The share of fixed assets from total assets is an indicator for the flexibility of the company. A high fixed asset causes high fix costs. Furthermore, it will be difficult to effect a reduction of fixed assets through a reduction of number or workers, i.e. the ability of the company to act will be seriously undermined.

$$- \text{ Intensity of current asset} \quad = \frac{\text{current assets}}{\text{total assets}} \quad (\times 100)$$

The level of intensity of current assets permits us to draw conclusions on the extent of material input, consequently the warehouse stock of the organisation as well as the extent of demands. Warehouse stock causes warehouse maintenance costs.

b) Analysis of investment policy

The analysis of investment policy or of investment performance can be determined with the following figures:

$$- \text{ Investment quota} \quad = \frac{\text{net investment in tangible assets}}{\text{opening stock of tangible assets}} \quad (\times 100)$$

The comparison of investment quotas over several periods permits the evaluation of development in investment activities.

$$- \text{ Investment coverage} \quad = \frac{\text{amortisation on tangible assets}}{\text{additions to tangible assets}} \quad (\times 100)$$

From investment coverage, it is possible to deduce the type of financing for additional tangible assets, this means, to what extent financing through amortisation occurs. This dimension provides information on the real growth of the organisation. With investment coverage of over 100%, the whole amortisation could not be reinvested, whereas with investment coverage under 100%, the amount by which the amortisation is exceeded will be invested.

$$- \text{ Rate of amortisation} \quad = \frac{\text{amortisation on tangible assets}}{\text{closing stock of tangible assets}} \quad (\times 100)$$

The rate of amortisation discloses (by comparison) to what extent hidden reserves are accumulated (ascending quota) or dissolved (descending quota).

c) Turnover related investment analysis

- This ratio examines the relationships between asset and turnovers of a company:

- Plant utilisation
$$= \frac{\text{turnover}}{\text{tangible assets}} \quad (\times 100)$$

An alternation of the level of plant utilisation over several periods enables information on the employment trend of the company.

- Supply inventory
$$= \frac{\text{stocks}}{\text{Turnover}} \quad (\times 100)$$

From the development of supply inventory in a particular period, conclusions can be drawn on the efficiency of supply inventory. From the economic point of view, it should sink when turnover remains constant and increase when turnover increases in a slighter proportion than the turnover increases. With sinking turnover, supply inventory should reduce considerably in proportion to turnover decline.

- Turnover rate of Fixed assets
$$= \frac{\text{amortisation of fixed assets} + \text{asset disposals}}{\text{average stock of fixed assets}} \quad (\times 100)$$

- Turnover rate of current assets
$$= \frac{\text{turnover}}{\text{average stock of current assets}}$$

- Turnover rate of total assets
$$= \frac{\text{turnover}}{\text{total assets}} \quad (\times 100)$$

- Whereby the average stock
$$= \frac{\text{opening stock} + \text{closing stock}}{2}$$

The turnover rate provides information on the total commitment time of respective assets and the extent of capital requirements. The higher the turnover rate, the more positive it is to be evaluated.

$$- \text{Duration of claims} = \frac{\text{average stock in goods claims} \times 100}{\text{turnover}}$$

The duration of claims shows the payment morality of the customers and the effects of claims development on liquidity situation of the organisation.

2 FINANCING RATIOS

The analysis of areas of financing takes into consideration the capital side of the organisation and indeed the structure of capital as seen from the following perspective: type, security and maturity.

a) Analysing financing structure

$$- \text{Own capital quota} = \frac{\text{own capital}}{\text{total capital}} \quad (\times 100)$$

Own capital ratio is suitable for the evaluation of financing of the organisation. The level of own capital is an indicator for the long term survival capability of the organisation, as own capital can be eventually used to curtail future losses. However one must always judge this according to the situation, company-specific and under the consideration of valid balance sheet regulations.

$$- \text{Strain co-efficiency} = \frac{\text{credit capital}}{\text{total capital}} \quad (\times 100)$$

Strain co-efficiency, also known as credit capital quota, enables an assessment of financing structure of the organisation. The higher strain coefficient is, the worse the creditworthiness of the company looks like, a situation which has a direct effect on measures of safeguarding liquidity. Credit capital can be the total long term or medium and short term credits. Observed from corporate view, imperative for the development of own capital quota (capital ratio) and strain co-efficiency is also in addition a consideration of efficiency effects.

$$- \text{Statistical debt to equity ratio (Sder)} = \frac{\text{credit capital}}{\text{own capital}} \quad (\times 100)$$

This ratio indicates the extent of outside financing in relation to the company share of financing. The statistical debt to equity ratio, also known as indebtedness coefficient, is an often applied operating ratio for the assessment of creditworthiness and bankruptcy endangerment of an organisation.

Vertical financing rules can be derived from statistical debt to equity ratio in the assessment of financing structure (from the perspective of credit institutes):

| | | | |
|-----------|------|-----|----------------------|
| 1:1- Rule | Sder | < 1 | desirable condition |
| 2:1- Rule | Sder | < 2 | healthy company |
| 3:1- Rule | Sder | > 3 | still tolerable area |

– Dynamic debt to equity ratio
$$= \frac{\text{credit capital}}{\text{cash flow}} \quad (\times 100)$$

The dynamic debt to equity ratio indicates the duration of debt redemption under the assumption that cash flow is constant and no new investments are engaged in. Frequent signs for an organisation include a sinking cash flow and rising indebtedness. In spite of assumptions, this value is a significant indicator for the debt coverage capability of the company. In practise, one sets an objective for dynamic debt to equity ratio of less than 3, 5 years for a solid organisation.

– Reserve quota
$$= \frac{\text{reserves}}{\text{total capital}} \quad (\times 100)$$

The reserve quota can be differentiated according to retirement reserves and other reserves. This ratio correlates to statements on the significance of reserves for the financing of an organisation.

b) Analysis of the duration of financing

– Supplier credit duration
$$= \frac{\text{average number of creditors}}{\text{stock receipt}} \quad (\times 360)$$

This ratio expresses the significance of suppliers' credits for financing of an organisation. Worth of notice is the fact that by huge suppliers' credits, discounts can no longer be drawn upon; this is to be deemed as negative from the point of view of economic efficiency.

– Duration of bill credit
$$= \frac{\text{average number of bill credit debt}}{\text{stock receipt}} \quad (\times 360)$$

The significance of financing with bill credit in an organisation is reflected by this operating ratio. A long duration of bill credit debt can lead eventually to liquidity problems for the company

- Duration of debt redemption
$$= \frac{\text{credit capital} - \text{available funds}}{\text{year's cash-flow}}$$

The duration of debt redemption provides a theoretical benchmark for the duration of redemption of whole debts of the company from own strength.

3 LIQUIDITY RATIOS

Liquidity ratios are directed at the analysis of balance sheet positions, especially on the assets and capital sides.

a) Statistical liquidity analysis

Statistical liquidity analysis examines a company's liquidity within a particular period.

(1) Long term oriented liquidity ratios

- Coverage degree A
$$= \frac{\text{own capital} \times 100}{\text{fixed assets}}$$
- Coverage degree B
$$= \frac{\text{own capital} + \text{long term credit capital}}{\text{fixed assets}} \times 100$$
- Coverage degree C
$$= \frac{\text{own capital} + \text{long term credit capital}}{\text{fixed assets} + \text{long term committed current assets}} \times 100$$

These ratios shed light on financing of fixed and current assets by long term means.

(2) Short term oriented liquidity ratios

- Liquidity first degree (cash liquidity)
$$= \frac{\text{means of payment}}{\text{short term commitments}}$$
- Liquidity second degree (short term liquidity)
$$= \frac{\text{means of payment} + \text{short term claims}}{\text{short term commitments}}$$

- Liquidity third degree (medium term liquidity, working capital ratio)
$$= \frac{\text{means of payment} + \text{short term claims} + \text{stocks}}{\text{short term commitments}}$$

The three degrees of liquidity serve the purpose of observing the balance sheet within specific period. As a result of this, several factors are left not considered although they influence liquidity, e.g. evaluations leeway during the preparation of balance sheet, risk of default of short term claims or assets items which serve as collateral and security. As a result of this, the liquidity degrees are not sufficient enough facts for an external observer in assessment of the liquidity situation. From management perspective however, a fundamental and better judgement can result. They are mentioned at this point because credit institutes use these ratios in determining creditworthiness of a companies.

- Working capital
$$= + \text{current assets (assets convertible to cash within a year)} - \text{short term commitments}$$

Working capital, also known as pure current asset serves the purpose of evaluating potential changes in liquidity and internal financing potentials of the organisation.

b) Dynamic liquidity analysis

The periodic-oriented analysis of liquidity of the company is the task of dynamic liquidity analysis.

- Cash flow
There is no standard formula for examining cash flow. In the following, two frequently used procedures will be described.

| |
|---|
| <ul style="list-style-type: none"> + retained profits + newly accumulated reserve funds + amortisation + flat rate value adjustments <hr style="width: 30%; margin-left: 0;"/> <p>= Cash flow in the strict sense</p> |
|---|

Cash flow in the strict sense comprises of liquid funds from turnover, to which the company can fall back upon for internal financing of investments, repayment of commitments and for eventual profit dividends.

This ratio shows the company's self financing margin.

| |
|---|
| + Year profit or loss |
| – accumulated profits (profit brought forward) |
| + accumulated deficit (deficit carried forward) |
| + reserve allocation |
| – release of reserve |
| + increase in long term provisions |
| – release of long term provisions |
| + amortisation and adjustment of value of fixed assets and participations |
| – appreciations |
| + extra ordinary, operative expenses in other accounting periods |
| – extra ordinary, operative incomes in other accounting periods |
| <hr/> |
| = Cash flow in broader sense |

Cash flow in broader sense should comprise of all possible capital inflows. In this sense, the operating ratio considers external finance means, which are available to the company before these are demanded. Cash flow in broader sense supplies information on room for manoeuvre of an organisation concerning internal financing of replacement investment and expanded investments, debt redemption and dividend payments.

– Cash flow statement

The compilation of cash flow statement occurs through a comparison of balance sheets with profit and loss account at the beginning and end of an accounting period. The formula for the examination of available funds can be systematised as follows:

| |
|--|
| Source of funds |
| + allocation in reserve |
| ▪ compulsory reserves |
| ▪ reserves for own shares |
| ▪ statutory reserves |
| ▪ other profit reserves |
| – withdrawals from reserves |
| + amortisation on fixed assets |
| + amortisation on participations |
| + increment of initial capital (capital stock) |
| + rise in long term commitments |
| + rise in medium term commitments |
| + increment of provisions (reserves) |
| + reduced warehouse stock |
| <hr/> |
| = Total sum of available funds (1) |

| |
|--|
| Funds utilisation |
| Investments in |
| ▪ tangible assets |
| ▪ participations |
| + increment of stocks |
| + increase in claims from long term businesses |
| + increase in claims from medium term businesses |
| + decrement of short term commitments |
| <hr/> |
| = Total sum of employed funds (2) |

The change to liquid means is an outcome of the difference between (1) and (2). The cash flow statement compiles processes which concerns financing and investment areas and which are not apparent in the balance sheet and profit and loss account. It supplies information which complement data from the annual financial statement, e.g. on the extent of operating revenues from turnover, investment spending, development and acquisition of new markets as well as increment or decrement of liquid funds.

4 PROFITABILITY INDICES

a) Profit oriented profitability indices

– Return on equity
$$= \frac{\text{profit}}{\text{own capital}} \quad (\times 100)$$

The assessment of return on equity must proceed in comparison with the rate of return of similar assets on the capital market.

– Overall capital profitability
$$= \frac{\text{profit} + \text{interests on credit capital}}{\text{own capital} + \text{credit capital}} \quad (\times 100)$$

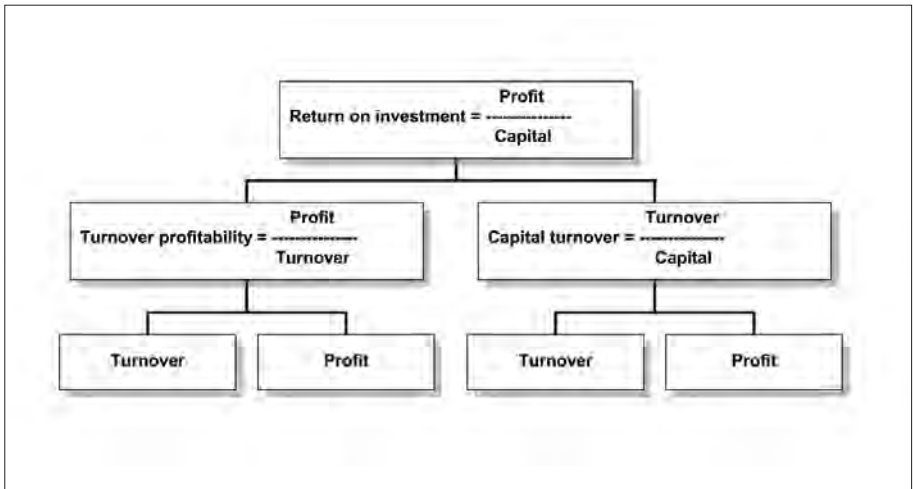
The overall capital profitability provides information on the extent of interest calculations of the whole capital of an organisation.

– Turnover profitability
$$= \frac{\text{profit}}{\text{turnover}} \quad (\times 100) \text{ or}$$

$$= \frac{\text{orderly operating results}}{\text{turnover}} \quad (\times 100)$$

The turnover profitability is to be calculated out of profit or out of the orderly operating result. The second operating figure examines turnover profitability of external operating activities or other extra-ordinary activities of the company.

- Return on investment or the DuPont Operating ratio system



These operating figures allow for an analysis of the extent of influence of overall capital profitability.

b) Cash flow oriented profitability ratios

- Own capital profitability
$$= \frac{\text{cash flow}}{\text{own capital}} \quad (\times 100)$$
- Overall capital profitability
$$= \frac{\text{cash flow}}{\text{own capital} + \text{credit capital}} \quad (\times 100)$$
- Turnover profitability
$$= \frac{\text{cash flow}}{\text{Turnover}} \quad (\times 100)$$

The calculation of profitability on the basis of cash flow has the advantage of enabling a comprehensive analysis from the perspective of fiscal aspects. This is because cash flow takes consideration of additional influences on profit.

5 RESULTS RATIOS

$$- \text{ Personnel intensity} \qquad \qquad \qquad = \frac{\text{personnel expenses}}{\text{total expenses}} \qquad \qquad \qquad (\times 100)$$

Personnel costs comprise of salaries and wages, social expenditures and also pension provisions and supports. This index permits an appraisal of the mechanisation and automation standards of a company in an inter-company comparison.

$$- \text{ Material intensity} \qquad \qquad \qquad = \frac{\text{material expenses}}{\text{total expenses}} \qquad \qquad \qquad (\times 100)$$

Material intensity consists of expenses on raw materials and utilities as well as on purchased goods

$$- \text{ Amortisation intensity} \qquad \qquad \qquad = \frac{\text{amortisation expenses}}{\text{total expenses}} \qquad \qquad \qquad (\times 100)$$

The influence of balance sheet policy measures are to be considered when analysing amortisation intensity.

These three operational ratios supply information on the efficiency of the personnel or of the work, of material input and of the employed fixed asset. The development of economic efficiency can be examined by a comparison of indices over several quarters and years. During the comparison, the causes of changes upon which the company management has no influence cannot be disregarded, e.g. an increase of salaries and wages or an increase in the price of purchased goods.

$$- \text{ Turnover predominance} \qquad \qquad \qquad = \frac{\text{turnover} \times 100}{\text{total returns}}$$

Turnover predominance indicates the share of turnover of total returns and says something about the structure of returns of an organisation.

6 MISCELLANEOUS OPERATING FIGURES

- Value creation

Value creation comprises of all additionally generated values of an organisation within a particular period. The calculation of added value arises from the difference between total performance of the organisation and the advance payments of the suppliers (supplies and services), miscellaneous expenditures as well as amortisation. Value creation

makes possible the analysis of the productivity of the company. By means of this index, a comparison of the organisation with organisations of other sectors of the economy is made possible in order to determine the extent of added value.

For an exact examination of value creation, the following formula offer is suitable:

| |
|---|
| + Turnover |
| + increment of stock of finished and unfinished products |
| – decrement of stock of finished and unfinished products |
| + self produced machines/equipments |
| <hr/> |
| = Total performance |
| + miscellaneous returns |
| <hr/> |
| = Company performance |
| – expenses on raw materials and utilities |
| – external aggregates |
| – services |
| <hr/> |
| = Gross additional value created |
| – amortisation |
| <hr/> |
| = Additional value created (Net additional value created) |

– Shareholder value

The shareholder value is a ratio which compiles the long term value appreciation of an organisation from the perspective of the owners. Shareholder value can be calculated as follows:

– Shareholder Value = Value of the company – Credit capital (external capital)

The value of the company is a result of the present and future operation cash flow and the rest value of the company at the end of a forecast period. Cash flow is being calculated out of the difference between return effective revenues and expenditure-effective expenses. Shareholder value is increased when the return on an investment lies above the capital costs and is reduced by return, which is lower than capital costs. The following formula is the appropriate for shareholder value (SV):

$$SV = \sum_{t=1}^n \frac{\text{Cashflow}_t}{(1+r)^t} + \frac{\text{Rest value}_n}{(1+r)^n} - \text{credit capital, whereby}$$

r = basic interests rate (long term capital costs)

t = observed period

n = end of the prognostic period

– EVA

The Economic Value Added is a financial economic operating figure for the evaluation of management performance, whereby additionally generated values within a period in an organisation is also being examined. This value can be determined as follows:

EVA = NOPAT – NOA x c; whereby

NOPAT = Net Operating Profit after Tax. This correspond to operational profit after deduction of all taxes already considered in NOA, plus expenditure and return components; e.g. expenses on leasing payments.

NOA = Net Operating Assets, that is, capital necessary for the running of corporate activities. NOA are therefore operationally necessary capital including cash value of leasing rate for those assets objects not included on the balance sheet.

c = capital costs, that is, interests on borrowed capital including opportunity costs for own capital.

If EVA has a value more than 0, this indicates corporate success higher than what a comparable asset will attract as interests on the capital market; this means that the profitability of capital expenditure is higher in the company than on the capital market.

9 OPERATING FIGURE SYSTEM FOR THE ANALYSIS OF TECHNOLOGICAL POTENTIALS

The significance of technology and of technical progress is increasing in medium sized organisations. The creation of new products and goods, new materials and application areas through new product technologies and the improvement of production processes through new production processes are decisive for long term success guarantee of an establishment. The research and development activities (R&D) of medium sized companies are often concentrated on applied research, market-near researches, improvement of available products and processes and safeguarding of quality and less on fundamental research. This touches on the fact that the availability of production factors (type and quantity) for R&D is normally far less than in big companies.

The analysis of the technology branch consists of the examination of technological competence of an organisation, innovation capability and research and development activities.

| Operating figures of technological potentials | | |
|---|---|-------|
| Area of analysis | Operating figures | Value |
| 1. R&D potential | <ul style="list-style-type: none"> - Number of employees in R&D division - Qualification of R&D staff members - Fluctuation rate in the R&D division - Number of hours for further training - Running costs of the R&D division - Investment costs in the R&D - Employee contribution - Research intensity - Innovation strength | |
| 2. Creativity of staffs of R&D | <ul style="list-style-type: none"> - Number of contributed ideas - Number of realised ideas - Number of attempted models/ prototypes - Share of actualised prototypes - Number of patents | |
| 3. Success operating ratios | <ul style="list-style-type: none"> - Rate of innovation - Profit share of new products - Revenues from sales of patents - Received licence fees - Success of R&D activities - Time-to-market | |

1 R&D- POTENTIAL

- Number of employees in the R&D-division
- Qualification of staffs of R&D
- Fluctuation rate
- In R&D-division
$$= \frac{\text{retiring staff members (R\&D)}}{\text{average number of staff members (R\&D)}} \times 100$$

The fluctuation quota is normally determined for a year and includes staff members leaving the company of own volition and those leaving permanently.

- Number of hours for further training of employees in the R&D division
- Extent of running costs of R&D-division, classified according to individual technologies or products or product groups

- Extent of investment costs in the R&D division
- Employee contribution
$$= \frac{\text{employees in the R\&D division}}{\text{total number of employees}} \quad (\times 100)$$

This index is a measurement for the relevance of R&D for the company. The evaluation of this dimension must always be conducted independent of the branch because there are great differences concerning the necessary extent of R&D activities.

- Research intensity
$$= \frac{\text{investment in R\&D}}{\text{Year's turnover}} \quad (\times 100)$$

Research intensity is calculated on annual basis. The examination of this dimension can be differentiated according to products or group of products or technologies. The average investment of the industry in R&D takes a share of approx 3% of turnover. In some cases, higher percentages of between 15-20% are assigned to R&D.

- Innovation strength
$$= \text{working hours of R\&D-staff on new development, further development and care of assortment.}$$

The innovation strength of an organisation appears secured long term, when a high proportion of working hours is spent on new developments. For a better estimation of this operating figure, a period-comparison can be conducted.

2 CREATIVITY OF STAFF OF R&D

- Number of introduced ideas (in total, per staff, per team)
- Number of actualised ideas (in total, per staff, per team)
- Number of attempted models or prototypes
- Number of actualised prototypes
- Number of patents

3 SUCCESS RATIOS

- Innovation rate = share of turnover of new and improved products in % (products younger than five years)

This index is an indicator for market success of products created by R&D.

- Share of profit of new and improved products in %
- Earnings from sale of patents
- Received licence fees
- Success of R&D activities = $\frac{\text{finished products} \times 100}{\text{begun projects}}$

This ratio compile the goal orientation of R&D activities. It shows to what extent R&D goes in new assignments. Furthermore, this ratio indicates to what extent R&D projects have led to concrete results or which ones were abandoned.

- Time-to-market = development duration of new products until they appear on the market (in months)

10 OPERATING FIGURE SYSTEM FOR PERSONNEL ANALYSIS

The term personnel comprise the total number of persons working in an organisation. The personnel embody one of the most significant potentials of an organisation. Staff members organise all activities of the company and hence form the necessary basis for the creation and use of other potentials of the company. Human being with his individual features and capabilities is within the frame of personnel economy, also an object of arrangement. Consequently, human being is at one time an organiser (subject) and at the same time, an element (object) of the organisation. An efficient personnel organisation is a fundamental competition factor, primarily for medium sized organisations that are in principle inferior to big corporations as far as the qualitative composition of potentials is concerned. Within the scope of personnel analysis, employee serves not as a cost factor, rather a service provider. The potential of this service provider is presented in the table »Operating figure system for personnel analysis«.

| Operating figure system for personnel analysis | | |
|--|--|-------|
| Area of analysis | Operating figures | Value |
| 1. Personnel need and structure | <ul style="list-style-type: none"> - Personnel intensity - Net personnel requirement - Capacity utilisation - Qualification structure - Average age of personnel - Degree of personnel provision - Salary and wage structures | |
| 2. Staff-based productivity | <ul style="list-style-type: none"> - Turnover per staff - Profit per staff - Additional wealth generation per staff - Labour productivity | |
| 3. Personnel input | <ul style="list-style-type: none"> - Performance index - Overtime rate - Management spread - Rate of idle time | |
| 4. Staff contentment | <ul style="list-style-type: none"> - Number of relocation requests per department - Fluctuation rate - Average duration of membership in a company - Rate of absence | |
| 5. Motivation and competence development | <ul style="list-style-type: none"> - Rate of suggestions for improvement - Presenter structure - Intensity of further training - Qualification structure | |

1 PERSONNEL REQUIREMENT AND STRUCTURE

– Personnel intensity
$$= \frac{\text{personnel costs}}{\text{turnover}} \quad (\times 100)$$

Personnel intensity mirrors the significance of the personnel for the organisation. Furthermore, it is the measurement parameter of the company’s sensitivity to salary and wage increments.

– Net personnel requirement is estimated as follows:

$$\begin{aligned}
 &+ \text{gross personnel requirement} \\
 &- \text{personnel stock at period } t_0 \\
 &+ \text{departing/retirements} \\
 &- \text{confirmed new personnel}
 \end{aligned}$$

The net personnel requirement can be determined for worker groups, cost positions or company areas. It is a parameter for the examination of personnel shortages or surpluses within an organisation.

- Capacity utilisation
$$= \frac{\text{work volume (required working hours)}}{\text{working hours (available hours per worker)}}$$

This ratio is employment related or it is being estimated for particular organisational units. It is also an indicator for personnel requirement in different areas.

- Qualification structure
$$= \frac{\text{number of workers with certain qualifications}}{\text{total number of workers}} \quad (\times 100)$$

The qualification structure will be determined for certain units of the organisation (departments, divisions and units etc). It is a parameter for the evaluation of personnel concerning the possibility of fulfilling future needs.

This may be necessitated by new technologies or new products.

- Average age of personnel (years)
$$= \frac{\text{total sum of ages of the personnel}}{\text{average age of the personnel}}$$

In order to examine the age distribution of the personnel, one estimates the average age. The estimation can be conducted for individual departments of the organisation or for worker-groups (e.g. unskilled and skilled personnel, specialists, technical and commercial personnel, senior personnel). Worth of attention is the variation of ages.

- Degree of personnel provision
$$= \frac{\text{actual number employed}}{\text{required number of workers}} \quad (\times 100)$$

The degree of personnel provision can be determined for individual personnel groups and units in the organisation, in consideration of the situation of part-time market.

- Salary and wages structure
$$= \frac{\text{number of workers in salary group i}}{\text{total number of workers}}$$

$$= \frac{\text{total number of workers in salary group i}}{\text{total number of workers}} \quad (\times 100)$$

The salary and wages structure can not be examined independent of the qualification structure and it serves the purpose of analysing personnel expenses. Furthermore, the structure of salary and wage groups is a mirror for quality standard of personnel.

2 EMPLOYEE BASED PRODUCTIVITY

The operating ratios in this category serve the purpose of analysing productivity of employee. This should normally be a temporal comparison or competitor comparison.

- Turnover per staff
- Profit per staff
- Additional wealth generation by staff
Additional wealth generation is arrived at when one subtracts purchased materials, aggregates and services from the turnover

These three operating ratios provide clear information on the general productivity of an organisation.

- Labour productivity
 - = $\frac{\text{output quantity}}{\text{number of employees}}$
(purely quantity relations)
 - = $\frac{\text{manufactured quantity}}{\text{activity quantity per worker}}$
(quantity relations)
 - = $\frac{\text{operative additionally generated values}}{\text{wage payments}}$
(purely quantity relations)
 - = $\frac{\text{output quantity}}{\text{wage payments}}$
(mixed ratios)

Labour productivity presents a yardstick for efficiency and it can be calculated for the personnel, units within the organisation or product groups. There is the possibility to compare the performances of different units with one another.

3 PERSONNEL INPUT

$$- \text{ Performance index} = \frac{\text{observed current performance}}{\text{normal performance}} \quad (\times 100)$$

Performance index is to be determined on a personnel-based-approach and it is a measurement for collation of individual performances. The analysis is often conducted by means of temporal or personnel comparison.

$$- \text{ Overtime rate} = \frac{\text{overtime}}{\text{normal working hours}} \quad (\times 100)$$

The estimation of overtime quota can be differentiated according to personnel groups and cost positions. It is a measurement for the volume of work in an organisation as well as of personnel requirement. Seasonal influences are to be quantified.

$$- \text{ Management spread} = \frac{1}{\text{Number of personnel}}$$

The examination of management spread applies to any unit of the organisation with a sectional boss. It is an indicator for the analysis of management structure of an organisation and the burden of management personnel.

$$- \text{ Rate of idle time} = \frac{\text{time at work place without working}}{\text{available time}} \quad (\times 100)$$

4 STAFF CONTENTMENT

- Number of relocation requests per department

This quantity is an indicator for work place environment in a department.

In this analysis, one must e.g. consider the attractiveness of a department and the location e.g. exclusion of disruptive factors. In addition, the number of relocation wishes can be determined after short service duration, because this value allows for information on work place atmosphere.

$$- \text{ Fluctuation rate} = \frac{\text{number of voluntary retirements per year}}{\text{average number of employees}} \quad (\times 100)$$

A temporal comparison of fluctuation rate sheds light on labour contentment, workplace atmosphere, the payment etc. Coincidental influences are to be eliminated. One can establish fluctuation rate for individual employee groups or according to the duration of staff membership in a company. With a huge fluctuation rate, employment and orientation costs for new personnel which will burden the company will be considerable. Apart from this, there is danger of loss of know-how.

- Average duration of membership in a company (years) =
$$\frac{\text{total sum of duration of membership in the company}}{\text{total number of personnel}}$$

This ratio is an indicator for the stability of personnel and it is differentiated according to staff groups, locations or sex. It provides information on the extent of regular and non-regular personnel. Furthermore, the duration of membership allows for inference on staff contentment. In assessing staff contentment, the actual situation on the labour market and the average age of personnel are to be considered.

- Rate of absence =
$$\frac{\text{number of missed work days in a year}}{\text{number of possible working days in a year}} \times 100$$

In assessing staff contentment, the rate of absence is to be classified e.g. according to absence frequency through illness, maternity protection and further training. A high absence rate caused by illness shows an indication of conditions of bad working environment or workplace bullying.

5 MOTIVATION AND COMPETENCE DEVELOPMENT

- suggestions for improvement rate =
$$\frac{\text{submitted improvement suggestions}}{\text{total number of workers in annual average}} \times 100$$

The assessment of suggestions for improvement can be conducted for individual worker groups or cost centres. It is a measurement for creative-constructive working and employee motivation.

- Presenter structure =
$$\frac{\text{presenter with attribute i}}{\text{total number of presenters}} \times 100$$

The following attribute classes eventually become significance: training level, duration of membership in the company, professional and hierarchical classification or the number of suggestions for improvements submitted until now. This ratio serves the purpose of steering personnel development and a purposeful analysis of employee motivation.

- Intensity of further training

$$= \frac{\text{total number of further training days}}{\text{total number of employees}} \quad (\text{training time})$$

$$= \frac{\text{costs for personnel development}}{\text{total personnel costs}} \quad (\times 100)$$

The intensity of further training provides clues to competence development of employees. The calculation takes place annually according to different employee groups.

- Qualification structure

This ratio is already determined in the first analysis area »Personnel requirement and personnel structure«. It is mentioned here once again because it is an indicator for the possibilities of competence development; hence it is relevant for future achievement potentials of the personnel.

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

2 INVESTMENT MANAGEMENT –

CLASSICAL AND CONTEMPORARY METHODS OF COSTS AND UTILITY ANALYSIS

GOAL(S):

Presentation of fundamental methods of costs and utility analysis. These methods permit us to objectify and optimise investment decisions. They also make such decisions transparent and comprehensible. Approaches to evaluation of direct, relative and elusive utility will be presented.

CONTENT:

- 1 Significance of this term today and in future
- 2 Content and boundary of the terms economic efficiency, productivity, profitability and return on investment
- 3 The statistical procedure
- 4 The dynamical procedure
- 5 Utility analysis
- 6 Methods of »must« investments
- 7 Prioritisation according to portfolio

INSTRUMENTS:

- Methods of statistical investment appraisal
- Methods of dynamical investment appraisal
- Utility analysis
- Methods of »must« investments
- Portfolio methods

APPLICATION(S):

- Investments in objects and persons
- Appraisal of projects

UTILITIES:

- Great transparency in decisions making process
- Clearer cost evidence
- Preparation of arguments-balance sheets
- Evaluation approaches to qualitative utility criteria

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Statistical and dynamic methods: applicable in every functional area
- Utility analysis: transferable to all projects
- »Must« investments: applicable for strategic decisions
- Portfolio methods: transferable to all functional areas

1 SIGNIFICANCE OF THIS TERM TODAY AND IN FUTURE

Classical methods of investment analysis are still being applied to a large extent in the evaluation of investments in contemporary times. The informational value of these methods is however limited. These procedures should be replaced or as the case may be, complemented by new methods which primarily

- satisfy the strategic considerations of an organisation in investment decisions,
- include qualitative criteria in the evaluation process.

Those who approved their investment budget in the 90s simply on the basis of pay back period, is living dangerously. Organisations which operate mainly according to this yardstick, and there are still only a few, normally favour such plans and projects where cost savings are possible at the expense of neglecting strategic category of benefits. Whoever still practised this method of investment attitude at the end of last century is endangering the existence of the organisation.

It must be hinted to the fact that it is now an illusion, as before, for one to think he can quantify everything. Attempts at nearing evaluation problematic by means of different methods should be undertaken. One will not only become more concrete with the singular objectives, rather solution approaches are presented, which can be continuously improved upon. Through gathered experiences in the practice, one is in a position to fine-tune model approaches and apply them target-oriented.

Even though cost savings is always being considered in most profitability calculations, the direct effects are in contrast not reflected in the calculation: as a result of this, a false picture of profitability of investment in material assets or of a project is presented. In order to avoid this, the utility side should be included in a more reinforced manner in profitability calculation. At the same time, it is to be assumed that performances and qualitative advantages which bring no returns in the operational sense could often bring a utility or benefit for the organisation. Such a benefit or utility is not a factor that should be retrospectively examined, rather an expectation which is placed against investment benefits in concrete situations. In this respect, the benefit or utility quantification is indisputable, in that it is he, who subsequently draws on the advantages of a particular investment that can best describe such benefits. From this constellation, it is necessary to make participants out of those concerned and to include them in cost and utility analysis.

At the centre point of this contribution are numerous methodical processes. These are going to be described according to their contents, the advantages and disadvantages and according to possible applications.

2 CONTENT AND BOUNDARY OF THE TERMS ECONOMIC EFFICIENCY, PRODUCTIVITY, PROFITABILITY AND RETURN ON INVESTMENT

In the following, there will be a short discussion on the terms economic efficiency, productivity and return on investment. These terms have a major significance within the scope of elaboration and they constitute the basis for the application of most processes.

2.1 PRINCIPLE OF ECONOMIC EFFICIENCY

The term economic efficiency: is an optimally aimed relationship between means and respective outcome. Economic efficiency is an expression of a particular »rationality degree«. Consequently, the economic efficiency principle is also defined as rational principle or economic principle.

Because of the fact that management is characterised by a quantity variable and a value-based variable, the management subject can relate on both levels on the basis of economic principle.

For the examination of quantity economic efficiency, one often uses the following approach:

$$\text{Economic efficiency} = \frac{\text{output}}{\text{input}}$$

For the examination of value-based economic efficiency, one has the quotients which are constituted of returns evaluated in money and input in production factors, evaluated also in monetary constituents:

$$\text{Economic efficiency} = \frac{\text{return}}{\text{expenditure}}$$

Due to a shortage of means, the following behavioural alternatives are possible:

- The minimum principle: a certain result should be achieved with the least material input.
- The maximum principle: with a certain material input (available or limited), possibly a great (good result) should be arrived at.

Because of the fact that in the practice, one often encounters material input as well as desired result as variable dimensions, the following ratio principle is presented as further relationship alternative:

- The optimal principle: employment of fund and desired result of an economic decision (action) are so harmonised with one another that possibly a convenient efficiency ratio can be achieved. The optimal criterion is in this way to be defined on a case-by-case (individual problems) basis.

In total, four degrees of freedom can be differentiated under operational decisions aspect:

- 1 Only freedom of choice of output (i.e. of returns), then **maximum principle**
- 2 Only freedom of choice of input (i.e. of means), then **minimum principle**
- 3 Only the freedom of output and freedom of input, then **optimal principle**
- 4 Neither freedom of output or freedom of input then **no economic efficiency principle**.

2.2 THE PRINCIPLE OF PRODUCTIVITY

Productivity is like any other operating figures a yardstick. Variables are compared with one another in order to develop a basis for operational decisions.

In productivity, technical-quantitative variables are placed in relation to one another. It provides the productiveness of a combination of operational factors.

The term productivity:

$$\text{Productivity} = \frac{\text{performance quantity (output)}}{\text{resources (output)}} \quad \text{or} \quad \frac{\text{output quantity}}{\text{resources}}$$

Productivity is in this respect identical with quantitative approach to economic efficiency.

The following serve as required quantity (e.g.)

- Material resource,
- Machine hours,
- Working hours.

As the case may be, if the output is brought in relation to working hour, or to production means or to material, through which application operational output were realised, then one speaks of e.g.

- Labour productivity $= \frac{\text{performance}}{\text{quantitative labour input}}$
- Material-resource productivity $= \frac{\text{performance}}{\text{quantitative material input}}$

Productivity is a technical relationship which at first doesn't have any great significance for accounting; due to the fact that there is a missing evaluation of singular production factors, it is impossible to make a statement on value-based economic efficiency. Quantitative productivity doesn't reveal anything about value-based economic efficiency.

Productivity can be very high while efficiency is less in contrast (there is no corresponding usability for quantitative output).

2.3 PRINCIPLE OF PROFITABILITY

The relationship between profit of an accounting period to capital input is described as profitability.

$$\text{General formula: profitability} = \frac{\text{profit}}{\text{capital}} \quad (\times 100)$$

$$\text{Return on equity: } R_E = \frac{\text{profit}}{\text{equity capital}} \quad (\times 100)$$

Return on equity provides information on interest calculations of capital input of an organisation; this is the reason why it is also being referred to as corporate profitability.

If return on equity sinks below the interest rate for long a term capital on the money market, an asset outside of own organisation may be sensible. If return on equity lies above this interest rate then it is recommended to employ additional credit capital in order to maximise target value »return on equity« (leverage effect).

$$\text{Total capital profitability: } R_G = \frac{\text{profit} + \text{interest on credit capital}}{\text{total capital}}$$

Profitability of total capital is calculated by a comparison of returns which equity (own capital) and credit capital (external capital) have yielded in an accounting period (profit + interests for credit capital) and the whole capital used in the organisation (equity + credit capital). One can also speak here of corporate profitability.

The interest on credit capital must be added because it represents payment for borrowed external credit capital and is referred to in profit and loss account as interest expenses which reduce annual profit; while equity on the other hand is simply lumped together with profit.

The total capital profitability is in normal situation going to be less than return on equity in as much as the organisation finds itself in the profit zone.

EXAMPLE:

| | |
|----------------------|---------|
| Equity capital | 300.000 |
| Credit capital | 200.000 |
| Profit | 40.000 |
| Interests on credits | 10.000 |

$$R_E = \frac{40.000 \times 100}{300.000}$$

$$R_G = \frac{40.000 \times 10.000 \times 100}{300.000 + 200.000}$$

$$R_E = 131/3 \%$$

$$R_G = 10 \%$$

Example for the leverage effect on return on equity:

- An investment of 100.000 € brings the expected return of 20 %, so 20.000 €/annual.
- This return can be increased by financing through credit capital.
70.000 € credit capital at 10 % requires 7.000 € interest,
For 30.000 € equity capital is 13.000 € profit; this gives a profit of 43 %.

2.4 RETURN ON INVESTMENT (ROI)

This dimension originates from the American economy. Through a simple mathematical conversion, it is possible to realise common profitability quotients. If profitability figure

$$R = \frac{\text{profit}}{\text{capital}} \times 100$$

were to be expanded around quotients

Turnover

Turnover

then one obtains the following constellation without having to have made any great dimensional changes:

$$R = \frac{\text{profit}}{\text{turnover}} \times \frac{\text{turnover}}{\text{capital}} \times 100$$

$$\text{ROI} = \text{turnover profitability} \times \text{capital turnover} \times 100$$

Because return on investment is determined by the preceding formula i.e. through turnover profitability and capital turnover, it has the effect that it can be increased as a result of an increase in capital turnover when turnover profitability remains constant (here: as a result of reduction of capital input).

EXAMPLE:

| Year | <u>n-2</u> | <u>n-1</u> | <u>n</u> |
|----------|-------------|-------------|-------------|
| Profit | 4 million | 5 million | 5 million |
| Capital | 40 million | 40 million | 37 million |
| Turnover | 100 million | 100 million | 100 million |

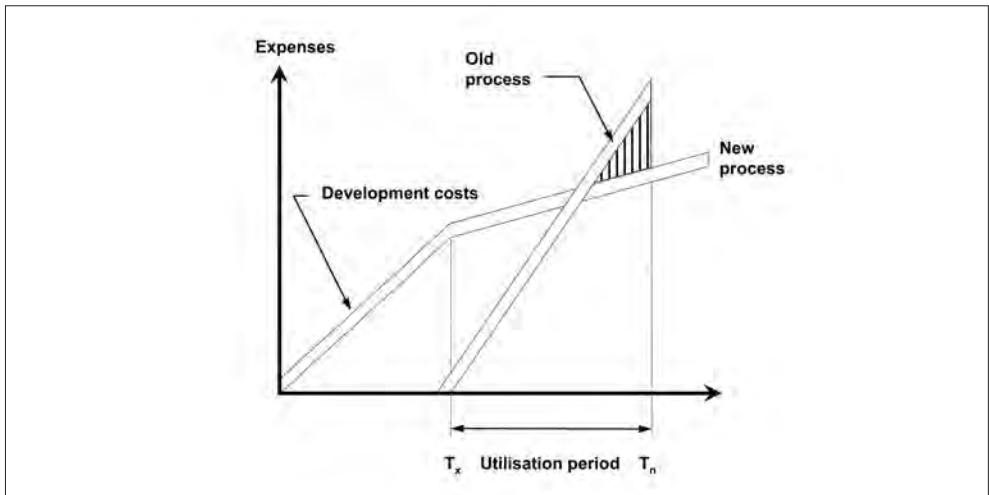
| Year | <u>Turnover Profitability</u> | x | <u>capital turnover</u> | = | <u>return on investment</u> |
|------------|-------------------------------|---|-------------------------|---|-----------------------------|
| <u>n-2</u> | 4% | x | 2.5 | = | 10% |
| <u>n-1</u> | 5% | x | 2.5 | = | 12.5% |
| <u>n</u> | 5% | x | 2.7 | = | 13.5% |

The simple example already shows the increased information substance on return on investment-value. So is the increase in profitability in the above mentioned example (on the condition that there are no cost changes) in year n-1 attributable to increase of profit margin while the normal increment in year n only touches on the cutback in capital input. In all the instances, turnover has remained constant.

3 THE STATISTICAL PROCEDURE

3.1 COST COMPARISON METHOD

In cost comparison method, costs of dual (or several) methods or project alternatives are compared with one another as decision criterion. Normally, the so-called »old method« (i.e. a procedure already in an operation) will be compared with a »new«, process that is bringing the same efficiency. The shaded area in the table »Cost comparison method« presents the economy of scale of the procedure.



120 | Cost comparison method

Disadvantages:

- Capital input remains disregarded.
- Returns from the project are not going to be considered.
- Annual costs must remain unchanged during the total life duration.
- Because the value differences between the first and the last year are not considered, this procedure works with average statistical values.

Advantages:

- Reduced calculation efforts.
- Costs can generally be easily determined.
- Problems with utility evaluation do not arise.

Possible applications:

- By the first investments:
Comparison of alternatively new, investment objects with equal functions.
- By expansion investments:
For alternative investments from which turnover increment in same amount can be expected.
- Substitute investments and rationalisation investments:
For parts of a whole production apparatus, by which only a cost comparison is possible.

3.2 PROFIT COMPARISON METHOD

Profit comparison method considers apart from the costs, also returns from objects or investments. In this way could projects with different performances or accomplishments be compared.

It is possible that an investment can still be advantageous than others on the proceed side despite higher total costs.

This is possible for example in a case of qualitatively equivalent products when the investment with greater output, although exhibiting a greater total costs in comparison, but nevertheless accrue lower average/ unit costs, by a corresponding efficiency. A comparison of total annual costs is to be conducted, whereby returns are to be taken into consideration. The same applies even if the performance of the investment exhibits in comparison, qualitative differences which bring about different prices on the market.

The following example shows the application of profit comparison method:

| | | Old asset | New asset |
|----------------|------------|-----------|-----------|
| Initial cost | Euro | 60.000 | 100.000 |
| Units per year | Euro | 8.000 | 12.000 |
| Price per unit | Euro | 4 | 5 |
| Total revenue | Euro/annum | 32.000 | 60.000 |
| Total costs | Euro/annum | 6.000 | 23.000 |
| Profit | Euro/annum | 26.000 | 37.000 |

The additional costs of the new assets are positioned against additional returns of € 28.000. A replacement of the asset is hence to be approved in a profit comparison method.

Altogether the following can be retained: if two assets/machines possess the same qualities- be it they were procured so technically or because the market doesn't allow for any other pricing term- they then have to be compared on the basis of their annual costs. If their foreseeable qualitative performance were to differ, then a transition to unit cost contemplation is required. This is on the other hand insufficient when it emerges that the investment with greater utilisation lower unit cost possesses and there are no quantitative performance distinctions. If this were to be the case, then the proceeds side should be taken into consideration and a profit comparison method carried out.

Disadvantages:

- No revelation on capital input.
- No revelation on profitability.
- By an existence of diversified utilisation duration, wrong decisions can be taken as a result.
- Of different timeframe.
- No statements are made on the risks of the investment.
- No statements are equally available on amortisation period.

Advantages:

- In comparison with cost comparison method, the proceeds side will be considered.

Possible applications

- In certain cases, can be applied with relatively independent investment objects
- Can be applied for capital expansion if profit allocation is possible

3.3 COST ACCOUNTING

Profitability serves as decision criterion of employed capital:

$$\text{Profitability (\%)} = \frac{\text{profit} \times 100}{\text{employed capital}}$$

This method is suitable for the comparison of alternative new projects because capital input (development expenses) is taken into consideration.

EXAMPLE:**Alternative A:**

New conception of a process of automatic order quantity calculation

| | |
|--|----------|
| Development expenses (capital expenses): | € 75.000 |
| Annual return: | € 11.000 |
| Annual expenses: | € 7.500 |

Alternative B:

Modification (system expansion) of current process of order calculation and need calculation

| | |
|-----------------------|----------|
| Development expenses: | € 25.000 |
| Annual return: | € 10.000 |
| Annual expenses: | € 8.500 |

Comparison calculation:

Alternative A:

| | |
|---------------|----------|
| Profit | € 3.500 |
| Capital input | € 75.000 |
| Profitability | 4.66 % |

Alternative B:

| | |
|---------------|----------|
| Profit | € 1.500 |
| Capital input | € 25.000 |
| Profitability | 6 % |

Alternative B (system expansion) would in this case be preferable. Such a decision is however only justifiable when it is definitely obvious that both processes bring the same performance within the scope of the same objective.

Disadvantages:

- The examined profit is assumed as constant for all periods.
- The life span remains unconsidered.
- Capital commitment is not sufficiently taken into consideration.

Advantages:

- The aspiration after optimal capital input and return.
- A ranking order can be presented in accordance with expected profitability from the investment.
- A retrospective comparison of desired and attained interest rates is possible.

Possible applications:

- For all investments where the average interest rate of invested capital is sufficient.
- By rationalisation investments and expansion investments when profit can be attributed to the different capital inputs.

3.4 AMORTISATION CALCULATION (PAY-BACK-METHOD, PAY-OFF-METHOD)

In amortisation calculation, one calculates the time spread which elapses until invested sum of money starts to flow back into the company. The time spread is normally being measured in years. The formula is:

$$R = \frac{I}{G}$$

Whereby

- R = number of years until reflow of invested sum of money
- I = one time investment amount
- G = annual utility

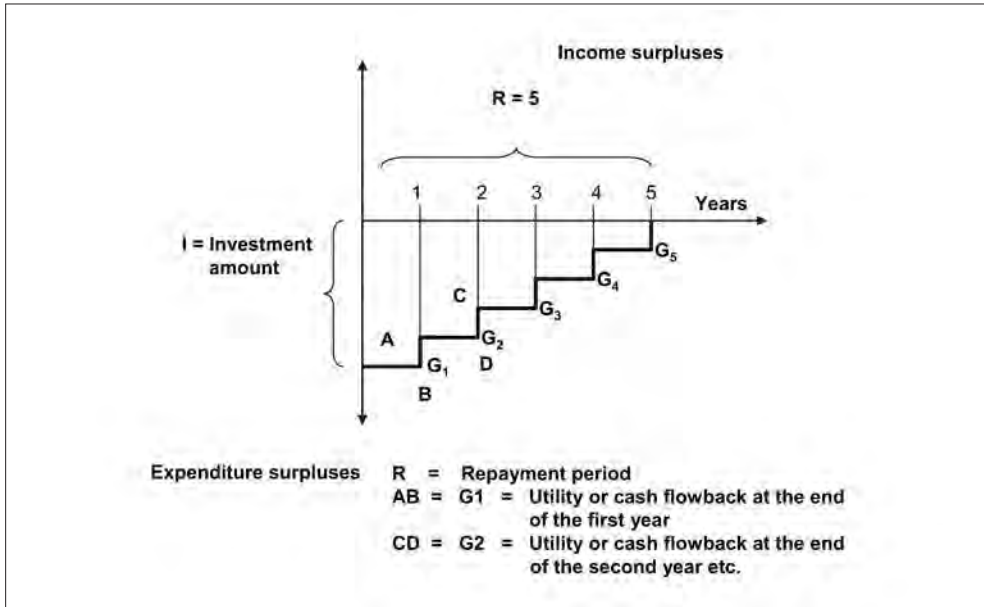
When for example a annual utility of 20.000 is generated with an investment of 100.000,

$$R = \frac{100.000}{20.000} = 5 \text{ years}$$

The pay-back-method can be presented descriptively through the illustration on the right.

Disadvantages:

- Because recovery of invested capital is the basic decision criterion, evaluation follows exclusively according to liquidity and security criteria.
- The rest time period and the latter profit development remain unconsidered.
- Additional risk measures apart from amortisation length are not considered.



Advantages:

- Simple to calculate.
- A comparison of realisable and desired recovery period is possible.
- is often applied in the practise.

Possible applications:

- Externally financed risk investments.
- For investments which concerns a concrete appraisal of the optimal life span.
- In combination with other economic efficiency calculations (for example profitability calculation), it serves as the basis for comparison of alternative capital usage.

3.5 GENERAL EVALUATION OF STATISTICAL PROCEDURE

Disadvantages:

- Only for tasks with an objective component.
- Interdependence between operational function areas is left unconsidered.
- Independence between different investments activities are not delved into.
- Temporal structure of success currents finds no consideration.

- The actual utility duration is also left out of consideration.
- Future instabilities with success dimensions are only considered in the calculations as averages, periodical success dimensions are left out.
- The particularity of investments in the areas of information and communication systems is equally left unconsidered.

Advantages:

- Simple administration
- Easy to understand operating ratios.
- Procurement of information effort is limited.
- It forms an adequate basis for most types of smaller traditional investments.

In conclusion, the represented methods are going to be made comparable in a synoptic overview.

Synoptic presentation of statistical methods

| <u>Methods</u> | <u>Cost comparison calculation</u> | <u>Profit comparison calculation</u> | <u>Profitability calculation</u> | <u>Amortisation calculation</u> |
|-------------------------------------|--|---|---|--|
| <u>Content:</u> | Only costs of the procedure will be compared with one another | Inclusion of proceeds side as complement to the costs side | The achieved capital interest determines the choice of procedure | The shortest reflow of invested amount of money in years determines the choice |
| <u>Procedure classification</u> | Single dimensional: Costs | Dual dimensional: Costs/returns | Tri-dimensional: Costs/returns/capital | Tri-dimensional: Costs/returns/capital |
| <u>Application possibilities</u> | Applicable, practically when utility expectations are equally high | Limited because the problem of quantification of »profit« is hardly appraisable in this sense | The problem of quantification of »profit« in the sense of investment calculation limits the application | Limited because profit here is seen as a statistical quantity |
| <u>Expenses for the realisation</u> | Relatively limited | Relatively limited | Limited | Limited |

4 THE DYNAMIC PROCEDURE

4.1 CAPITAL VALUE METHOD

The capital value method, also known as discounting or cash value methods, assumes that incoming payments and outgoing payments which are caused through a particular investment object can be classified according to size, temporal conditions and duration, all which can be diverse. The individual amounts which arise at some point in time during the investment are only comparable when the exact moment in time is taken into consideration in the calculation. This is so because the further an incoming payment is in the future, the less value it is to a company, and correspondingly, the nearer repayment period lies, the more strained is an outgoing payment.

The comparability is hereby established in that all incoming payments and outgoing payments in future are to be discounted immediately before the commencement of the investment. A payment discounted to a particular period of time is described as cash value.

The capital value of an investment is represented as the difference between the amount of cash value of all incoming payments and the amount of all bar value of all outgoing payments which is connected to this investment.

Discounting attracts an interest rate which has to correspond to expected minimum interest rate capable of satisfying investors' capital costs (calculated interest rate). Thereby it will be assumed at the same time that incoming payments can be discounted to the calculated interest rate. Were the capital value to be zero, the minimum interest rates will be just realised, i.e. incoming payment surpluses are sufficient to offset initial payments and to discount the invested capital at the calculated interest rate.

If the capital value is positive, then it indicates payment surpluses of the investment object which are available for procurement payments and which can be readily discounted. If however the capital value is negative, then it describes the part of outgoing payments for procurement which can neither be offset nor discounted out of incoming payment surpluses.

A positive capital value shows at the same time that an interest rate above the minimum target interest will be realised for the employed capital (on the condition that re-investment possibilities for incoming payments attract same calculated interest rate). On the other hand, a negative capital value is a signal to the fact that only an interest under the calculated interest rate can be realised, thus investors capital costs which cannot be covered. Capital value decreases with increasing calculated interest rate and it increases with falling calculated interest rate: that means, it is usually a falling function dependent on calculated interest rate.

According to capital value method, an investment is advantageous when its capital value equals zero or it is positive.

EXAMPLE:

An investment should be characterised by the following range of figures:

| Time period | t0 | t1 | t2 | t3 | t4 | Altogether |
|------------------|--------|--------|--------|--------|--------|------------|
| In-payments | - | 3.000 | 2.000 | 2.000 | 2.000 | 9.000 |
| Out-payments | -6.000 | -1.000 | - 500 | - 300 | - | 7.800 |
| Net in- payments | -6.000 | +2.000 | +1.500 | +1.700 | +2.000 | +1.200 |

If one considers only the absolute figures without consideration of calculated interest rate, or more precisely, by a calculated interest rate of zero, then the investment has a capital value of 1200. An investor who could take an interestfree credit for the duration of the four periods (or who has no other alternatives apart from cash bearing), will go through with this investment. In a situation where the investor has to pay an interest of 8% when taking the credit, or if another investment could bring him 8% interest, then he has to carefully examine the contemplated investment, whether it can be financed with 8% interest. The capital value is as follows:

$$\text{Capital value} = -6.000 + \frac{2.000}{1.08^1} + \frac{1.500}{1.08^2} + \frac{1.700}{1.08^3} + \frac{2.000}{1.08^4}$$

$$\text{Capital value} = -6.000 + 1.851 + 1.286 + 1.349 + 1.470$$

$$\text{Capital value} = -6.000 + 5.957 = -43$$

Because of the fact that capital value is negative, the effective interest rate of the respective committed capital is lower than 8%. The value of the investment is lower than outgoing payment for procurement. By a minimum interest rate of 8%, the investor will let go of the investment.

For another investor, who only has access to a limited alternative investment possibility or one that only has access to a limited external capital, an investment with the same range of payment can be of advantage.

For a calculated interest rate of 6%, we obtain the following constellation:

$$\text{Capital value} = -6.000 + \frac{2.000}{1.06^1} + \frac{1.500}{1.06^2} + \frac{1.700}{1.06^3} + \frac{2.000}{1.06^4}$$

$$\text{Capital value} = -6.000 + 1.887 + 1.335 + 1.427 + 1.584$$

$$\text{Capital value} = -6.000 + 6.233 = +233$$

Because the capital value is positive - the cash value of all subsequent surpluses of inward payments exceeds payments for the procurement. In this situation, the investment is advantageous. The condition is that reinvestment rates which flows back during the respective periods is 6%.

Disadvantages:

- The choice of calculated interest rate lacks even until today a generally acknowledged criterion.
- The level of calculated interest rate is problematic and it strongly influences the results.
- Correct results can only be expected if arbitrary divisibility of all projects were possible.

Advantages:

- Relatively easy to apply.
- Calculated interest rates can change with the period.

Possible applications:

- A comparison of several investment alternatives on the basis of investment mathematics.
- Applicable to a range of traditional investment plans.

4.2 ANNUITY METHOD

Dynamic annuity method is concerned with the mathematical conversion of capital value method. The average annual outgoing payments of investments are compared with the average annual incoming payments. Subsequently, the basis of this method constitutes the conversion of cash value of investment amounts and the return flow in the same annual amounts (annuities). The conversion takes place through retrieval factors which can be derived from a given life span n and a given calculated interest rate p tables. The annuities can be calculated as follows:

Annuity of repayment flows:

Cash value of back flow \times recovery factor

Annuity of investment sums:

Cash value of investment sum \times recovery factor

Depending on whether the difference between annuity of back-flows and the annuity of investment amounts is

- bigger, equal or smaller than zero or,
- bigger, equal or smaller than calculation interest rate,

one has an interest calculation of the not yet amortised capital input. The annuity method is being applied in the practise mainly in substitute problem. Here, neither the income array of the new investment is known, nor does the rest life span of old investment correspond with total life span of the new investment. These restrictions allow capital value method and internal interest rate method to be brought into use only conditionally. Because otherwise the presumptions of annuity methods are the same as that of capital value method, the advantages and disadvantages of this method wouldn't be examined more intensively.

4.3 METHODS OF INTERNAL INTEREST RATE

With this method, one does not assume a given minimum interest rate calculation (calculation interest rate), with whose assistance the capital value can be ascertained, rather one searches for discounting interest rate which leads to a zero capital value, i.e. by which the cash value of the range of in-payments and out-payments are of equal dimension (internal interest rate). The comparison of several investments follows a comparison of the respectively calculated interest rates. The investment project with the highest internal interest rate would be considered as the most advantageous. This statement is however relative because if the interest rate is below the calculated interest rate, then capital value is negative and the investment project with the highest internal interest rate cannot be described as advantageous.

Disadvantages:

- No distinct interpretation of recommended investments.
- No information on the volumes of the examined investments.

Advantages:

- Descriptive and vivid methods.
- With the help of computer programmes, internal interest rates can be calculated.

Possible applications:

- As decision standard in a situation of capital shortages.
- Traditional investments.

4.4 GENERAL EVALUATION OF DYNAMIC PROCESS

Disadvantages:

- Data determination concerning the level and temporal distribution of payment flows are difficult.
- The investment mathematical model of investment touches on the basic principle of constant interest rate calculation, i.e. an immediate re-investment of the return flows.

Advantages:

- Time factor is taken into consideration through the addition of accrued interest rates and deduction of accrued interest rates.
- This method makes it possible to compare investment alternatives.
- The limitation on only quantifiable influencing factors is for most traditional investments a good starting point.

In conclusion, the represented methods are compared in a visible nested overview.

A synoptic presentation of dynamic methods.

| <u>Methods:</u> | <u>Capital value methods</u> | <u>Internal interest rate methods</u> | <u>Annuity methods</u> |
|-------------------------------------|---|---|---|
| <u>Contents:</u> | Every future inpayments and outpayments are going to be discounted at a time just before the commencement of the investment | The project with the highest internal interest rate will be chosen | Extent of positive net-annuity decides on the alternative |
| <u>Method classification:</u> | Multidimensional: – Cash value of all inpayments – Cash value of all outpayments – Calculation interest rate | Multidimensional: – Cash value of back flows – Cash value of investment amounts – Retrieval factor | Multidimensional: – Cash value of series of inpayments – Cash value of series of outpayments – Discounting interest rate |
| <u>Application possibilities:</u> | Being applied in numerous cases in practise | Applied in the practise mostly in connection with capital value method | Applied primarily for assisting in financing decisions (e.g. for leasing) |
| <u>Efforts towards realisation:</u> | Depends on the differentiation in data determination | Depends on the differentiation in data determination | Depends on the differentiation in data determination |

5 THE UTILITY ANALYSIS

In this method, the evaluation of utility stands at the background. The procedure towards the realisation of utility analysis follows several stages. The classification of the advantages of the process being examined proceeds according to the following main points:

- Utility categories and their
- Feasibility chances

For the classification of the expected utilities, this method assumes three benefit categories:

- | | | |
|---|--------------------|------------------------|
| 1 | Direct utilities | (utility category I) |
| 2 | Relative utilities | (utility category II) |
| 3 | Elusive utilities | (utility category III) |

After evaluating utility categories and their concrete utility criteria, the three categories are to be classified according to their prospect of feasibility. Within the scope of feasibility, one differentiates according to high, medium and limited expectations. The following illustration »Utility analysis« clarifies this categorisation. Utility category I is concerned with saving of costs. The evaluation of this utility is relatively simple provided appropriate cost quantities and dimensions are available and can be directly applied. In this way, they can be referred to as quantifiable savings.

The feasibility of savings depends primarily on the corporation itself.

This statement will always become particularly critical when it comes to saving labour costs. Sacking of the affected employee is usually impossible and even often not desired. Personnel costs will accrue for the whole organisation, even after reorganisation. Returns in the business management sense cannot be ascertainable here but instead, a benefit because the staff member in the affected area of function is being sacked.

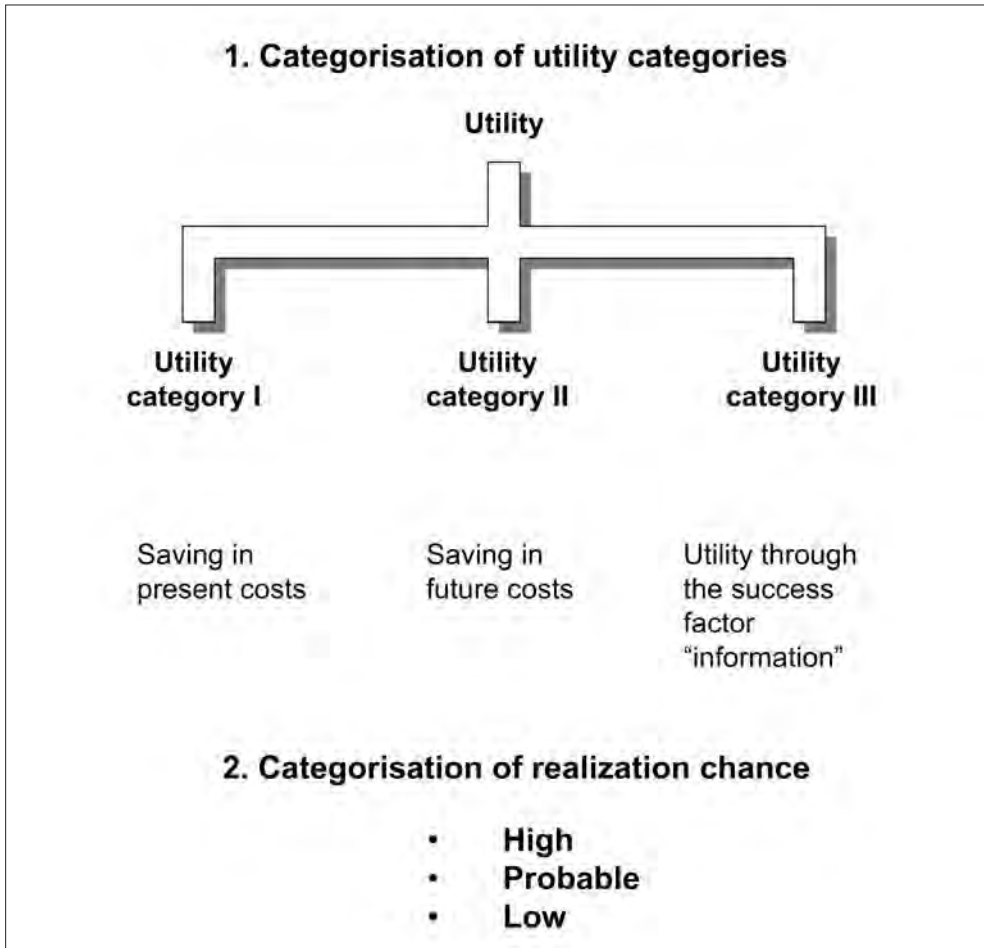
Two types of utility are classified under utility category II:

- 1 A better use of lean resources
- 2 Detection of future cost increases

To 1) Above, a better use of lean resources

Which types of utility should be classified into this group? Some examples will broaden this:

- A credit control at the exact time of a new order will establish whether the customer has already exhausted his credit limit. In this way, the risk of irrecoverable claims will be reduced and this will influence the resource »capital input for claims financing«.



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- In a situation where several orders come in at the same time, and where these are different articles, it can happen that the same consignment from a limited stock of certain articles is simultaneously allocated to different customers even when an actual information retrieval and reservation systems are available. Through automatic reservation of articles and the complete commissioning of orders, repetitions will be avoided and higher processing input as well as time will be saved.

A bigger part of productivity increment is found in the economy of time. If time requirement for order processing can be reduced and labour sequence can be completed faster, then the lean resource »Time« can be better used.

As basis for evaluation, we have measurements and comparisons but also approximations and ratios, in comparison with other companies (e.g. how long does it take now, and how much time is required in future?).

The achievement of this utility depends on correctly using the advantages of investments and to consequentially introduce the new organisation.

To 2) Detection of future cost increases

Here, savings are future-oriented, in comparison with utility category I:

- Avoidance of additional costs as the tasks grow.
- Containment of additional costs through recognisable changes in the future (working time reduction, deterioration of the relationship between the number of orders and the number of offers, organisational changes, changes in laws and regulations etc.).

The achievement of this utility is partly dependent on the company in as much as it can decide for itself, whether changes should be conducted at all. A great part of influencing factors on the realisation of utility however lies in external factors such as price development, tariffs, market situation, economic situation, competition in the branch etc.

Altogether, it must be said for this part of utility category II that the possibilities of realising this types of categories is lesser than in utility category I. And despite this, an organisation must take this utility effect into account (see figure »Utility categories and the evaluation ability«)

In utility category III, better information or strategic advantages stand at the background. If for example an insurance company offers its customers from the production industry access to a databank in order for this company to be able to better analyse and conduct more efficient safety measures in industries with a high rate of accidents. This has a strategic character for the insurance company. The granting of access to the databank of the insurance company could become a competitive advantage in the insurance industry, also when premium income in the production industry sinks at short notice. On the other hand, the insurance company could win new customers through this service.

Other utility elements of this category are found for example in investments input in information processing

- greater preparedness to providing information,
- improved customer service,
- faster introduction of new products,
- quicker reaction to market changes.

It can then be said that utility category III collates utility elements which help to secure continued existence of the company and also make new businesses possible.

In the process of evaluating this utility, no generally valid rule can be put up. Basically, these utility elements can be evaluated through corporate management which determines on the risks and chances.

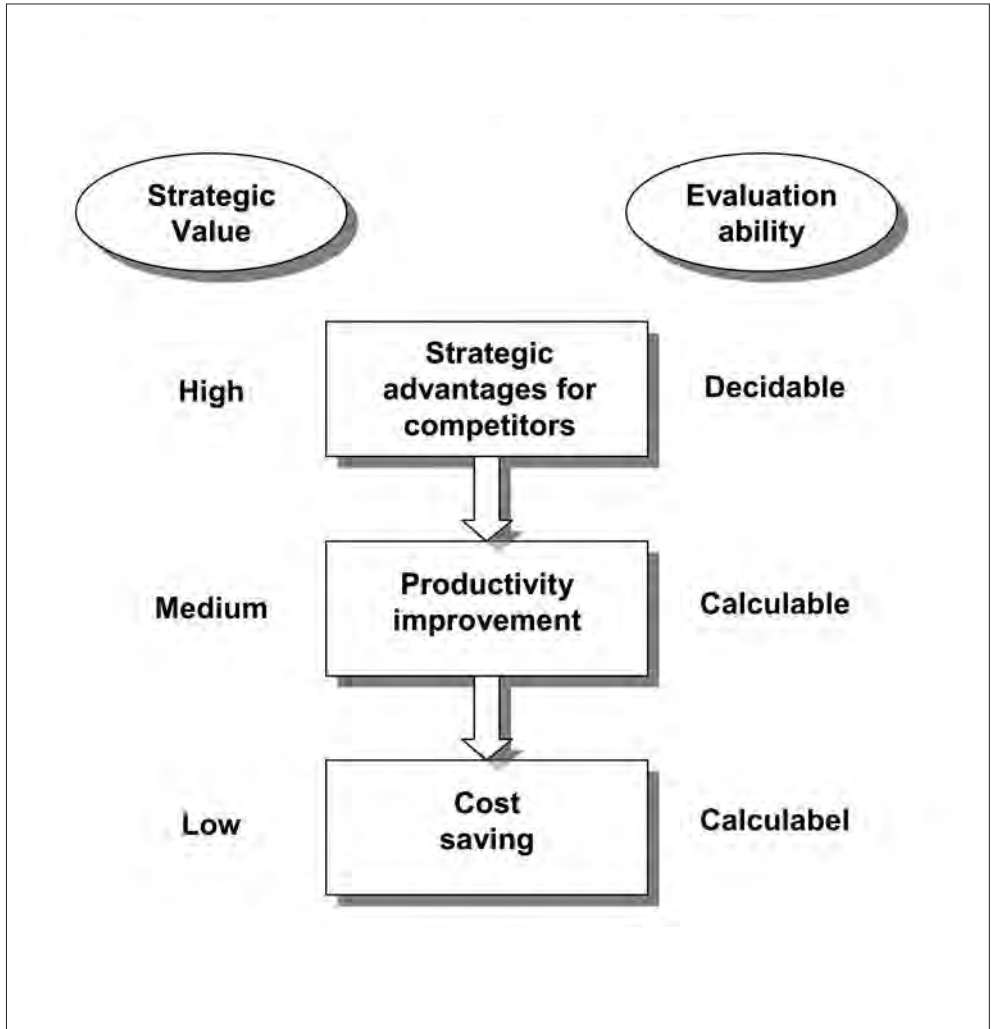
Comparisons with similar situations, assumptions and estimates can be seen as basis for evaluation, or questions like »how important and valuable are which information to whom?« or »is the mastery of information systems necessary at all?« or even more simply »how high would manual production expenses be?« Such evaluations could only be undertaken at the top of corporate management. For objectification purposes, turnover and profit expectations can be expressed in the plans.

The realisation of this utility in category III is being influenced by different factors:

- External influences, e.g. market situation, customers, suppliers,
- Internal influences e.g. preparedness and capability of employees, to draw relevant and corresponding conclusions from the information or the ability to take appropriate measures.

The three utility categories are presented in the following table.

| Utility category I | Utility category II | Utility category III |
|--|---|--|
| <p>Cost savings</p> <ul style="list-style-type: none"> – Material costs – Labour costs | <p>Productivity increment</p> <ul style="list-style-type: none"> – better use of lean resources – Containment of future cost increments | <p>Strategic utility</p> <p>Utility through competitive advantages and securing different corporate success factors</p> |
| <p>Evaluation standard:</p> <ul style="list-style-type: none"> – CURRENT- costs which accrue are to be relatively and accurately ascertained | <ul style="list-style-type: none"> – Estimate of future expenses bound which are to accrue – Avoidance of mistakes, waiting time | <ul style="list-style-type: none"> – Assumptions which can be justified on the basis of sceneries, success factors, technological developments |
| <p>Influence on the realisation:</p> <ul style="list-style-type: none"> – Decisions through the power of the company alone | <ul style="list-style-type: none"> – Development of the company on the market – Growth of work dimension – Consequential in planning and control of defined projects | <ul style="list-style-type: none"> – Internal influences: preparedness and capability of employees – External influences: market situation, customer structure |



In the following, a few examples are given for the three utility categories.

1. Monitor presentation in administrative accounting

Utility category I

- Saving with labour (collation of data, administrative helps, evaluations),
- Space economy,
- Savings on material (ledgers, card index box, furniture, stock situation),
- Savings on machines (previous data processing solution),
- Data exchange (cashless payment traffic),
- Collation of data at point of origin (no data sub carriers).

Utility category II

- Quickness- daily finishing,
- Minimisation of mistakes (collation- transfer- reconciliation),
- Preparedness to supply information,
- Better disposition of mediums through automatic liquidity planning,
- Improved auditing,
- Extended reporting possibilities,
- Growth friendly,
- Containment of work peaks,
- Independent of personnel outfall,
- Saving of interests (dunning process),
- Reduction of »irrecoverable claims«,
- Improvement of productivity.

Utility category III

- Information for top management,
- Integrity of data and security (unauthorised access to confidential data is prevented),
- Connection to internal information system (databank concept),
- Decision making aids for marketing, (e.g. through storage of marginal returns),
- Decision making aids for production (e.g. through storage of order sizes, order continuity etc.).

2. Monitor presentation in order processing

Utility category I

- Personnel costs saving,
- Quick collation of order data,
- Space economisation,
- Material economisation,
- Control of supply readiness,
- Reduction of capacity reserves,
- Simply and immediate change service.

Utility category II

- Quick execution of orders,
- Immediate credit assessment,
- Better stock keeping,
- Quick disposition of materials,
- Quick invoice processing,
- Quick supply,
- Targeted sales analysis,
- Actual route planning,
- Reduction of mistake quota,
- Avoidance of mistaken supplies.

Utility category III

- Increment of customer satisfaction and future customer interests,
- Preparedness to supply information,
- Automatic compilation of operating ratios,
- Creation of early warning system,
- Improvement of acquisition efforts,
- Comfortable working atmosphere,
- Appreciation of work place,
- Improvement of competitive capability.

3. Monitor presentation of stock keeping and stock receipt**Utility category I**

- Reduced space requirement for stock receipt,
- Reduction of space costs (stock keeping),
- Savings in personnel costs,
- Shorter ways,
- Reduction of time between stock receipt and storage,
- Reduction of inventory costs.

Utility category II

- Reduction of warehouse stock,
- Reduced capital commitment,
- Reduction of waiting time for missing parts,
- Reduction of time and effort on maintenance,
- Improved inventory counting,
- Saving of test period through continuous collation and evaluation of quality process of the past.

Utility category III

- Actual inventory,
- Actual information,
- Comprehensive offer of information (exact observation of suppliers),
- Immediate hints could be given in case of sinking quality,
- Reduction of costs of return consignment,
- Higher availability,
- Improvement of process with suppliers,
- Improvement of processes with customers.

| Utility overview Year ... | | Application: | | |
|---|-----------------|--------------------|--------|-----|
| Realisation chances Utility category | | high | medium | low |
| I | Direct utility | 1 | 3 | 6 |
| II | | 2 | 5 | 8 |
| III | Elusive utility | 4 | 7 | 9 |
| | | | | |



| | | | | | | | | | |
|-----|------------------|---|---|---|---|---|---|---|---|
| I | Direct utility | 1 | | 3 | | | 6 | | |
| II | Relative utility | | 2 | | | 5 | | 8 | |
| III | Elusive utility | | | | 4 | | 7 | | 9 |

Apart from the three utility categories, feasibility according to high, middle and limited expectations is also to be considered. If one classifies the three utility categories with the three realisation or feasibility chances, what obtains is a matrix with nine fields. The single fields have different significance concerning their classification in line with quantification and feasible chances. What we have is the standard classification in a sequence of 1-9 which in turn can be recognised in the preceding table (see »Standard classification in utility analysis«).

Basically, this classification should follow individually i.e. under observation of specific preconditions peculiar to the corporation or administrative unit. Only in cases in which the classification brings about great difficulties can one apply the »Standard classification«. In standard classification, the categorisation is primarily according to the value of utility categories and of the grouping according to their feasibility chances. Standard categorisation assumes that the biggest chance of realisation is higher in utility group I, while the smallest with utility group 3/low. For realisation step 2, utility group 1/medium and 2/high, come in question. For the fact that standard classification assumes that risk descent is lower between utility categories 1, 2 and 3 than the descent between realisation chances high till low, the utility category 2/high becomes relevant to the realisation chance 2 and the utility group 1/medium becomes relevant to the realisation step 3.

Examples of utility evaluation in the area of information processing

As fundamental basis is an organisation which already uses data processing in different application areas.

Order processing should be introduced as a new application area whose organisation follows over networked computers.

UTILITY CATEGORY I

EXAMPLE: Credit check

The remaining work for future credit check (checking the indices of the system) was estimated at 50 hours per month. Until now it has been 150 hours. As a direct result of this, 100 hours are saved for this activity (hourly rate: € 30) = € 36.000 per annum, medium realisation chance. Between the second and fifth year, a labour cost increase of 10% is calculated per annum.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|---|---|---|---|----------|------|------|------|------|-----|---|---|---|---|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| | | | | | 36 | 39.6 | 43.6 | 47.9 | 52.7 | | | | | |

EXAMPLE: Automatic compilation of orders

Through networking of the systems, comprehensive collation effort is no longer necessary. Realisation chance is high. The total cost saving is spread over the years in the following constellation:

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|-------|-------|-------|-------|----------|---|---|---|---|-----|---|---|---|---|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 112 | 120.6 | 130.1 | 140.5 | 151.9 | | | | | | | | | | |

UTILITY CATEGORY II**EXAMPLE:** Reduction of mistakes

Mistakes have occurred in the past in the process of registration of conditions (price, rebates, fixing the value date etc.). These were detected too late (revision) and couldn't be corrected again. Detected mistakes in the previous year were € 10000 after checking only 10% of invoices. It was estimated that an amount of €6000 could be saved annually through the application of automatic control. The realisation chance was categorised as high, probable and low.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|----|----|----|----|----------|----|----|----|----|-----|----|----|----|----|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |

EXAMPLE: Reduction of »irrecoverable claims«

Through a better automatic credit control, one definitely expects a decline in irrecoverable claims by about 20%. The reduction of the »irrecoverable« by a further 10% is within the realm of possibility, but the chance is low. In the previous year, a sum of €100 000 was classified as irrecoverable.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|----|----|----|----|----------|---|---|---|---|-----|----|----|----|----|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 20 | 20 | 20 | 20 | 20 | | | | | | 10 | 10 | 10 | 10 | 10 |

UTILITY CATEGORY III

EXAMPLE: Acquisition assistance (information for field service)

Field staff receives better information material. Sales management expects an increase in turnover of about 1%, out of which below mentioned profit can be deduced. It is expected that the realisation of this benefit is possible only from the third year.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|----|----|----|----|----------|----|----|----|----|-----|----|----|---|---|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| - | 25 | 25 | 50 | 75 | 25 | 25 | 50 | 50 | 25 | 25 | 25 | 25 | - | - |

EXAMPLE: Information for top management and sales management

In future, short term but meaningful information for the top management and for the sales management is possible. Such information could be on incoming orders, on the development of demand for certain articles and on debtors' situation. No standardised calculation basis could be found. As basis for calculation, it was estimated that with conventional means, the input of a half person would be required. The utility was estimated, based on this approach at € 40 000 of different probabilities.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|----|----|----|----|----------|----|----|----|----|-----|----|----|----|----|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 10 | 10 | 10 |

If one now transfers single utility savings into the form Utility-Overview, what obtain are the presented figures in the table »Example of a filled utility matrix«. The reader can first of all retrieve the presented examples in this overview. The example of credit check in utility category I in the third field is reflected, mainly because the realisation chance was categorised as probable. For the 2 given examples of acquisition aid on utility category III and of the better information for top management and sales management, the benefit is distributed in fields 4, 7 and 9 simply because the benefit was quantified with different realisation chances.

The table »Example of a filled utility matrix- the utility compilation folio« shows utility compilation folio. In this situation, the achieved total utility is calculated for each year. In this was for example, the cumulated total utility for realisation second stage in the first year is € 116.000 and in the fifth year it is € 155.900. The second realisation stage is fixed at € 116.000 + € 69.000 = € 185.000. The graphical presentation of these values can be deduced from the table »Graphical presentation of utility analysis«.

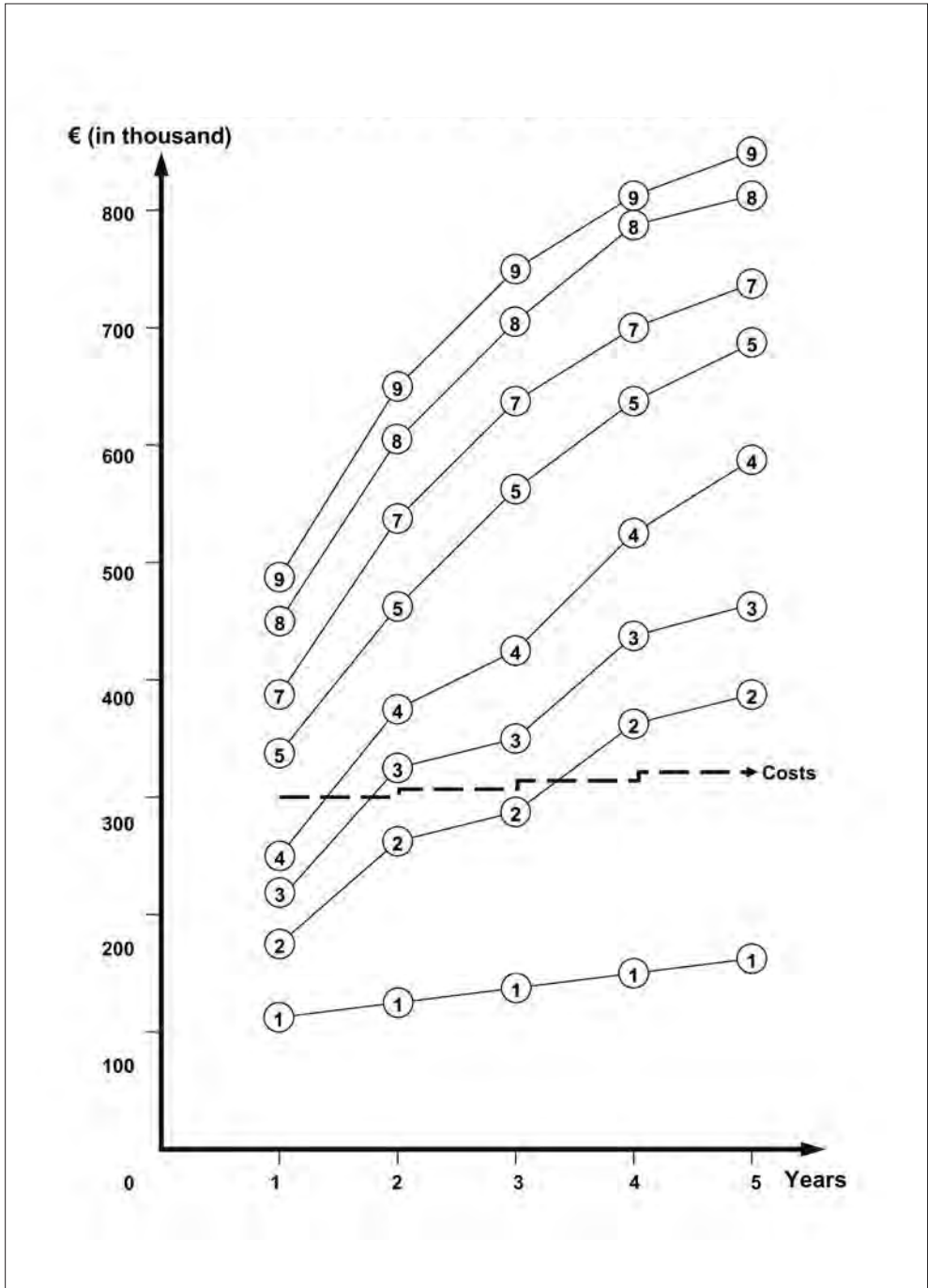
Example of a filled utility matrix (Introduction of an on-line-controlled order processing)

| Utility overview for 5 years: un to | | Application: Order processing | | | | | | | | | | | | | | |
|--|---|-------------------------------|--------------|--------------|--------------|--------------|-----------|-------------|-------------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|
| | | high | | | | | probable | | | | | low | | | | |
| Realisation chances per year (TDE) | | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Utility category (Uc) | | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| I. | 1. Credit check | 112 | 120,6 | 130,1 | 140,5 | 151,9 | 36 | 36,9 | 43,6 | 47,9 | 52,7 | | | | | |
| | 2. Automatic completion of orders | | | | | | | | | | | | | | | |
| | 3. Miscellaneous cost savings. | 4 | 4 | 4 | 4 | 4 | | | 3 | | | | | 6 | | |
| | Total Uc I: | 116 | 124,6 | 134,1 | 144,5 | 155,9 | 36 | 39,6 | 43,6 | 47,9 | 52,7 | | | | | |
| | 1. Planned personnel increase/sale | - | 47,3 | 52 | 114,4 | 125,8 | 43 | - | 52 | - | - | | | | | |
| | 2. Expansion capacity | 4 | 15 | 19 | 30 | 30 | 4 | 15 | 19 | 30 | 30 | | | | | |
| | 3. Reduction of mistakes | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| II. | 4. Reduction of "irrecoverable claims" | 20 | 20 | 20 | 20 | 20 | | | | | | 10 | 10 | 10 | 10 | 10 |
| | 5. Red. of production stock through disposition | 25 | 50 | 50 | 50 | 50 | 25 | 50 | 50 | 50 | 50 | 25 | 50 | 50 | 50 | 50 |
| | Total Uc II: | 69 | 152,3 | 161 | 234,4 | 245,8 | 92 | 85 | 141 | 100 | 100 | 55 | 80 | 80 | 80 | 80 |
| III. | 1. Improved customer service. | 12 | 25 | 50 | 50 | 50 | 13 | 25 | - | - | - | | | | | |
| | 2. Acquisition aids (info for external service) | - | 25 | 25 | 50 | 75 | 25 | 25 | 50 | 50 | 25 | 25 | 25 | 25 | - | - |
| | 3. Info for top and sales management | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 10 | 10 | 10 |
| | Total NK III: | 22 | 60 | 85 | 110 | 135 | 58 | 70 | 70 | 70 | 45 | 35 | 35 | 35 | 10 | 10 |

Example of a filled utility matrix- Utility compilation folio

Example of a filled utility matrix – utility compilation folio

| Utility per year | | Utility compilation folio for 5 years in € | | | | | | | | | |
|------------------|---|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | Total | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| First year | | 483 | 116 | 69 | 36 | 22 | 92 | - | 58 | 55 | 35 |
| | ➡ | | 116 | 185 | 221 | 243 | 335 | 335 | 393 | 448 | 483 |
| Second year | | 646,5 | 124,6 | 152,3 | 39,6 | 60 | 85 | - | 70 | 80 | 35 |
| | ➡ | | 124,6 | 276,9 | 316,5 | 376,5 | 461,5 | 461,5 | 531,5 | 611,5 | 646,5 |
| Third year | | 749,7 | 134,1 | 161 | 43,6 | 85 | 141 | - | 70 | 80 | 35 |
| | ➡ | | 134,1 | 295,1 | 338,7 | 564,7 | 423,7 | 564,7 | 634,7 | 714,7 | 749,7 |
| Fourth year | | 796,8 | 144,5 | 234,4 | 47,9 | 110 | 100 | - | 70 | 80 | 10 |
| | ➡ | | 144,5 | 378,9 | 426,8 | 536,8 | 636,8 | 636,8 | 706,8 | 786,8 | 796,8 |
| Fifth year | | 824,4 | 155,9 | 245,8 | 52,7 | 135 | 100 | - | 45 | 80 | 10 |
| | ➡ | | 155,9 | 401,7 | 454,4 | 589,4 | 689,4 | 689,4 | 734,4 | 814,4 | 824,4 |



In case of a long term and demanding projects, one has to prepare utility overview covering several years (see »Form for Utility overview«). With utility overviews, we have access to the basic values on the returns side of economic efficiency calculation. From this overview, it is also possible to draw conclusions on

- the utility in the most unfavourable case (Realisation stage 1),
- the maximum attainable utility (Realisation stage 9),
- the accumulated values up to the respective individual realisation stages,
- utility threshold where utility surpasses expected costs,
- possible risks involved in further reorganisation and
- the single utilities per application area, which are to be kept under urgent observation after exceeding the utility threshold.

From a comparison of costs and benefits, we can draw the following conclusions among others:

- From which year is with which realisation stage covered for the current costs?
(Table: »Graphical presentation of utility analysis« from the third year with realisation step 2)
- Where does utility threshold lie if preproduction costs are evenly distributed on the installation over a five years period? (Table: »Graphical presentation of utility analysis« realisation step 3)
- Which internal interest rate is obtained at every realisation stage?

In order to clarify the wide range of application of this method, another example on the application of utility analysis for the presentation of utility of further training for employees, will be conducted.

An organisation in the processing industry with 1000 workers and an annual turnover of € 500 Million with a profit of € 20 Million, plans a comprehensive further training program for its employees.

These measures were decided upon because a deteriorating work place environment, lacking motivation of workers, a high fluctuation rate of 5 % due to resignation on the side of employees as well as a registration of above the average share of absence from work of 92 hours p.a. per worker.

The top management also complains of lacking knowledge and a too low identification of workers with corporate strategies.

In addition, customers have consistently brought it to notice that they have been put off on telephone by different workers, or that they have not been transferred on telephone as they requested (great customer dissatisfaction).

Assumptions:

The annual working time per worker is 1730 hours while direct payment per hour is an average of € 18.50. The hitherto existing capability profile corresponds on average to 80 % of specification profile of the positions. The annual personnel expenses for direct payment per worker are € 32.000. Top management constitute 10 % of the total number of employees and an average direct payment of € 30/hr can be assumed.

The costs for employment and adjustment to the new job of a new worker is put at € 20.000.

UTILITY CATEGORY I

- As a result of further training measures, the correspondence between capability profile and specification profile increases from 80 % to 85 %:

€ 32.000 = 100%

€ 25.600 = 80%

€ 27.200 = 85%

From the € 1.600 which results as a consequence of increase in achievement potential, 50% will go as productivity enhancement with a very great realisation chance.

The total utility for all employees amounts as a result to € 800.000 (€ 800/worker).

The realisation is first realised from the second period. The reason for this is that the capability can only be increased within the first year. An annual salary increase of 5% is anticipated.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|----------|---|---|---|---|-----|---|---|---|---|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| – | 800 | 840 | 882 | 926 | | | | | | | | | | |

UTILITY CATEGORY II

- The increased motivation brings a further implementation of increased performance capability by 20 %. A half of realisation chance will be categorised each as high and moderate. Realisation is effective only from the second year. The anticipated salary and wage increment must be taken into consideration. Utility per employee in this utility category is thereby € 160.

Utility € 160.000

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|----|----|----|----|----------|----|----|----|----|-----|---|---|---|---|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| - | 80 | 84 | 88 | 92 | - | 80 | 84 | 88 | 92 | | | | | |

- The fluctuation rate is reduced by 2% from 5% to 3%. Costs for employing new workers is at the moment reduced from the present € 1m to € 600.000. The realisation chances will be considered differently.

Utility € 400.000

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 133 | 133 | 133 | 133 | 133 | 134 | 134 | 134 | 134 | 134 | 133 | 133 | 133 | 133 | 133 |

- The number of times absent will be reduced by 3% to 89.2 hours/annum as a result of greater motivation. The number of times present per worker will increase by 2.76 hours p.a. if this were to be multiplied by direct payment of € 18.50/ hour. This is one obtains the respective utility pre staff member. Realisation chance will be considered as moderate and low.

Utility € 51.000

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|---|---|---|---|----------|----|----|----|----|-----|----|----|----|----|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| | | | | | 25 | 25 | 25 | 25 | 25 | 26 | 26 | 26 | 26 | 26 |

UTILITY CATEGORY III

- The employees are going to be confronted with a lot of operative areas during their further training. They will get to know process cycles and different branches of the company. In future, more employees will be in a position to give customers qualified information or be able to direct them to appropriate places. Workers on outside service would, in line with their further training, be confronted

with their company strategies and will be in a position to offer customers qualified information on development trends and will also be able to offer customers strategically important products in line with their company's strategic interests.

An increase of about 2% is to be expected from the second year as a result of customer satisfaction. The share of realisation chances of additional profit of € 400 000 is not known.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| – | 133 | 133 | 133 | 133 | – | 134 | 134 | 134 | 134 | – | 133 | 133 | 133 | 133 |

- As a result of further training measures, it is calculated that the employees could basically identify themselves with the corporate strategies. They develop a strengthened identification impulse for the company. The top management attains a differentiation to the rivals where each worker is able to identify within himself, the decisive difference to the competitor. Some of the workers remain reachable for customers even after normal business hours (»Hot-line«). Such an additional customer service contributes to a further increase in profit (subsequent to conservative estimation) for the business undertaking by € 80.000 with medium to high realisation chances.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|----|----|----|----|----------|----|----|----|----|-----|---|---|---|---|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 4 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | | | | | |

- The employees concern themselves more with the problematic of the whole undertaking, they see problems and possibilities of an active organisation, primarily in their own private area. The development of suggestions towards improvement increases dynamically. As a result of ideas generated by employees, costs amounting to € 150.000 could be saved. Realisation chance in the first two periods is to be estimated substantially lower than in subsequent periods.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|---|----|----|----|----------|----|----|----|----|-----|----|---|---|---|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| – | – | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | | | |

- Employee flexibility increases. With changes in internal filling of vacancies, time requirement for orientation reduces. The benefit would be estimated at € 150.000 from the third period. The realisation chance is highly differentiated.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|---|----|----|----|----------|---|----|----|----|-----|---|----|----|----|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| – | – | 50 | 50 | 50 | – | – | 50 | 50 | 50 | – | – | 50 | 50 | 50 |

- The know-how of the company will be retained. Through resulting increase in quality, pro-production costs would be enormously reduced. One estimates resulting savings to be € 90.000 with very different probabilities. The realisation is however to be expected at the beginning of the second year.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|----|----|----|----|----------|----|----|----|----|-----|----|----|----|----|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| – | 30 | 30 | 30 | 30 | – | 30 | 30 | 30 | 30 | – | 30 | 30 | 30 | 30 |

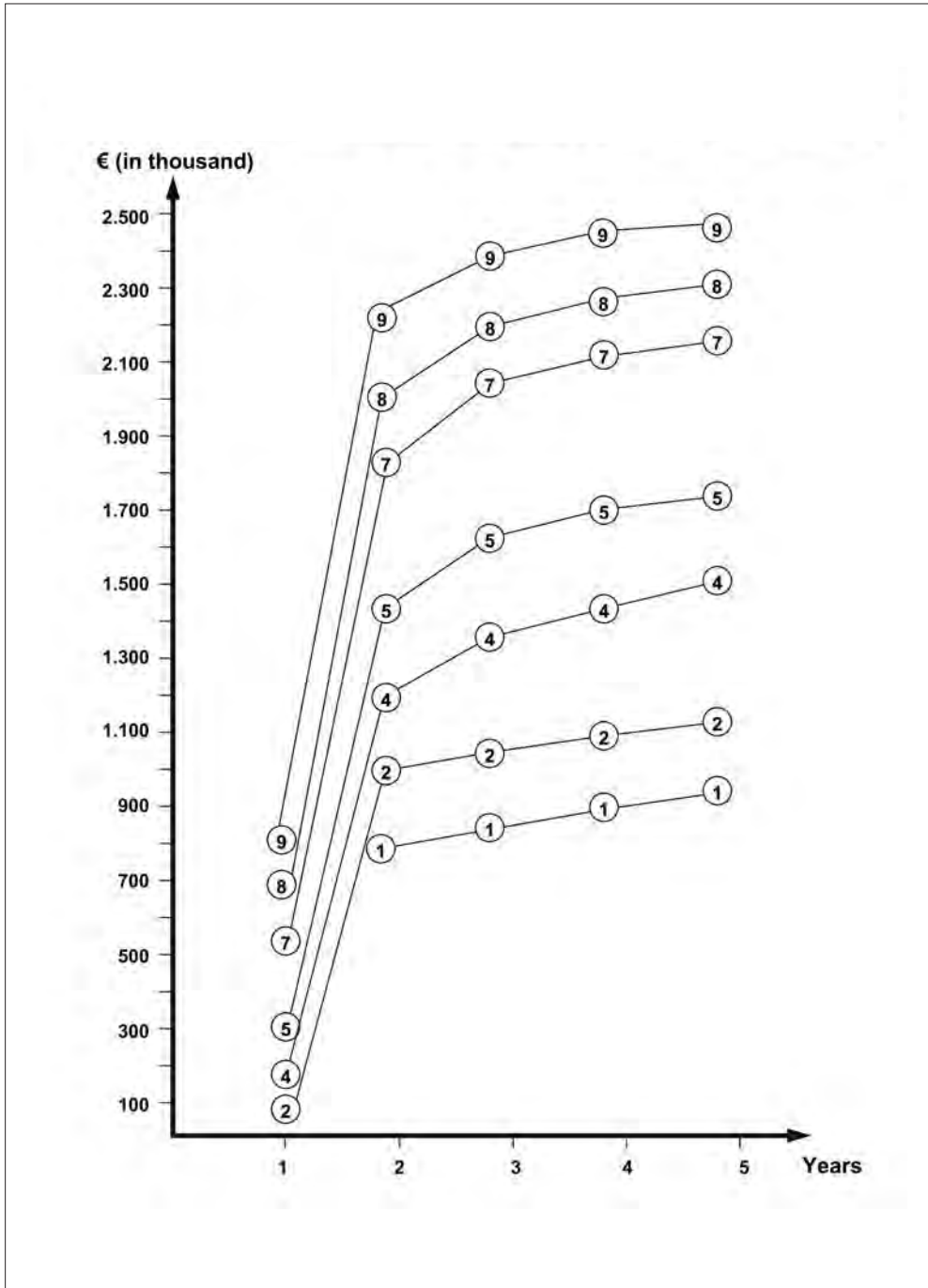
- As a result of further training measures for senior management, a better time management is achieved. Efficiency is increased with meetings and presentations. The resulting time economy is estimated at 2 hours per month per senior manager. With the assumed direct payment for top management of € 30/hr, a saving of the amount of € 72.000 is achieved. The realisation chances are anticipated as probable.

| Realisation chance in Euro (in thousand) | | | | | | | | | | | | | | |
|--|---|---|---|---|----------|----|----|----|----|-----|---|---|---|---|
| High | | | | | probable | | | | | low | | | | |
| 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| | | | | | 72 | 72 | 72 | 72 | 72 | | | | | |

The next two following tables tabularly and graphically recapitulate the values.

Transferring utility categories in to a utility matrix

| Utility overview for 5 years | | Application: Employee further training | | | | | | | | | | | | | | |
|----------------------------------|-----|--|-----|-----|-----|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Annual realisation chance in € | | high | | | | | probable | | | | | low | | | | |
| Utility category | (i) | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| 1. Increased efficiency | | - | 800 | 840 | 882 | 926 | | | | | | | | | | |
| Total NK I: | | - | 800 | 840 | 882 | 926 | | | | | | | | | | |
| 1. Motivation | | - | 80 | 84 | 88 | 92 | - | 80 | 84 | 88 | 92 | | | | | |
| 2. Fluctuation rate | | 133 | 133 | 133 | 133 | 133 | 134 | 134 | 134 | 134 | 134 | 133 | 133 | 133 | 133 | 133 |
| 3. Reduction of absence fro work | | | | | | | 25 | 25 | 25 | 25 | 25 | 26 | 26 | 26 | 26 | 26 |
| Total NK II: | | 133 | 213 | 217 | 221 | 225 | 159 | 239 | 243 | 247 | 251 | 159 | 159 | 159 | 159 | 159 |
| 1. Customer satisfaction | | - | 133 | 133 | 133 | 133 | - | 134 | 134 | 134 | 134 | - | 133 | 133 | 133 | 133 |
| 2. Employees assignment | | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | | | | | |
| 3. Innovation environment | | - | - | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | - | - | - |
| 4. Employee flexibility | | - | - | 50 | 50 | 50 | - | - | 50 | 50 | 50 | - | - | - | 50 | 50 |
| 5. ... | | - | 30 | 30 | 30 | 30 | - | 30 | 30 | 30 | 30 | - | 30 | 30 | 30 | 30 |
| 6. Time management | | | | | | | 72 | 72 | 72 | 72 | 72 | | | | | |
| Total NK III: | | 40 | 203 | 328 | 328 | 328 | 187 | 351 | 401 | 401 | 401 | 75 | 238 | 213 | 213 | 213 |



127 | Graphical presentation of utility of employee's further training

Form for Utility overview

| Utility overview for 5 years: un to | | Investment/ Project: | | | | | | | | | | | | | | |
|--|--|-------------------------------|---|---|---|---|--------|---|---|---|---|-----|---|---|---|---|
| Realisation chances (TDE) | | Years | | | | | | | | | | | | | | |
| Utility category | | high | | | | | medium | | | | | low | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| I. | | | | | | | | | | | | | | | | |
| Direct utility | | | | | | | | | | | | | | | | |
| II. | | | | | | | | | | | | | | | | |
| Relative utility | | | | | | | | | | | | | | | | |
| III. | | | | | | | | | | | | | | | | |
| Elusive utility | | | | | | | | | | | | | | | | |

Example of a utility risk table

| | Application area | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total |
|-------------------------------|---------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Direct utility (I) | 1. Staff saving | 110 | | 110 | | | 55 | | | | 275 |
| | 2. Lower storage costs | 25 | | 50 | | | 15 | | | | 90 |
| | 3. Lower claim stock | 10 | | 15 | | | 25 | | | | 50 |
| Relative Utility (II) | 4. Lower future personnel requirement | | 40 | | | 20 | | | 5 | | 65 |
| | 5. Improved production planning | | | 5 | | 5 | | | 5 | | 15 |
| | 6. Saving by overtime | | | 20 | | 15 | | | 5 | | 40 |
| Elusive utility (III) | 7. Reduction of bad debts in future | | | | 60 | | | 30 | | 30 | 120 |
| | 8. Automatic new orders | | | | | 5 | | 5 | | 5 | 15 |
| Total sum per column | | 145 | 65 | 175 | 65 | 40 | 95 | 35 | 15 | 35 | 670 |
| Accumulated sum | | | 210 | 385 | 450 | 490 | 585 | 620 | 635 | 670 | -- |
| Accumulated percentage | | 22 | 31 | 57 | 67 | 73 | 87 | 93 | 95 | 100 | -- |

The following example (see »Example of a utility-risk-table«) shows in the form of a clearly presented table, another possibility of practice-oriented application. As can be recognised in previous layouts, the following fields are added to in the three utility categories (basis of an example):

| | | | | | | | | |
|-------------------|---|---|---|---|---|--|---|---|
| Direct utility: | 1 | | 3 | | 6 | | | |
| Relative utility: | | 2 | | | 5 | | 8 | |
| Elusive utility: | | | | 4 | | | 7 | 9 |

Utility analysis forces those involved among other things, to

- determine the advantages of the planned organisation compared with existing ones or with alternative solutions.
- ascertain and estimate utility for the individual projects in relation to the three defined utility categories and the three realisation chances.
- summarise results of utility overviews in a single utility collecting folio (see »Utility-Risk-Analysis«).

Steps towards process of utility analysis:

- 1 Compilation and itemisation of advantages
- 2 Classification of advantages into utility categories
- 3 Evaluation of utilities
- 4 Allocation of realisation chance
- 5 Categorisation in utility matrix (9 fields)
- 6 Ascertaining the utility of each utility field
- 7 Determination of the costs
- 8 Graphical presentation of cost and utility trends
- 9 Checking on the influence of financing and tax
- 10 Effectuating decision

Disadvantages of utility analysis:

- Examining utility with the most complex method
- Time input is considerable because
 - the evaluation of advantages in the different categories requires obtaining the most differentiated information,
 - the process of classification into 3 realisation chances requires a series of analysis and co ordinations.
- Utility analysis presupposes an adequate training of staff members, who are going to be entrusted with this method.

- Utility analysis can only be applied without reservation if the following conditions are met:
 - Reduction of present costs and
 - Reduction of future costs.

If on the contrary, the project/investment involves realisation of competitive advantages- and this goal is increasingly standing at the forefront, then this method can only be applied in combination with other methods.

- The ranking order of 9 utility fields can for example no longer be justified for purely strategic projects. While for instance in the past, application of data processing could only be »paid« for in most cases through the first 3 utility fields, emphasis has been shifting more and more towards utility fields with a higher value. These fields often decide on an investment. In this respect, a reversal of utility fields is virtually necessary.

Advantages of utility analysis:

- This method can make the claim for itself that it is the first approach which was specifically developed for utility analysis of complex investment systems.
- It enables- as opposed to all previously known methods- the classification of utility into three categories:
 - Direct utility,
 - Relative utility,
 - Elusive utility.
- With the aid of this method, it is possible to adopt the respective realisation chances into the process of examination of utility. The classification of these realisation chances in
 - high,
 - medium,
 - low
 is sufficient for the practise.
- For the application of this method, one should compile internal guidelines. This gives the user the opportunity of a prompt and successful implementation.
- This method considers the different cost and utility dimensions in each year. An additional input of investment mathematical process is possible.

Application possibilities of utility analysis:

- Should be adopted as a matter of priority if it concerns a concrete consideration of numerous influencing dimensions on utility
- Trusted methods, if individual types of utility are evaluated according to their realisation chances.
- Another connection with other methods is necessary as a result of the shifting of value into the individual categories (Utility category 3 is gaining greater relevance).

- The fundamental basis of this method can also be the basis for other methods for the analysis of utility.

Form "Utility-Risk-Analysis"

| | Application area | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Sum |
|-------------------------------|------------------|---|---|---|---|---|---|---|---|---|-----|
| Direct utility (I) | | | | | | | | | | | |
| Relative Utility (II) | | | | | | | | | | | |
| Elusive utility (III) | | | | | | | | | | | |
| Total sum per column | | | | | | | | | | | |
| Accumulated sum | | | | | | | | | | | |
| Accumulated percentage | | | | | | | | | | | |

In the past, many investments were engaged in primarily on the basis of classical investment calculations. As a fundamental decision criterion was the flow back of the investments. In contemporary times and equally empathically in the future, the number of »must« investments will increase; this means all investments which are relevant to the survival of an organisation, investments which are of the most vital strategic interest both from the medium and long term perspectives (for more on this, see table »Strategic investment conduct«).

Approaching this method considering the following points will be sensible (see table »Six steps estimation of strategic advantages«).

- 1 Definition of »must investments«
- 2 Prioritisation of »Must investments«
- 3 Establishment of argument balance
- 4 Examination of valuation basis of gross utility through development of performance criteria
- 5 Estimation of risk
- 6 Examination of net utility

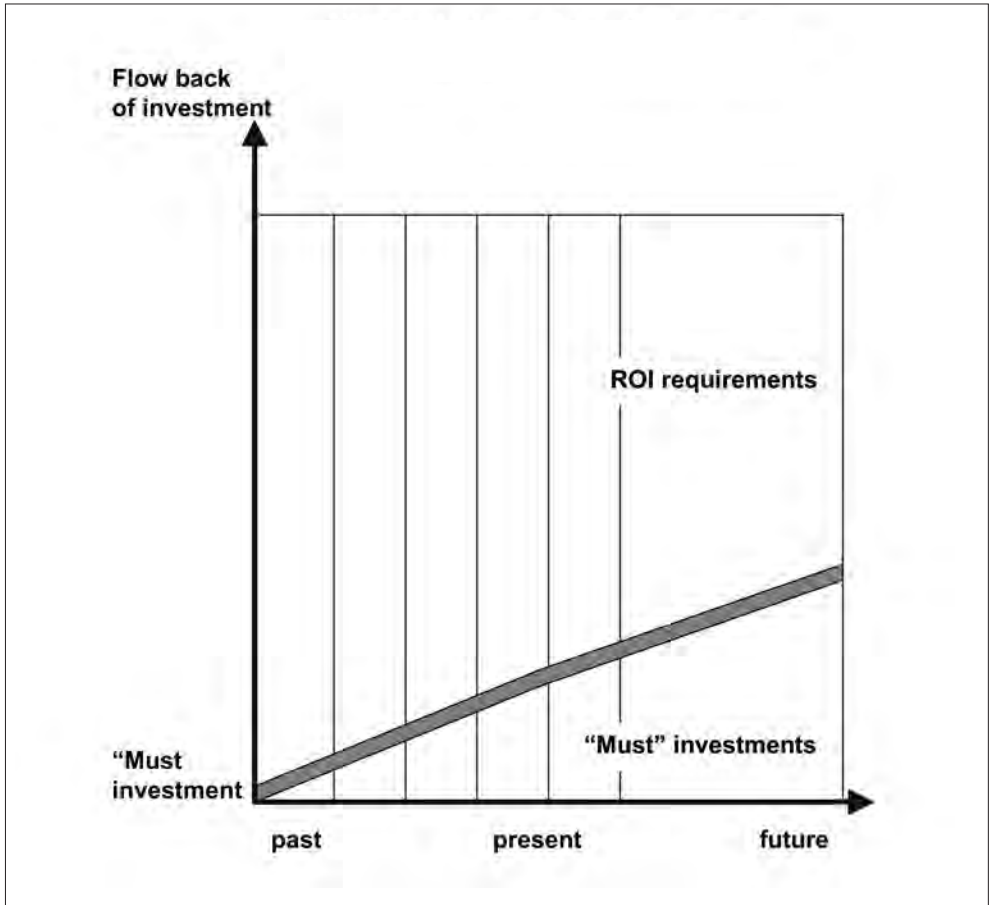
1 DEFINITION OF »MUST INVESTMENTS«

This examination should proceed under two aspects:

- Contribution of the investment to supporting critical success factors (for more on this see the presentation »The success factors system«, Capital 1, Nr. 5):
 - a) High
 - b) Moderate
 - c) Low
- Chance for realisation of success:
 - a) High
 - b) Probable
 - c) Low

If one transfers these decision criteria into a matrix, the three following structure areas for investment result:

- I. Investments which are strategically important (must investments)
- II. Investments which are to be inspected on basis of costs and utility analysis
- III. Investments which could only be rewarding in the improvement of realisation chance.



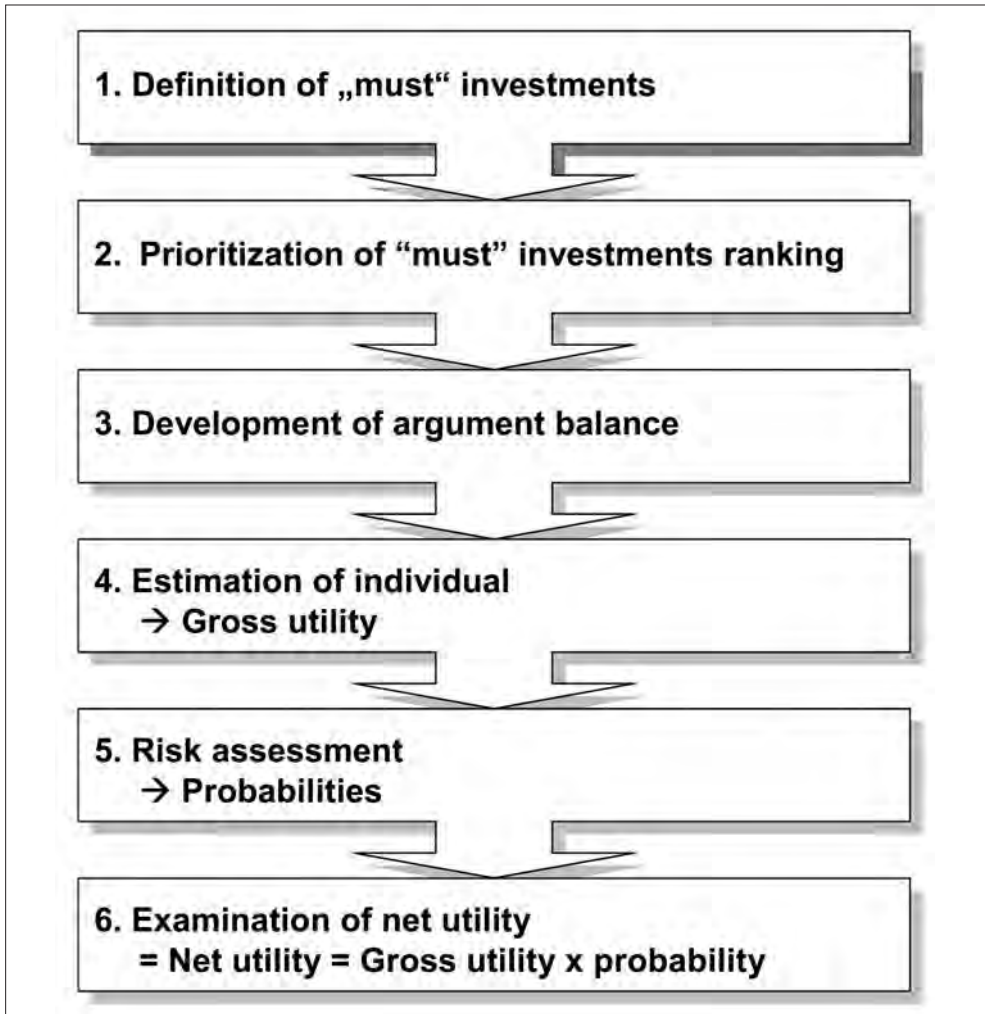
131 | Strategic investment conduct

From the example of investment in further training, three structure areas are presented (see table »Investments in further training«).

The three structure areas of the illustration could be characterised as follows:

– I: Must investments

All investments falling in this structure category contribute decisively to the success of the organisation. Far reaching utility analyses are mostly not necessary, if the costs could be justified. This remark may terrify some readers, however it must be stressed that the concern of this structure area is investments which are of existential necessity for the company.



132 | Six steps estimation of strategic advantages

- II: Investments to be examined for their operational efficiency
In this kind on investment alternatives, an exhaustive utility analysis of a possible improvement of productivity and of an increment of efficiency of employees as well as of the top management is necessary. Only when relevant corresponding advantages are expected should investments be realised in this structure area.
- III: Technical- and organisational-conditioned investments
Investment alternatives which fall into this category could only be taken into consideration when the realisation chances could better be determined.

This categorisation provides decision makers the first impression on the urgency of the investments.

| Support of success factors through further training \ Chance of realisation | High | Probable | Low |
|---|--------|----------|-----|
| | Strong | I | |
| Medium | | | III |
| Weak | | II | |

133 | Investments in further training

2 PRIORITISATION OF »MUST INVESTMENTS«

If one has examined »must investments«, one discovers that it is about their ranking concerning realisation. With lean resources at the background of consideration, the choice of possible investments will be conducted with the aid of utility analysis. The choice criteria for the classification are in the first place determined through strategic advantages (see table »Estimation of strategic advantages«).

3 DEVELOPMENT OF AN ARGUMENT BALANCE

For the realisation of targeted must investments, certain quantification can equally be applied for strategic projects. The first condition for this is the development of an argument balance (see table »Argument balance: Individual job support«). The following should be considered:

- Advantages,
- Promoting factors,
- Disadvantages,
- Restraining factors.

4 EXAMINATION OF VALUATION OF GROSS UTILITY THROUGH THE COLLATION OF PERFORMANCE CRITERIA

In order to arrive at quantification, individual performance criteria are to be evaluated. With this evaluation, one should first of all make the effort of empirically applying ascertained values for the individual

performance criteria. This is available in great quantity for most of the advantage categories. If there were concerns concerning the assumption of these values, then individual approaches must be found.

Utility improvement through information systems (IS) should in the first instance be gained on the basis of experience values. This can be individually modified. It shows in this case how important it is to possess information on comparable values of utility improvements.

• **Definition of “must” investments**

| IS-Support of critical success factors | Realisation chance | | |
|--|--------------------------|--------------------------|-----|
| | high | medium | low |
| Strong characteristic | <input type="checkbox"/> | <input type="checkbox"/> | |
| Medium characteristic | <input type="checkbox"/> | | |
| Weak characteristic | | | |

• **Prioritisation through utility analysis**
Ranking order of “must” investments

| Goal of the decision | | | | | | | | |
|----------------------|---|--------------|-----|---|-----|---|-----|--|
| Unconditional claims | | | | | | | | |
| Choice criterion | G | Alternatives | | | | | | |
| | | W | GxW | W | GxW | W | GxW | |
| Strategic advantages | | | | | | | | |
| Decision | | | | | | | | |

| Assets | Liabilities |
|---|--|
| <p>Advantages</p> <ul style="list-style-type: none"> ▪ High quality ▪ Better and faster information ▪ Paper-poor ▪ Dismantling administration <p style="text-align: center;">• •</p> <p>Promoting factors</p> | <p>Disadvantages</p> <ul style="list-style-type: none"> ▪ Acceptance of employee ▪ Skill development ▪ Administering unfamiliar technology (PC) <p style="text-align: center;">• •</p> <p>Restraining factors</p> |
| <ul style="list-style-type: none"> ▪ Goal of the management ▪ Enlargement of market position <p style="text-align: center;">• • •</p> | <ul style="list-style-type: none"> ▪ Existing organisational processes and structures ▪ Missing organisational knowledge <p style="text-align: center;">• •</p> |

| Competition basis | Success factors | Performance criteria | Utility improvement through IS | |
|-------------------|---|---|--------------------------------|-----------------------|
| | | | Experience values | Individual approaches |
| Price | <p>Low material cost</p> <p>Low labor costs</p> | <ul style="list-style-type: none"> • Optimal use of materials • Efficient purchases • Lower rate of wastes • High labor productivity • High presence | | |
| Quality | <p>Construction quality</p> <p>Quality of the execution</p> | <ul style="list-style-type: none"> • Impeccable construction • Precise calculations • Mechanical outfit • Efficient use of machinery • Staff qualification | | |

An important component is production planning and control systems through which individual processes of production are planned, directed and controlled. Achievable utility through these systems are considerable. The following mentioned figures resulted from a survey of a number of industries.

| | | |
|--------------------------|------------------------------------|-------------------|
| Balances: | Reduction by q | 33% |
| | Error ration | < 1% |
| | Supply bottlenecks | - 80% |
| Productivity: | Performance/Man-hour | |
| | - Assembling | + 25% |
| | - Manufacture of components | + 7% |
| | Overtime | - 50% |
| Costs: | Production | - 15% |
| | Additions purchase of parts | - 5% |
| | Cost of indirect labour | - 10 - 25% |
| Customer service: | Belated deliveries | - 80% |
| | Delivery schedules | - 50% |
| | Delivery failures | - 70% |

136 | Empirical utility in production, planning and control systems

5 ESTIMATION OF RISKS

This concerns primarily the probabilities of realisation of utilities. The evaluation of probabilities fundamentally depends on the specific relationships in the enterprise or administrative unit. Basically, it can be assumed that the probabilities of the realisation of cost savings can generally be placed at 100%. Here, one can basically assume a safe expectation. It however becomes difficult when the strategic competitive advantages concerning their realisation chances are to

be estimated. As a result, it is normally conceivable to calculating the probabilities on a range of fluctuations or variations. In the evaluation of probabilities, it is thereby possible to reckon with a

- pessimistic approach (e.g. probability of 60%)
- realistic approach (e.g. probability of 70%)
- optimistic approach (e.g. probability of 80%)

The table »Characteristics of expectations« shows an example of how objectification of probability approach can be achieved.

6 DETERMINATION OF NET UTILITY

In this concluding step, net utility from the multiplication of gross utility with fixed probabilities are developed. The table »Utility overview« makes the evaluation process clear. This illustration summarises examined values for all utility levels with the probabilities of realisation.

| | | pessimistic (p): | | 5% | | |
|---------------|--------------------|--------------------------|------------|------------|------------|-------------|
| | | probability (pr): | | 10% | | |
| | | optimistic (o): | | 5% | | |
| Valuer | Probability | 60% | 70% | 80% | 90% | 100% |
| 1 | | | | p | pr | o |
| 2 | | | p | pr | o | |
| 3 | | p | | pr | o | |
| 4 | | | p | pr | o | |
| 5 | | p | | pr | o | |
| | | 10% | 10% | 45% | 30% | 5% |

| Utility stage | Utility TDE | Pr % | Utility valued TDE |
|------------------------------------|-------------|------|--------------------|
| I. Strategic advantages | | | |
| - Performance criteria | 500 | 60 | 300 |
| | 200 | 50 | 100 |
| II. Productivity advantages | | | |
| | 200 | 100 | 200 |
| III. Cost savings | | | |
| | 50 | 100 | 50 |
| | 100 | 100 | 100 |
| Utility approach in € | 1050 | | 750 |

138 | Utility overview

6 PRIORITISATION ACCORDING TO PORTFOLIO

With this approach, one can assume several evaluation criteria. In our example, four categories will be assumed:

1 FINANCIAL ADVANTAGES

This concerns primarily the quantifiable utility categories. In line with applied utility categories in this contribution, it is a question of

- Utility category: cost savings and
- Utility category: productivity improvements.

On the long run, it is an orientation on the classical advantages on the ROI principle.

2 IMMATERIAL ADVANTAGES

This factor consists of all the advantages of a project which are difficult to ascertain. Such advantages can derive from

- Utility category: competitive advantages.

3 TECHNICAL IMPORTANCE

Sometimes it is imperative - in prioritisation of investments and projects - to show consideration towards the gradual completion of single projects, structural developments, personnel resources, towards training and further training activities of employees etc. All these influences can be summarised under technical importance.

4 CORRELATION WITH CORPORATE GOALS

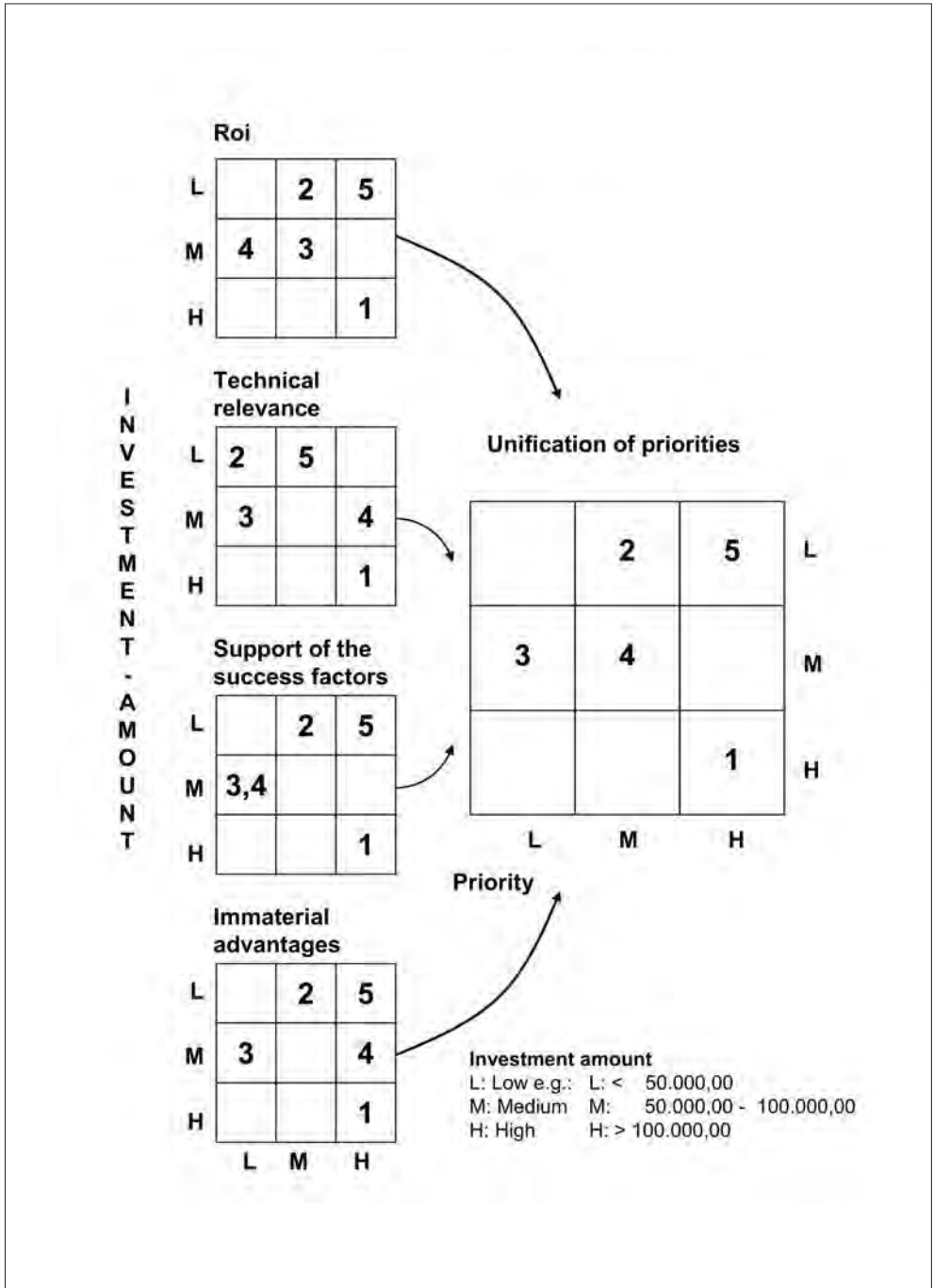
It is increasingly becoming relevant that the different investments and projects support the goals of the company. Of course one can assume that individual projects support in different degree of relevance, corporate goals. This is why this factor also has an influence on prioritisation.

A portfolio-matrix will be developed in which all the four matrix presentations are having an investment level of Y-axis. This will be sub-classified into high, medium and low levels. The following priority- categorisation is a result:

- Priorities according to financial advantages,
- Priorities according to immaterial advantages,
- Priorities according to technical relevance,
- Priorities according to corporate goals.

Each project is at first categorised into all 4 matrix presentations. It is thereby obvious that different matrix fields can serve a single project can. In this way, a project can for example strongly support corporate goals but on the contrary, it only marginally supports technical importance.

After classification into the 4 matrix presentation, a reunification of all investments and projects in a consolidated matrix precedes. It shows in only a single presentation, the classification of all plans. Most interesting in this constellation for a company are projects with low or medium investment costs and a high priority. The table »Priorities Analysis« portrays the procedure in prioritisation.



In practise, a lot of organisations apply the portfolio method according to Point classification system. In the following, a slightly modified example of a business undertaking is represented:

1 Choice criterion: Return on investment (RoI)

The profitability of an investment is calculated with return on investment (amortisation period). The amortisation period is the period until when accumulated (and discounted) utility (sustained) is bigger than accumulated (discounted) costs.

The shorter the amortisation period is, the bigger is the figure for economic efficiency:

- No amortisation or amortisation period more than six years (72 months) 1 point
- Amortisation period up to 72 months 2 points
- Amortisation period up to 54 months 3 points
- Amortisation period up to 36 months 4 points
- Amortisation period under 18 months 5 points

2 Choice criterion: Operative urgency

For an evaluation of operational urgency, there is no clear cut calculation formula as we have in return on investment. It is dependent on subjective estimation of the person conducting the examination. Even if complete uniform evaluation standards are not possible, some orientation values are provided in the following as example for frequent causes of operative urgency. These include:

- Fulfilment of a legal regulation or other external requirements and
- the fulfilment of internal regulations.

As evaluation for operative urgency is the maximum achieved point in one of the sub-criteria. In estimation, the needed realisation period for the project is to be taken into consideration.

Fulfilment of external legal regulations

A possible classification could be:

- There is no disregard of regulations 1 point
- Although there is a disregard of regulations, this doesn't lead to immediate sanctions 2 points
- There is a disregard of regulations which probably doesn't yet lead to sanctions or meaningful problems (e.g. fines) 3 points

- There is a disregard of regulations which probably leads to sanctions or meaningful problems 4 points
- There is a disregard of regulations which definitely will lead to sanctions or meaningful problems 5 points

Fulfilment of internal regulations

Example of this include revision requirement (safety, orderliness, plausibility, documentation, principles of internal control system)

- There is no impairment of orderliness and safety of internal processes 1 point
- There is a tolerable impairment of orderliness and safety of internal processes 2 points
- There is a perceptible impairment of orderliness and safety of internal processes 3 points
- There is a serious impairment of orderliness and safety of internal processes 4 points
- There is a complete impairment of orderliness and safety of internal processes 5 points

3 Choice criterion: Strategic importance

For the evaluation of strategic importance, there is no calculation formula for the return on capital (or investment). It is increasingly dependent on subjective estimation of the evaluator. Even if complete uniform evaluation standards are not possible, criteria like the following should be categorised into five stages

- New products/ service improvement,
- Better information and control possibilities,
- Market share,
- Improvement of realisation tempo.

The key to a possible evaluation is presented in an example of new products/services. The new product or service improvement means from customer perspective:

- No perceptible improvement 1 point
- Slightly perceptible improvement 2 points
- A perceptible competitive advantage 3 points
- A significant competitive advantage 4 points
- A significant, remunerable competitive advantage 5 points

Summary: Ascertaining rankings

The ranking of suggested investments are conducted with reference to respective evaluation points.

To this, the three evaluation points are understood as a digit of evaluation number per investment, whereby the highest evaluation point represents the first digit and the lowest evaluation point represents the last.

EXAMPLE:

| | |
|--|-----|
| Evaluation point »return«: | 3 |
| Evaluation point »operational urgency« | 4 |
| Evaluation point »strategic relevance« | 2 |
| Evaluation number | 432 |

The ranking is arrived at in several steps.

Firstly, a **temporary** ranking will be determined. In addition to this, the investments will be classified according to their evaluation number, whereby an investment with higher evaluation number stays before that with lower evaluation number.

EXAMPLE:

| Choice criteria | Investments | | | | |
|----------------------|-------------|-----|-----|-----|-----|
| | A | B | C | D | E |
| Profitability | 1 | 2 | 3 | 1 | 5 |
| Operative urgency | 4 | 4 | 2 | 2 | 1 |
| Strategic importance | 4 | 5 | 3 | 3 | 1 |
| Evaluation number | 441 | 542 | 332 | 321 | 511 |

As temporary ranking of investments, it results in B, E, A, C, D.

The temporary ranking makes it clear which investments/projects are to be prioritised. In relation to available resources, the idea is to decide for a particular plan.

In different organisations and administrative units, the projects are categorised into three classes:

Class I = Must investments

- a) All investments which have a criterion of maximum value 5
- b) All investments which achieve a minimum of 10 points by all three criteria together.

Class II = Target investments

This category consists of investments with a medium high evaluation, i.e. by the three criteria could the points lie between 7 and 9.

Class III = Not-to-be-realised investments

Investments in this category will not be realised.

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

D ORGANISATION AND INFORMATION MANAGEMENT

| | | |
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1 EFFECTIVELY MODERATING TEAMS

WITH THE METAPLAN METHOD

GOAL(S):

In numerous teaching and decision making environments, it depends on making active participants of all those involved. With the aid of meta-plan method, opinions of group members can be objectified and comprehensibly obtained.

CONTENT:

- 1 Objectives of this method
- 2 Application for acquired information
- 3 Agreement to or rejection of theses
- 4 Estimations represented on scales
- 5 Classification in a pattern

INSTRUMENTS:

- Brainstorming (using cards)
- Classification of theses and scales
- Matrix presentation

APPLICATION(S):

- Experiencing group processes
- Obtaining opinions
- Finding common solutions to problems

UTILITIES:

- Improvement of the relationship level
- Objectification of processes
- Structured procedure in solving problems

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Brainstorming (using cards): collation of opinions and gaining of ideas
- Classification of theses and scales: gaining an overview of group opinions
- Matrix presentation: numerous applications in all functional areas

1 OBJECTIVES OF THIS METHOD

The metaplan method assumes rules which can be understood as an understanding between different group members. The method was developed by the brothers Schnelle in Quickborn. It institutionalises a comprehensive system (META-PLAN). With the assistance of a moderator and game rules, the group can organise and direct different processes. This type of group work presupposes a high measure of tolerance and self discipline of all participants.

In detail, metaplan method is increasingly being applied for the following (see table »Application of Metaplan method«):

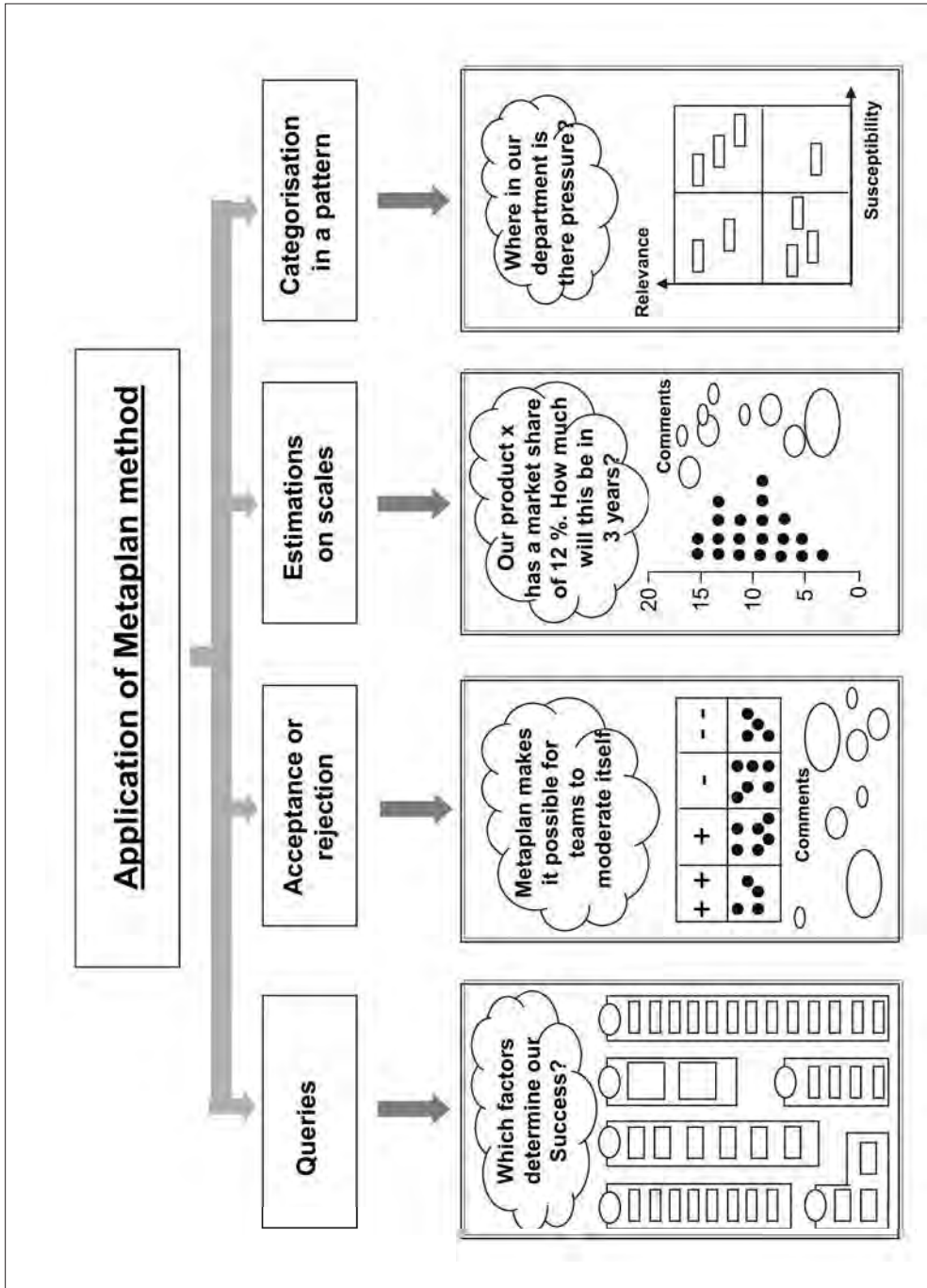
- Different ways of acquiring opinions (questions),
- Agreement or rejection of theses,
- Estimations on scales,
- Classification in a pattern.

The fundamental advantage of meta-plan method is in visualisation. In visualisation, (e.g.) a visible storage of thoughts and information on pegboards and discussion contributions of every participant is continuously and optically recallable. Recognition of coherences is made easier and the absorbing capacity and the effect of interaction frequency will (through written and verbal request for permission to speak) be multiplied.

For the application of meta-plan method, the following working materials are inalienable:

- Pegboards made of foamed material (150cm high, 125cm width and approx 15mm thick). These are hooked on racks.
- Packaging papers with which the pegboards are covered.
- Cards of following sizes: 10cm x 21cm, on which participants write their opinions and statements.
- Felt markers, mostly with thick felt so that written objects could be discerned from a distance of 6m.
- Self adhesive scores are required for quantifying changes.

Alongside this, one needs particularly pins for the pin-wall, glue sticks, scissors, round or oval cards and long paper strips. The pin walls are being offered by several manufacturers, just like any other working materials. For the cards, felt markers, adhesive dots, scissors etc; there are different sizes of moderator's bags which are suitable for storage purposes and ensures organisation.



2 APPLICATION OF ACQUIRED INFORMATION

Discussion contributions proceed mainly in written form

- Each participant can commit his opinions in writing on a card.
- The cards can be written with felt pens (maximal 3 lines).
- Each card can only contain an opinion. This means that participants have to summarise their opinions. A limitation of opinions to seven words is recommended.
- Verbal contributions should be limited to a particular time, for example 30 seconds talk time.

Collection and mixing of cards

- Participants can take their time in writing down their contributions. If enough ideas cannot be collated, the moderator provides further instructions.
- When collecting the cards, the moderator points to the fact that cards could still be submitted later.
- The moderator should shuffle the cards as he is collecting them.

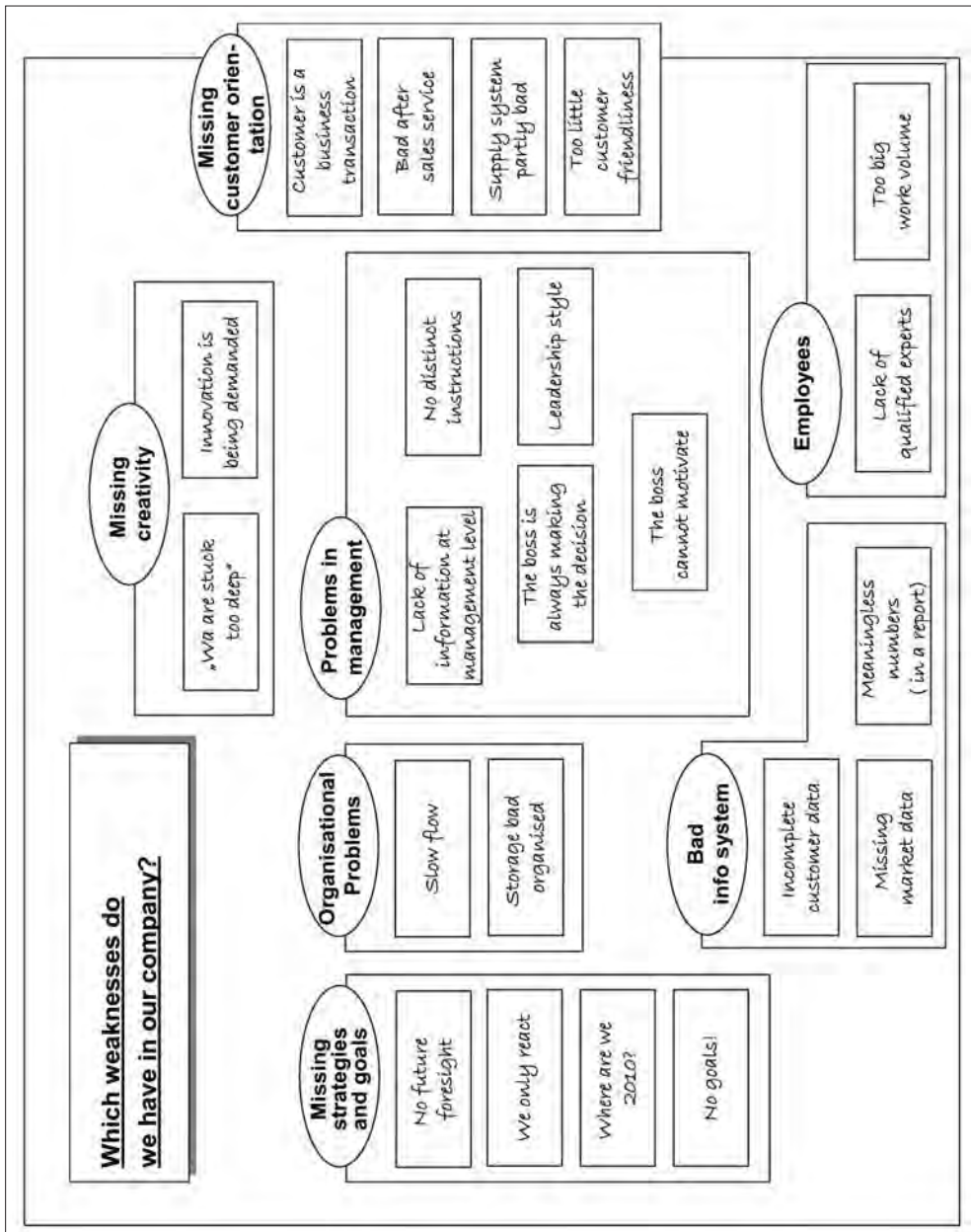
Clipping and arranging the cards

- Before clipping the cards on a pin wall, the moderator reads out the contents of the each card. In doing this, he displays the cards to participants.
- In case of non comprehension, questions can be put, eventually another card can be written to shed more light.
- The moderator should not comment on contents of the cards.
- All cards with identical or related contents will be categorised into a single group.
- When all cards have been submitted and sorted into groups as far as possible, the generic terms are to be determined for each individual group.
- The generic terms are to be written on the cards in a circular form (see illustration »Which weaknesses do we have in our company?«).

Quantification of the generic terms

- Participants receive a particular amount of material points depending on the number of groups. From the presentation »Meta-plan method«, the total number is expressed in points. This table shows that the total amount of points is determined especially through the number of generic terms and the number of participants.

The table »The role of the moderator in metaplan« portrays a usual process with brainstorming using cards. In this table, it is clear what should be the moderator's priorities in each step.



Rule of thumb of determining points to be awarded

Number of participants (Group sizes)

| | | | | | |
|--------------------------------|----|----|----|----|----|
| | | 5 | 10 | 15 | 20 |
| Present topics (General terms) | 5 | 3 | 2 | 1 | 1 |
| | 10 | 6 | 4 | 3 | 2 |
| | 15 | 8 | 5 | 4 | 3 |
| | 20 | 10 | 6 | 5 | 4 |

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| The role of the moderator in metaplan | |
|---|--|
| Steps | Major points |
| 1. Agreement on appropriate topic | A common search for solutions |
| 2. Expressing the objectives | What should be achieved? |
| 3. Announcing the rules | a) Write legibly and in block letters b) Maximum of 7 words per card c) Only an argument on a card |
| 4. Providing enough time to write on the cards | Support card filling with examples |
| 5. Sorting and shuffling the cards | When a third of participants are no longer writing, collect cards together |
| 6. Arranging cards in different groups (cluster building) | If necessary, ask to confirm if the classification is correct |
| 7. Developing the generic terms | Together with participants |
| 8. Prioritising the generic terms | For example through - award of points - network method |
| 9. Introducing problem shooting | For example - in small groups - in a plenum |
| 10. Developing an action plan | What, who, with whom, until when? |

A detailed reproduction for the process of brainstorming using cards will be presented in the following.

EXAMPLE FOR THE PROCESS OF BRAINSTORMING USING CARDS

A collectively developed conceptual formulation

- Which objectives are being striven for?
- What is important from the perspective of participants?
- Formulation of the problem in form of questions.
- Working out the fundamental questions linked with the problem.
- Which value-position do which questions have from participants' perspective?
- Decisions by participants using marker points.

Expanding on the problem

- Breaking down the problem according to sub-sections which can simultaneously be handled in small groups.
- Where would one have to concentrate upon in order to reach the problem solution?
- Development of alternative solution approaches in the plenum.
- Which approach possibilities should be handled right here and right now in a more precise and exact manner by the small groups?
- Which central ideas should be pursued further?
- Decisions by participants using marker points.

Development of solution approaches

- In small groups per sub-section.
- Formulation of subtasks in a question form.
- Collection of solution approaches to the questions.
- Arranging and structuring solution approaches.
- Quantifying solution approaches with markers.
- Presentation of the summary of solution approaches and action plan approaches.

Development of a catalogue of overall solution

- Presentation of results from the small groups in a plenum.
- Discussion on the part solutions.
- Coordination and quantification of results.
- What should be achieved?
- Which risk factors are available? What implementation chances are available?

- Who should do what? (Problem solution measures)
- In which procedure?
- Who is responsible?

RESULTS OF A BRAINSTORMING (USING CARDS)

At the end of a group work, it is important for each participant to know whether and how it should continue.

One will obtain a concrete working paper as a result of these activities. It should be able to provide binding information on

- The responsible and participating persons, groups,
- Time planning,
- The type of striven result.

In developing this catalogue of activities, all the groups will be involved. Such a catalogue has the following constituents:

| Activities | Who | With whom | Time | Type of result |
|------------|-----|-----------|------|----------------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |

3 AGREEMENT TO AND REJECTION OF THESES

This type of working with theses is particularly recommendable if one wants to receive a quick overview of group opinions. This application is normally being moderated as follows:

1st step: the moderation

- A short preparation.
- Writing the thesis on a packaging paper or on a strip of paper in block letters,
- Placing a field pattern at the bottom of the thesis which normally consist of ++, +, -, --.

The signs mean:

- Double plus (++): full agreement to
- Simple plus sign (+): limited agreement to
- Simple minus sign (-): limited rejection of

Double minus (– –): full rejection of

- mention the thesis and gradation

2nd step: the points

- Awarding a self adhesive point per participant.
- Appealing to participants to give their opinions by pasting the points on the appropriate fields which reflect their opinion.
- Requesting them to award scores simultaneously.
- Question: »what does this formed opinion show us?«

3rd step: collate comments

- During the discussion, one addresses one half of the field pattern at the beginning. This half is where the minority of the points are situated- regardless whether it is rejection of or agreement to
- the comments are to be presented in key words.
- In conclusion, one addresses the group with majority, make a note of their arguments and visualises this.

4 ESTIMATIONS REPRESENTED ON SCALES

With this type of application of meta-plan method, participants would be requested to document their estimations and appraisals with an adhesive dot on a prepared scale. The procedure here is similar to these technique. In the positions designed for agreement pattern and rejection pattern are estimation questions. Participants express their opinions on how the situation has changed along the way. They express this in percentages.

The process can be analogically moderated like the thesis method. The following three steps are recommendable:

- 1st step: the moderation
- 2nd step: the points
- 3rd step: comments.

5 CLASSIFICATION IN A PATTERN

In the area of practical corporate management, working with a two-dimensional pattern is particularly suitable. In the following, this type of application of metaplan method will be elucidated with an example (for more on this, see table »What has to be improved in our company?«

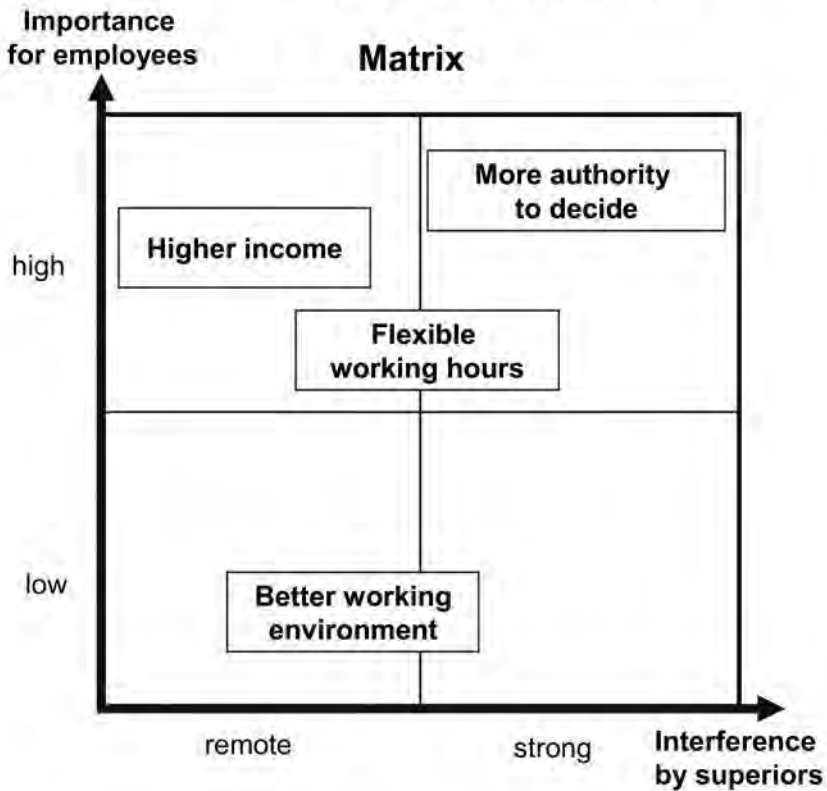
You should conduct a weak position analysis for a department, an area or for the whole business venture. The question could read »What should we improve upon?« After acquiring opinions from participants, allow them to position the generic terms (e.g. with adhesive dots). You can then classify the generic terms together with the participants in a matrix with the following axes

- Important to employees,
- Interference by superiors.

One can recognise that e.g. a higher income for staff members has a very important value position but can only be influenced in a limited way by superiors. The fundamental starting point for an improvement is provided by cards which are categorised in the field »relevance: high« and »ability to influence: high«. Here, it concerns starting with suggestions for improvement. In our example, it will be sensible to begin with the topics »More decision authority« and »Flexible working time«. The solution approaches could be developed in small groups and can then be discussed together in a plenum.

**What has to be improved
in our company?**

- Procedure:**
1. Card queries
 2. Prioritise the cards
 3. Classify the cards in the matrix
 4. Compilation of recommendation



ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

2 PROJECT MANAGEMENT

GOAL(S):

Project management is increasingly gaining relevance in the present times. It is the type of organisation for exercised rapidity. This contribution elucidates value position, recognising, choosing and an efficient realisation of projects.

CONTENT:

- 1 Value position and definitional bases
- 2 Project phases- advantages and structuring
- 3 Recognising, evaluating and choice of projects
- 4 Types of project organisation
- 5 Project participants- requirement profiles, tasks and conflicts
- 6 Objectives and control systems in project management checklists for project management

INSTRUMENTS:

- Phase model
- Evaluation process
- Bar charts/network plans

APPLICATION(S):

- Applicable in the economy and administration
- Applicable in all branches and segments
- Applicable at all hierarchical levels.

UTILITIES:

- Increment of flexibility and quickness of an organisation
- Systematic procedure
- Concentration on resources

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Phase-model: applicable to all projects
- Evaluation process: optimisation of choice of project
- Bar chart/network plans: applicable in all project processes

1 VALUE POSITION AND DEFINITIONAL FUNDAMENTALS

In every organisation and administration, there is the necessity to undertake certain plans in the form of projects. For a plan to be executed as a project we have at our disposal the totality of activities which are dismountable in numerous work packages and in which many staff members/ team/ positions/ departments/ branches or companies participate. In contemporary times, project management is increasingly gaining in relevance in the economy as well as in administration. The reasons are deductible in »What speaks for project management?«

The realisation of project management permits different paddings. These will be determined mainly through the criteria for project success.

The success criteria for project management are:

- 1 Factual goals,
- 2 Deadline goals,
- 3 Cost goals.

The success criteria for the object to be realised could be:

- Acceptance by those involved,
- Improvement of costs and utility situation,
- Gaining of strategic advantages.

These considerations make it clear that the project leader sets other major objectives in his capacity as a functional head. The most important differences can be deducted in the table »Synoptical presentation- Project leader versus Functional leader«.

What speaks for project management?

- Quick reaction to new market and customer requirements
- The types of organisation for exercised rapidness
- Integrated contemplation of tasks
- Integrated solutions
- Network thinking instead of isolated and lineal contemplations
- Creativity has greater chances beyond hierarchies
- Staff members and senior management are increasingly facing stronger intellectually challenges
- Each project participant gets to know the »Horror of own responsibility«
- Compulsion to improving communication

- Formal authority will be replaced by new success factors such as:
 - Personality competence
 - Professional competence
 - Social competence
 - Entrepreneurial competence
- Staff members are seen as joint entrepreneurs
- Conflicts stimulate the company
- Functional organisation is combined with process organisation

| Projekt leader | Functional leader |
|------------------------|---|
| Coach, moderator | Manager |
| Generalist | Specialist |
| Alternating tasks | Routinied tasks |
| Put questions | Represents the status quo |
| Integrated thinking | Linear thinking |
| Integrated solutions | Departments-oriented solutions |
| Innovative processes | Classical methods |
| Committed to ideas | Domination of rules |
| Target-result-oriented | Fulfiment of function as best as possible |

The definition of the term »Project« is multifarious. In textbooks and in the practise, one finds mostly individual descriptions of a project which correlate with the following specifications:

- Uniqueness of the plan,
- Clear definition of objectives,
- Limitation to the plan,
- Temporal definitions,
- Financial definitions,
- Specific organisation of the project,
- Project organisation spanning over teams, departments and areas.

According to DIN 69901, a project is defined as follows:

A plan which is fundamentally characterised by the uniqueness of the conditions.

Examples include

- Declaration of goals,
- Temporal and financial limitations,
- Delimitation, compared with other projects,
- Specific organisation and
- The participation of staff members from different departments and units of the organisation.

In order to be able to control and execute projects effectively, the decision process, planning process and control process have to be formalised. In this way, it is necessary to concretely formulate directives and information on

- Decision competence,
- Objectives of the client, project management, project team and participants from other branches,
- Cost and utility analyses,
- Methods and tools,
- Control points,
- Those in charge.

That there are fundamental differences in individual criteria between project management in Japan and Germany, is reflected in the table »Differences between German and Japanese organisations in project management«.

In practice, this means the observation and perception of above mentioned criteria is a considerable organisational planning. As a result, there is a range of differences in organisation between

- Simple projects and
- Complex projects.

Differences between German and Japanese organisations in project management

| Features | Germany | Japan |
|--|---------------|---------------|
| Participation of top management in projects at the start phase | low | intensive |
| Leadership style in the analysis phase | authoritarian | democratic |
| Leadership style in the implementation phase | democratic | authoritarian |
| Number of team members in the analysis phase | low | high |
| Number of team members in the implementation phase | high | low |
| Withdrawal of team members from projects on the requirements of line departments | often | scarcely |
| Input in the analysis phase | lower | higher |
| Input in the implementation phase | higher | lower |

This delimitation is not always simple but the boundaries are often flexible. Characteristics of a simple project can be:

- Limited time input,
- Limited personnel and contextual connection to other teams/departments/branches,
- Very low costs (e.g. under € 10 000),
- Care and service works of concluded projects.

In simple projects, it is not often necessary to fulfil the very comprehensive requirements of a complex project. It is unnecessary to concentrate on less relevant facts but rather on the particular economic efficiency aspects. The table »Project management and standardised organisation« compares the classical line system with project management.

2 PROJECT PHASES – ADVANTAGES AND STRUCTURING

There is the necessity to classify projects into phases. The advantages of unanimous approval are evident:

1 PHASE CONCEPT CLARIFIES THE PROCEDURE.

The singular project steps will be

- Transparent,
- Objectified (on the goal) and
- Comprehensible.

| <u>Project management and standardised organisation</u> - Characteristics of fundamental evaluation criteria- | | |
|--|-----------------------|---------------------------|
| <u>Type of organisation</u> | <u>Line system</u> | <u>Project management</u> |
| <u>Criteria</u> | | |
| <u>Goals</u> | Often inexplicit | Concrete |
| <u>Declared goals</u> | On a continuous basis | Temporal limitation |
| <u>Temporal estimation</u> | Calculable | Difficult to calculate |
| <u>Execution</u> | Day's work | Special tasks |
| <u>Type of assignment</u> | Repetitive | Uniqueness |
| <u>Costs</u> | Known | Only to assessable |
| <u>Financial specifications</u> | Only narrow | Concretely fixed |

| | | |
|------------------------------|------------------------|------------------------|
| Controls | Inherent to the system | Through specifications |
| Measuring values | Functional efficiency | End result |
| Integrated solution | Conditional | Basic goal |
| Action | Often cumbersome | Quick action |
| Involvement | Employee of a function | Mixed teams |
| Delegation of responsibility | Desirable | Indispensable |

2 PHASE CONCEPT LIMITS THE RISKS.

This applies particularly to

- Temporal risks,
- Technical system risks and
- Finance-conditioned risks (for more on this, see table »Possibilities of reduction of project costs«).

3 PHASE CONCEPT CONTRIBUTES TO AN IMPROVEMENT OF KNOWLEDGE COMPETENCE.

The required knowledge and intellectual of decision makers will be made clear to all decision makers and other participants of a project. Concrete requirements of the capabilities of team members can be deduced from the individual activities of the project.

4 PHASE CONCEPT CONTRIBUTES TO AN IMPROVEMENT OF SOCIAL COMPETENCE.

Phase concept is based upon an optimal cooperation among all those involved. If the commonly used statement »Making participants out of those concerned« were to justify the sense behind such a statement, then this applies to project management. A project on the basis of a low grade of maturity of social competence is condemned to failure right from the start. The rules of the game of cooperation are inalienable here. Relationship level also occupies a high level of value apart from the factual level (see table »4 Phases of organising«).

5 PHASE CONCEPT CONTRIBUTE TO AN IMPROVEMENT OF CORPORATE COMPETENCE.

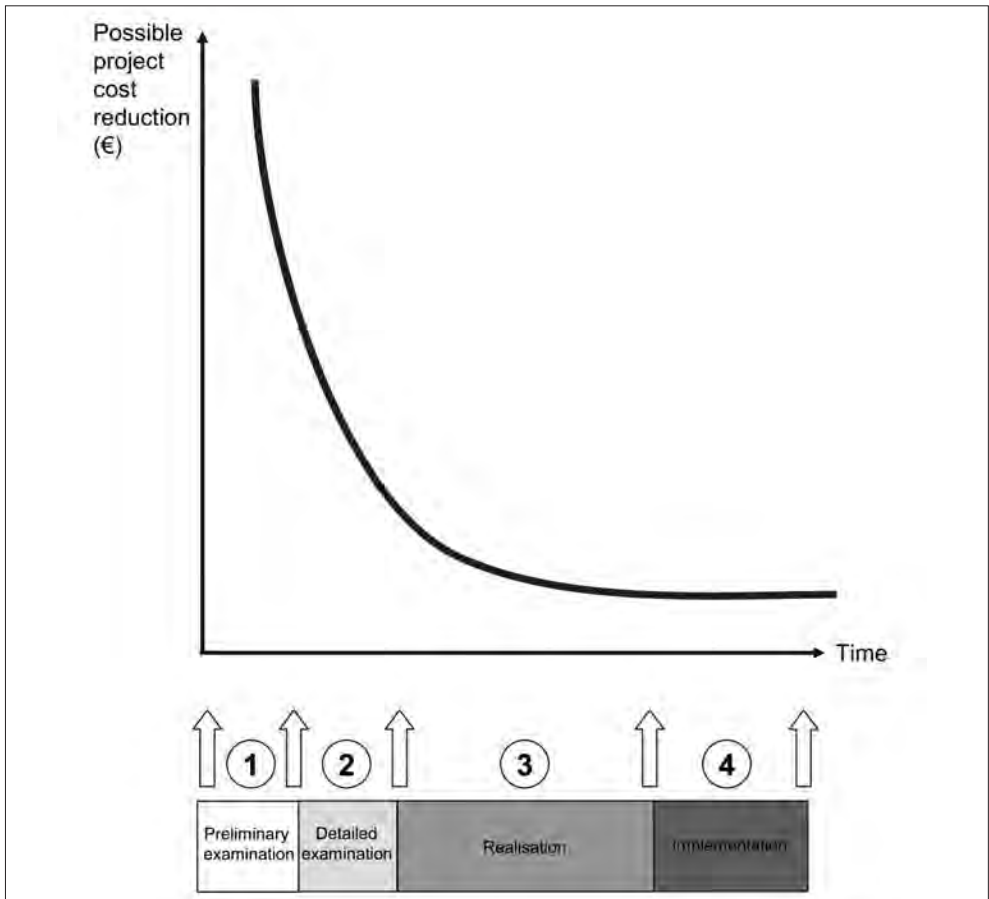
All participants in a project have to see themselves as joint entrepreneurs. It is only when each contribution justifies the qualitative, temporal and financial specifications can one expect a successful project. A phase concept elucidates the awareness surrounding corporate qualifications such as initiative, assumption of responsibility and the best possible finalisation of the assignment. In the practice as well as in the economy, there is a multitude of individual suggestions on

the classification of the phases. They differentiate themselves particularly through

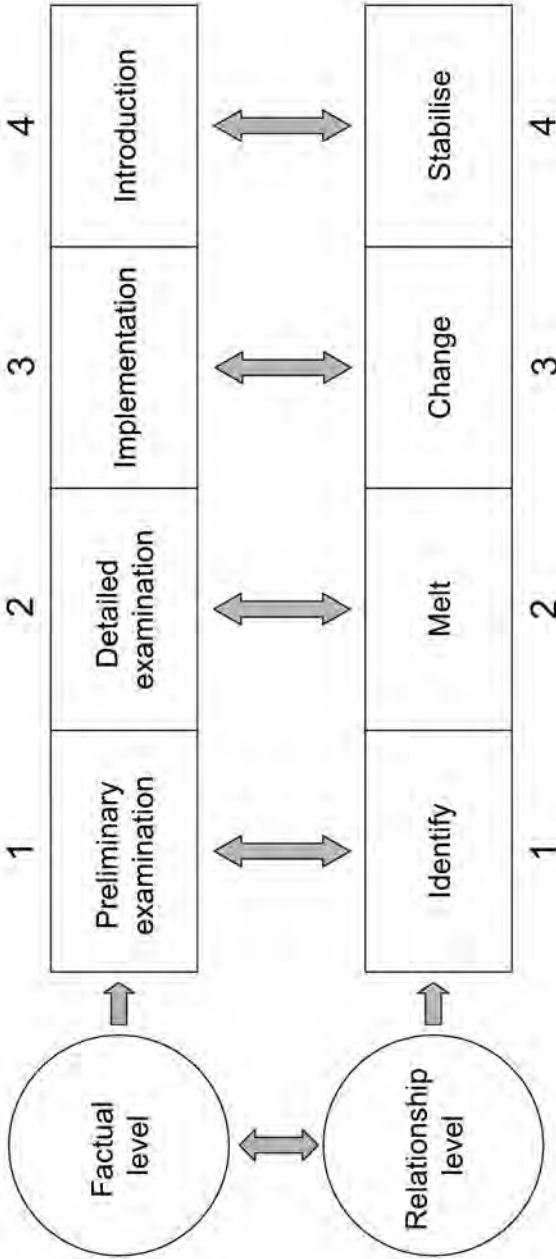
- The degree of partitioning,
- Different terms for one and the same fact and
- The more or less stark characteristic of a specific application.

Of more relevant than these differences is the common denominator of virtually all phase classifications. This allows for a classification in the following phases:

- 1 Preliminary investigation (pre studies),
- 2 Detail investigation and system conception,
- 3 System realisation,
- 4 Introduction of organisation system.



4 Phases of organising



Such a general sub-classification can definitely not be surprising. It is on the long run the only stringent procedure in the execution of projects. Within the four phases however, the fundamental activities are particularly to be observed. In this way for example, in the preliminary investigation phase, a greater value position is attributable to the question of the recognition of important projects. Whoever leaves the initiation of important projects to coincidence is not promoting any good job as a decision maker. The systematic gain from survival relevant projects is as a result a basic assignment within the scope of preliminary examination.

The partitioning into the so called four phases is often coarse in practise. In a range of organisations, a stronger partitioning is undertaken. In order to clarify the circumstances, a detailed categorisation of phases will be shown in form of an example of a data processing project.

The introduction of a computer supported organisational system requires a meticulous planning. The more comprehensive and detailed the organisational changes are, the more the systematic planning will become a fundamental factor for the success of the new system. The complex which encompasses the development and introduction of a data processing organisation cannot be decided through a single action. In limiting the risks, it is advisable to categorise the whole project in the following phases:

- Phase 0: Initialisation
- Phase 1: Pre studies
- Phase 2: Organisational examination
- Phase 3: System conception
- Phase 4: Detail determination
- Phase 5: Programming and program test
- Phase 6: System test
- Phase 7: Commissioning
- Phase 8: System utilisation

Through this phase-classification, development of new organisational system will become easy to plan but most importantly, it becomes straightforward. With it, better control and quick reaction become possible. In each of the above mentioned phases, a decision-ready-provisional-result can be achieved.

The table »Project phases in data processing systems« shows the individual phases in a time/effort coordinate system. The respective efforts for project management and the change-control are particularly represented in the process. In the following, individual phases are shortly described.

PHASE 0: INITIALISATION

An analysis of the problem can be generally considered as catalyst of this phase. Here, mostly in a short admission, problems (e.g. weak points, bottlenecks, shortcomings etc.) are noted with the

respective causes. Within the framework of problem analysis, it is imperative to take note of the fact that a sinful delimitation of the problem should be conducted. Individual problems or problem areas are to be evaluated. During this problem evaluation, a rankingclassification of problems should be considered for the respective objective criteria (a possible instrument for evaluation is utility analysis).

Objective of this 0 phase is to formulate a task for the projected/planned pre study. This should contain the following (amongst others):

- Goal definition,
- Means specification,
- Time specification,
- Appointment of a working group.

PHASE 1: PRE STUDIES

The basic activities of this group include:

- Problem analysis,
- Analysis of the synopsis,
- Development of conceptual framework,
- Concept analysis and
- Determination of outline plan.

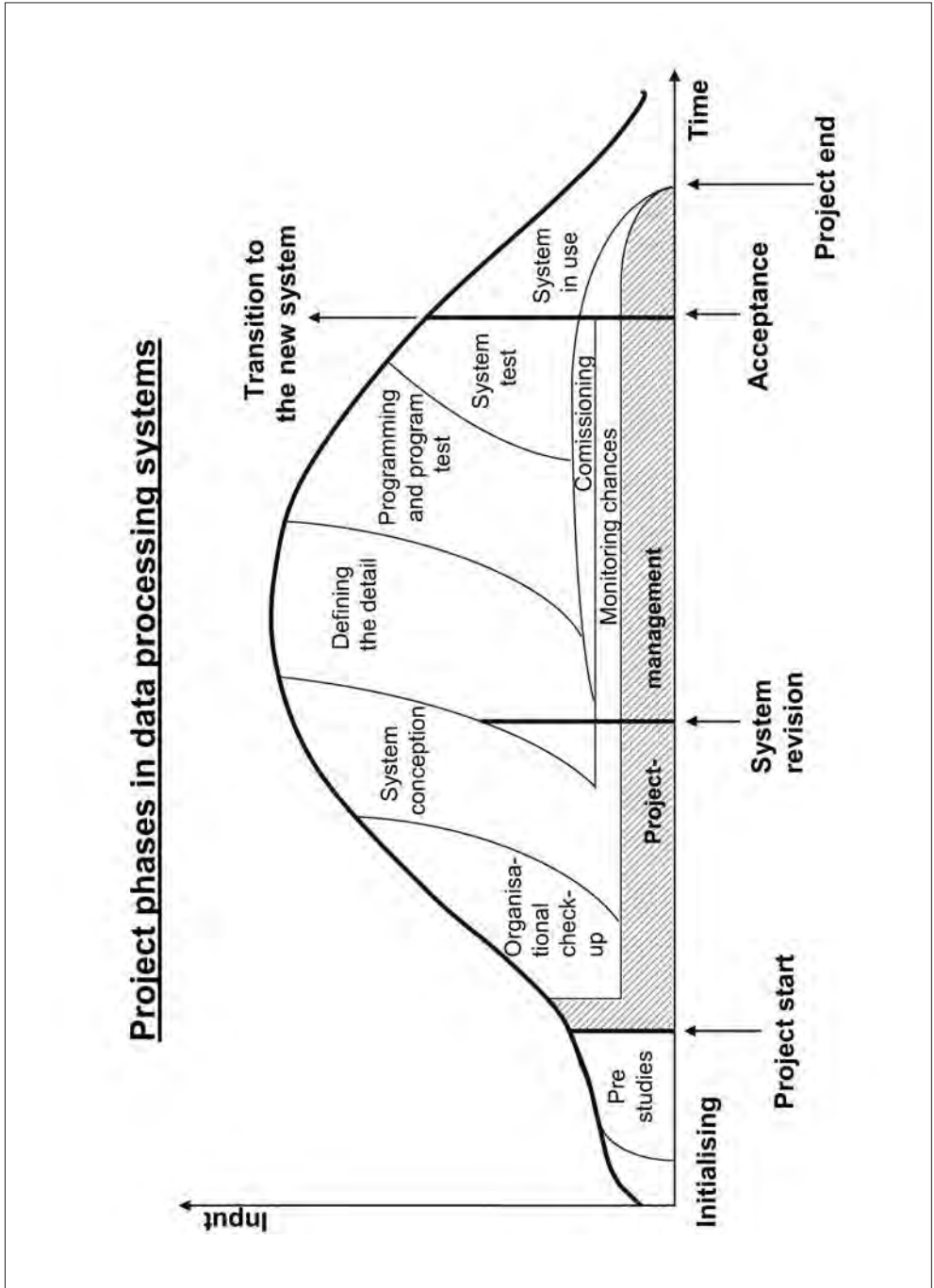
The synoptic analysis particularly concerns the examination of information flow. At the background of this is a rough analysis of the present-situation of

- The data (e.g. origin, type, data quantity, content, application) and
- The data (e.g. name, origin, content).

For the development of a conceptual framework, provision of answers to the following questions is among other things very important:

- Which goals is the corporate management pursuing in the future?
- Which tasks will disappear in the future and which ones will be added?
- Which applications are going to be automated in future?

During concept-analysis and especially the verification of the practicability of contents, the aspired objectives and the individual application areas are going to be concretised with the specific solution propositions. The outline plan contains thereby respectively time sequence and progression of individual activities, the financial expenditures, required resources, employees and



their trainings, utility estimations of individual projects as well as the provision of information on accountability. The result of the pre studies should be the authorisation of an outline plan with the concrete task of examining the organisation (2nd phase) and ascertaining system conception (3rd phase). This signals the real start of the project and generally, the active involvement of a project group.

PHASE 2: ORGANISATIONAL CHECK-UP

In this phase, a detailed overview of the actual condition will first of all be instituted. In the perception of the current situation for a prevailing organisation, (apart from the determination of organisational circumstances), information will also have to be provided on personnel who are employed in respective departments. In this phase, system specifications are to be obtained. Provision of answers to the following question count is relevant in this constellation:

- Which information is desired by the users?
- To what time is the information required?
- How should the information be designed for the users?

Furthermore, detailed implementation of a synoptic analysis as well as data and application analyses are to be conducted in this phase. At the end of this phase comes the authorisation of a delimitation of the system.

PHASE 3: SYSTEM CONCEPTION

Solution approaches (e.g. data acquisition process, data output process, hard and software requirements) and the suitability of different approaches (e.g. effects on organisational process, fulfilment of requirements, practicability) are examined in this phase. This examination flows into a profitability analysis and an evaluation of solution alternatives. At the end is system check where it will be decided whether the recommended concept (or which of the suggested alternatives) should be accepted whereby the release of resources follows. The task of realising the project will then be allocated to the respective project groups.

PHASE 4: DEFINING THE DETAILS

The following are details falling in this phase

- Process of data acquisition and data output,
- Data and key directories,
- Program system and program specifications, Data bank specifications,
- Process organisation,
- Safety arrangements,

- Emergency arrangements,
- Recovery and restart procedures,
- Test cases and
- Guidelines and handbooks.

The primary reason for shifting decision making to the end of phase 4 includes determination of the processes, the certainty of realisation and the provision of necessary resources.

PHASE 5: PROGRAMMING AND PROGRAM TEST

In this phase, all the programs will be compiled (e.g. program for tax, applications, assisting programs, administrative programs) and formally tested (module test and integration test). In addition, training of initial users, operators and the service group will eventually follow. Waiting to be decided is giving the program free for system test.

PHASE 6: SYSTEM TEST

The basic activities in this phase include:

- Inspection (e.g. different test runs, restarts, emergency situations),
- Improvements (e.g. settling of mistakes and incompatibilities),
- Provision of organisational means (e.g. forms, equipments),
- Completion of guidelines and handbooks (e.g. for users),
- Test in application area (testing the system under normal working conditions) and test I data processing area (testing in computer centre under normal production conditions),

Formal acceptance takes place with the above mentioned tests.

PHASE 7: COMMISSIONING

In this phase, training for all users plays a very important role. This is why it has to be clearly organised and geared towards respective functions and reorganisation. With the reorganisation, question of the alternative between total or partial reorganisation takes place under factual aspect. Concerning temporal reorganisation, the question is between direct or parallel temporal reorganisation. The objective of this decision is the completion of the project and the eventual dissolution of the project groups and with it, a definitive end of the project.

PHASE 8: SYSTEM UTILISATION

The two basic activities in this actual phase are system evaluation and the permanent system servicing. In system evaluation, costs are calculated once more and utility estimations reviewed.

Belonging to system servicing are necessary upgrades, a systematic updating as well as the initialisation of a new project. The overview »Activities/goals in data processing phase concept« shortly summarises the basic information. In the following presentations, chosen activities and methods of phase model will be elaborated upon.

| Overview »Activities/goals in data processing phase concept« | | |
|---|--|---|
| Phases | Criteria | Goals |
| <u>0</u> <u>Initialisation</u> | <ul style="list-style-type: none"> - Problem analysis - Problem evaluation | <ul style="list-style-type: none"> - Formulating the mandate for preliminary studies |
| <u>1</u> <u>Pre studies</u> | <ul style="list-style-type: none"> - Rough basic concept - Quantity structure, value structure - Rough estimation of cost and utility | <ul style="list-style-type: none"> - Mandate for detailed data acquisition - Contract for a big targetconception |
| <u>2</u> <u>Organisational check-up</u> | <ul style="list-style-type: none"> - Detailed data acquisition or simulation of chosen data - Time plan | <ul style="list-style-type: none"> - Ascertainment of weak positions - Data acquisition for precision of different concepts |
| <u>3</u> <u>System conception</u> | <ul style="list-style-type: none"> - Presentation of individual solution approaches | <ul style="list-style-type: none"> - Selection of the concept to be executed |
| <u>4</u> <u>Defining the details</u> | <ul style="list-style-type: none"> - Presentation of individual specifications - Effect of system concept on the structure, employee and process | <ul style="list-style-type: none"> - Final decision taken on realisation of project - Provision of resources |
| <u>5</u> <u>Programming</u> | <ul style="list-style-type: none"> - Conversion to automatic process | <ul style="list-style-type: none"> - Achieve operability of the new system |
| <u>6</u> <u>System test</u> | <ul style="list-style-type: none"> - System test - Acceptance of the system | <ul style="list-style-type: none"> - Securing of user contentment, efficiency, correctness and safety |
| <u>7</u> <u>Commissioning</u> | <ul style="list-style-type: none"> - Training of participants - Efficient inauguration | <ul style="list-style-type: none"> - End of the project - Acceptance |
| <u>8</u> <u>System utility</u> | <ul style="list-style-type: none"> - Continuous control of achievement of goals | <ul style="list-style-type: none"> - Guaranteeing of utility - Acclimatisation measures |

3 RECOGNITION, EVALUATION AND CHOICE OF PROJECTS

3.1 RECOGNITION OF PROJECTS

Belonging to this activity is

- The ability to recognise problems which may arise from projects,
- To evaluate possible alternatives,
- To be able to transfer considered projects into concrete project recommendations.

For the recognition of possible project necessities, all function areas and administrative departments of an organisation are responsible. The existing working atmosphere in an organisation should be one that will motivate staff members and senior management alike to trigger declarations about potential projects. In practise, organisation and coordination department is often the contact point. Numerous organisations are of the view that the process of recognition of projects requires no special formality. An informal declaration should be sufficient in most cases.

Compiled declarations should be verified for synergy potentials. An evaluation of individual impulses for possible projects should be undertaken in a small team. A project recommendation should be developed for all projects worth of consideration. All these processes should by all means be formalised. A possible pattern can be deduced from the table »Project recommendation«.

The initiator should make efforts to collate all necessary data needed for a differentiated evaluation. The following statement should be made:

- Project description,
- Goals of problem solution,
- Description of possible problem solutions,
- Evaluation of alternatives,
- Overlapping areas to other projects.

The development of data materials affords the initiator to maintain a deep attention to providing answer to the question whether his recommendations are feasible at all. If he has this impression like before, then he passes on his recommendation to the persons or body responsible for project evaluation.

| | | | | |
|---|-----------|------------|-------|---------|
| Project recommendation: | Date: | | | |
| Initiator: (Employee) (Team, department) | | | | |
| A short description of the problem: | | | | |
| Objective of the solution: | | | | |
| Short description of alternative solutions: | | | | |
| Alternative 1: | | | | |
| Alternative 2: | | | | |
| Alternative 3: | | | | |
| Short description of individual alternatives: | | | | |
| | Strengths | Weaknesses | Costs | Utility |
| Alternative 1: | | | | |
| Alternative 2: | | | | |
| Alternative 3: | | | | |
| Interfaces to other projects: | | | | |

3.2 EVALUATION OF PROJECTS

With regard to evaluation of project recommendations, considerable deficits can be observed in the practise. Weak points could be observed especially in the following areas:

- There is almost no written and fixed choice procedure,
- Decisions are often taken from cost-aspects,
- Criteria such as strategic competitive advantages, operative urgency, success factors and risks are only considered in exceptional situations,
- Discussions often take place between individual decision makers before any project meeting on possible favoured alternatives,
- Decisions are often based only on a short term contemplation- the development of vital success positions for the future are neglected.

A considerable improvement for the evaluation already brings the introduction of a formula »Costs and utility analysis« (see model recommendation). For a detailed evaluation, it is recommended to take the following criteria into consideration in the evaluation:

- Economic efficiency,
- Strategic relevance,
- Operative urgency.

In the practise, there are individual users who represent these criteria in a 5- point-scale. The following classification is undertaken:

- | | |
|-----------|--|
| 5 points: | necessity to take action |
| 4 points: | highest necessity to take action |
| 3 points: | medium necessity to take action |
| 2 points: | low or marginal necessity to take action |
| 1 point: | no necessity to take action |

The specifications for evaluation should be decided by the initiator or someone authorised by the departments. The control will be conducted in small groups through the authorised person, mostly in addition to his official duties, while in bigger corporations, though specific functionalities. In an insurance company for example, the following categorisation is available:

| <u>Project management:</u> <u>Cost and utility analysis</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Cost influences | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a) Preparation costs <ul style="list-style-type: none"> • Employees' costs • External personal • Material costs for the project • Travel costs | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| b) Start-up costs <ul style="list-style-type: none"> • Training costs • Overtime costs • Costs of conversion | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| c) Additional running costs <ul style="list-style-type: none"> • Licences • Rents • High costs of data processing | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Total cost | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Utility influences | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a) Reduction of present costs <ul style="list-style-type: none"> • Personnel costs • Material costs • Productivity advantages | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| b) Reduction of future costs <ul style="list-style-type: none"> • • • | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| c) Strategic competitive advantages <ul style="list-style-type: none"> • • • | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Total utility | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Example of an evaluation and appraisal of projects in an insurance company:

| Criteria | Evaluation | Appraisal |
|------------------------|-------------------|-------------------------|
| 1. economic efficiency | Specialised areas | Organisation |
| 2. strategic relevance | Specialised areas | Corporate planning |
| 3. operative urgency | Specialised areas | Departmental executives |

If evaluations strongly differ from the appraisals of a project, necessary clarifications should be initiated.

The three criteria will be subsequently elaborated upon:

1 ECONOMIC EFFICIENCY

An analysis of costs and utility forms the basis. Costs can be classified into

a) Preparation costs

These consist of all costs for the preparation of the system/project from the start to the end of the project. These are for example,

- Personnel costs of staff members or external consultants who participate in the project (the basis for offsetting is hourly wage rate),
- Investments for material costs within the concept of the project,
- Travelling costs for meetings relevant for the project.

b) Introduction costs

All costs accruing during the introductory phase of projects fall in this category. The following are costs (example)

- Costs for training of workers who are to operate the new system and time spent by these on the new system,
- Costs for additional work and mistakes in the introduction phase,
- Costs for the conversion of data and programs.

c) Additional running costs

As long as additional operative costs accrue as a direct consequence of the project, these are to be recorded. These could be e.g.:

- Licences,
- Rents,
- Higher costs of data processing.

The utility should be differently recorded as much as possible.

The following methods are particularly relevant

- The utility analysis in question
- The method of value comparison

Both the costs as well as other utilities are to be estimated using discounted capital value at a fixed valuation date, normally corresponding to the commencement of the project.

The profit is represented as follows:

| |
|------------------------------------|
| Capital value of cumulated utility |
| ./ Preparation costs |
| ./ Introduction costs |
| ./ <u>Additional running costs</u> |
| = Profit |

In the following, an example from the handbook of an operator is represented.

| | |
|---------------------------|---------------------|
| Project commencement: | 1.1 of the year n |
| Preparation costs: | In year n 1000T€ |
| Introduction costs: | In year n + 1 500T€ |
| Additional running costs: | In year n + 1 200T€ |
| | In year n + 2 100T€ |
| | In year n + 3 100T€ |
| | In year n + 4 100T€ |
| Utility: | in year n + 1 400T€ |
| | In year n + 2 700T€ |
| | In year n + 3 700T€ |
| | In year n + 4 700T€ |

The following picture ensues according to utility and costs flows:

a) Without capital value calculation

| Years | n | n+1 | n+2 | n+3 | n+4 | sum total |
|-----------------------------|------|-----|-----|-----|-----|-----------|
| Utility (T Euro) | - | 400 | 700 | 700 | 700 | 2500 |
| Preparation costs (T Euro) | - | - | - | - | - | 1000 |
| Introduction costs (T Euro) | 1000 | 500 | - | - | - | 500 |
| Add. running costs (T Euro) | - | 200 | 100 | 100 | 100 | 500 |
| Profit (T Euro) | | | | | | 500 |

b) With capital value calculation

In the following provided values, it will be assumed that costs and utility ensue respectively on the deadline and that the values are rounded off. A constant interest rate of 8% is assumed.

| Years | n | n+1 | n+2 | n+3 | n+4 | sum total |
|-----------------------------|-----|-----|-----|-----|-----|-----------|
| Utility (T Euro) | - | 370 | 600 | 556 | 514 | 2040 |
| Preparation costs (T Euro) | 926 | - | - | - | - | 926 |
| Introduction costs (T Euro) | - | 429 | - | - | - | 429 |
| Add. running costs (T Euro) | - | 171 | 79 | 74 | 68 | 329 |
| Profit (T Euro) | | | | | | 293 |

Thus by an assumed interest calculation of 8 %, a discounted profit of € 293.000 results.

In practice, the dual-dimensional consideration of costs and utility is not often sufficient. Capital input dimension is also to be considered. Under the opportunity cost consideration aspect, the duration of amortisation is of great relevance, i.e. in which time frame will invested money flow back. This is then the case when accumulated and discounted utility are greater than accumulated and discounted costs.

In our example, running utility already exceeds additional running costs after approximately 2.8 years. If one includes the costs for preparation in the calculation, it still takes about 4.5 years until the total costs are compensated.

In order to be as practise-oriented as much as possible, it is recommended to calculate the amortisation time with table values. The following constellation results:

→ The shorter the amortisation duration is, the higher is the number of points of economic efficiency or profitability.

In the following, a 5-point scale is applied. This scaling are also subjected to the following criteria

- Strategic relevance and
- Operative urgency.

For the amortisation duration of a project, the following applies:

| Amortisation duration | Over 6 years | Over 4 – 6 years | Over 2.5 – 4 years | Over 1.25 – 2.5 years | Up to 1.25 years |
|-----------------------|--------------|------------------|--------------------|-----------------------|------------------|
| Number of points | 1 | 2 | 3 | 4 | 5 |

2 STRATEGIC RELEVANCE

The strategic relevance of a project can be deduced from several factors. These could be e.g. (see the overview of criteria »Strategic relevance«):

- Better customer orientation,
- Creation of additional utility for customers,
- New products and services,
- Increment of market shares,
- Improvement of reaction speed,
- Increment of exit barriers with customers,
- Increment of entry barriers for competitors,
- Better information and control possibilities.

3 OPERATIVE URGENCY

Also in operative urgency, a range of factors can be consulted. Operative urgency can be deduced from (see overview of criteria »Operative urgency«):

- Fulfilment of extreme legal specifications,
- Fulfilment of internal revision regulations,
- Independence of individual projects,
- Problems in daily business (e.g. error ratio),
- Need for replacement and modernisation,
- Changes in development-organisation,
- Changes in process-organisation,
- Personnel shortages.

Project management: criteria overview »Strategic relevance«

| Points | 1 | 2 | 3 | 4 | 5 |
|-----------------------------------|--------------------------|--------------------------------|-----------------------------------|--------------------------------------|---|
| Criteria | | | | | |
| Better customer orientation | Not discernible | Limited improvement | Discernible improvement | Clear improvement | Significant and lasting improvement |
| Achievement of additional utility | Not discernible | Utility is hardly recognisable | Utility is discernible | Added value is clearly improved upon | Utility is significant and lasting |
| New products/new services | No competitive advantage | Lightly competitive advantage | Discernible competitive advantage | Explicit competitive advantage | Significant and lasting competitive advantage |

| | | | | | |
|--|-----------------|---------------------|-------------------------|---|---|
| Increment of market shares | Not discernible | Hardly discernible | Discernible improvement | Clearly improved at the expense of the competitor | Improved clearly and lastingly at the expense of competitor |
| Improvement of reaction time | Not discernible | Hardly discernible | Discernible improvement | Faster than competitor | Clearly faster than the competitor |
| Increment of exit barriers for customers | Not available | Hardly discernible | Discernible increment | A basically higher exit barrier threshold | Highest possible exit barrier threshold |
| Increment of entry barrier for competitors | Not available | Hardly discernible | Discernible increment | A basically higher entry barrier threshold | Highest possible entry barrier threshold |
| Better information and control possibilities | Not discernible | Limited improvement | Discernible improvement | Explicit improvement | Significant and lasting improvement |

| Project management: criteria overview »Operative urgency« | | | | | |
|---|-------------------------|--------------------------------------|---|--|--|
| Points | 1 | 2 | 3 | 4 | 5 |
| Criteria | | | | | |
| Extreme legal specifications | No non-observance | Non-observance but without sanctions | Non-observance but probably without sanctions | Non-observance but probably with sanctions | Non-observance which definitely leads to sanctions |
| Internal revision and control regulations | No impairment of safety | Tolerable impairment | Noticeable impairment | Severe impairment | Complete impairment of orderliness and safety |
| Dependence of singular projects | No dependence | Limited dependence | Noticeable dependence | Strong dependence | Highest possible dependence |
| Problems in daily business | Not available | Almost not available | Medium share of error quota/ complaints | Great share of error quota/ complaints | Unacceptable great error and complaints quota |
| Replacement and modernisation | No need | In nearest future, no need | Need for action already announced | Urgent need for action | Immediate need for action |
| Changes in development-organisation | No effects on projects | Hardly no effects on projects | Limited effects | Need for action for project initiation | Initiation of projects is a »must« |
| Changes in process organisation | No effects on projects | Hardly no effects on projects | Limited effects | Need for action on project initiation | Initiation of projects is a »must« |
| Personnel shortages | No limitation | Hardly limited | Medium shortage | Strong shortage | Insurmountable shortages |

3.3 CLASSIFICATION OF PROJECTS IN A RANKING ORDER

Rating figures will be determined for each of the following three criteria

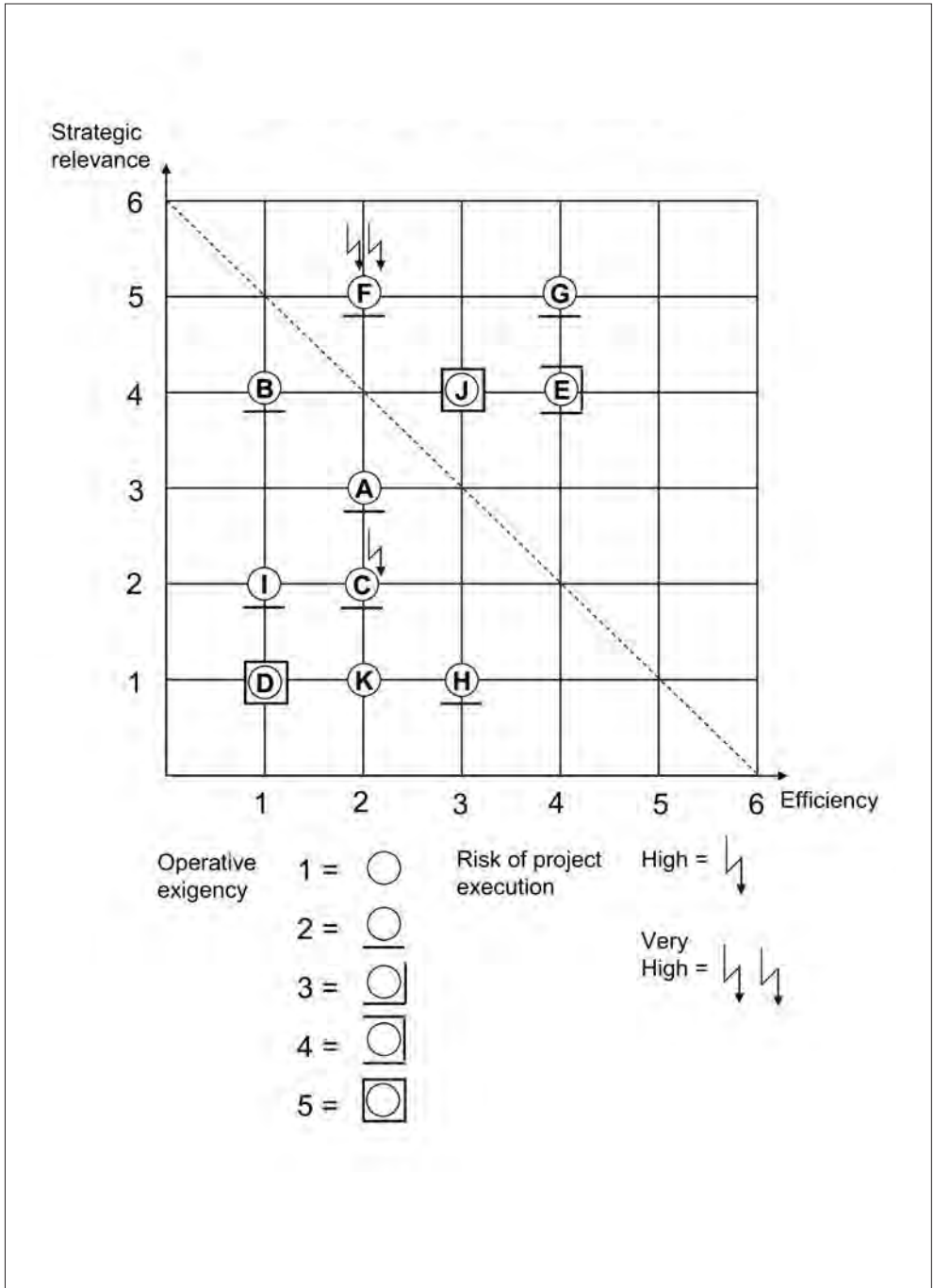
- I. Economic efficiency,
- II. Strategic relevance,
- III. Operative urgency

(See the form »Evaluation of projects«). While in our model approach »economic efficiency« only a single factor emerges (duration of amortisation), the criteria »strategic relevance« and »operative urgency« are a result of a combination of several factors. With these criteria, the rating figures should be constituted from the highest evaluation of individual factors. Simultaneously, it is recommended to ascertain an average rating for all eight factors. The procedure can be deduced from the table »Project prioritisation«.

- Initially, the rating figures will be recorded for all the projects.
- Conclusively, the triple digit number will be recorded in the column »Evaluation figure«, whereby the highest evaluation point represents the first number, the smallest evaluation point, the last.
- A ranking order corresponding to ascertained evaluation figure will be determined. This will be entered in the column »Ranking order«.
- In the column »Risk involved with execution of project«, a corresponding remark will be made for all projects with a high or very high risk.
- For exemplification purposes, the projects could be represented in a portfolio with the coordinates »Economic efficiency« and »Strategic relevance«. From this positioning, one is able to recognise the value position of the projects based on these two criteria (see table »Portfolio Project management«).
- The third dimension »Operative urgency« will be represented through a different amount of lines which leads to the highest stage (value 5), a quadrate. From the portfolio matrix, it can be observed that this quadrate is available only in projects J and D. Because a quadrate is awarded only a rating of 5 makes projects J and D »Must investments«.
- In the contemplation of portfolio matrix, the following prioritisation is appropriate:
 - A »5« in »Operative urgency« is a cause big enough to provoke an immediate reorganisation. In our cases, these are the projects »J« and »D«.
 - Projects with a high evaluation in strategic and economic dimensions have priority. These are primarily projects on the right side of the diagonal. In our situation, projects »F«, »G«, »E« are concerned.
- The risk involved with execution of the project is to be paid attention to as a decisive factor in contemplated projects.

| Evaluation of projects | | | | | |
|--|-------------------|----------|------------|---------------|-------------|
| 1. Profitability / Payback period | | | | | |
| Payback period (in years) | Over 6 | From 4-6 | From 2,5-4 | From 1,25-2,5 | From 0-1,25 |
| Profitability figures | 1 | 2 | 3 | 4 | 5 |
| Evaluation | | | | | |
| 2. Strategic relevance | | | | | |
| Evaluation | Very low | Low | Medium | High | Very high |
| Criteria | 1 | 2 | 3 | 4 | 5 |
| Better customer orientation | | | | | |
| Creation of additional utility | | | | | |
| New products, new services | | | | | |
| Increment of market share | | | | | |
| Improvement of reaction time | | | | | |
| Increment of exit barriers | | | | | |
| Increment of entry barriers | | | | | |
| Better information control | | | | | |
| Evaluation (highest value) | | | | | |
| Evaluation (Average value) | Score: Criteria = | | | | |
| 3. Operative exigency | | | | | |
| Evaluation | Very low | Low | Medium | High | Very high |
| Criteria | 1 | 2 | 3 | 4 | 5 |
| Fulfilment of legal provisions | | | | | |
| Fulfilment of internal provisions | | | | | |
| Dependency of projects | | | | | |
| Daily operative problems | | | | | |
| Need for replacement, renewal | | | | | |
| Changes in structural organisation | | | | | |
| Changes in process organisation | | | | | |
| Personnal shortages | | | | | |
| Evaluation (highest value) | | | | | |
| Evaluation (Average value) | Score: Criteria = | | | | |

| Projects \ Evaluation | Efficiency | Strategic relevance | Operative exigency | Evaluation score | Ranking order | Risk of project execution |
|-----------------------|------------|---------------------|--------------------|------------------|---------------|---------------------------|
| A | 2 | 3 | 2 | 322 | 7 | |
| B | 1 | 4 | 2 | 421 | 6 | |
| C | 2 | 2 | 2 | 222 | 9 | High |
| D | 1 | 1 | 5 | 511 | 4 | |
| E | 4 | 4 | 4 | 444 | 5 | |
| F | 2 | 5 | 2 | 522 | 3 | Very High |
| G | 4 | 5 | 2 | 542 | 2 | |
| H | 3 | 1 | 2 | 321 | 8 | |
| I | 1 | 2 | 2 | 221 | 10 | |
| J | 3 | 4 | 5 | 543 | 1 | |
| K | 2 | 1 | 1 | 211 | 11 | |



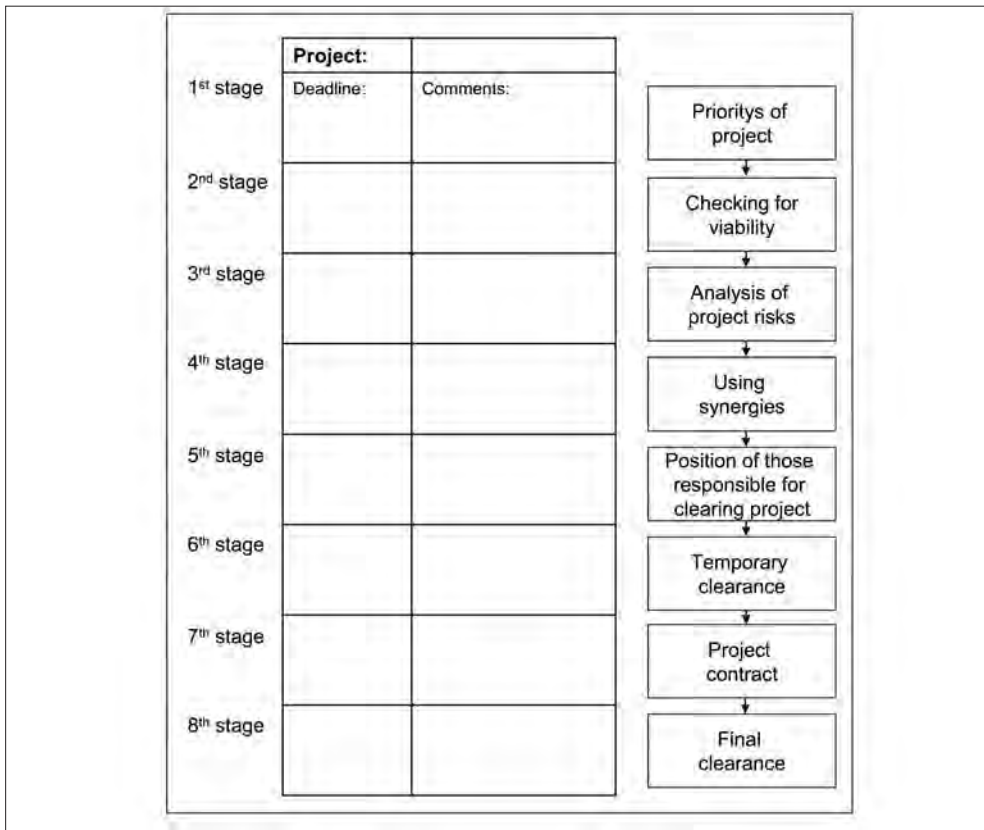
3.4 CHOICE OF PROJECTS

Each recommended project is going to be appraised by those responsible for clearing projects (mainly in smaller organisations) or from a clearance body. On the basis of each evaluation, the estimation of risk and of available resources will be determined, which projects and in which priority are to be carried out. In bigger organisations, the choice procedure of projects is often differentiated according to the following stages (see table »Project selection and project clearance«).

1st stage: Determination of ranking order for projects under consideration

2nd stage: Control of projects under consideration according to their

- Financial,
- Personnel and
- Technical
- Feasibility.



- 3rd stage: Analysis of project-risk
 Here, projects with a high risk or very high risks are to be accorded special consideration. At the background are considerations aimed at containing project risks.
- 4th stage: Use of synergy potentials in chosen projects
 In this stage, the projects are examined for their synergy effects and recommendations are developed for their application.
- 5th stage: Remarks of clearance body
 In this step, the temporary ranking order (1st step) is confirmed (or as the case may be), changes are made to the project. In bigger companies and administrations with numerous projects running, this step can become iterating.
- 6th stage: Provisional clearance of project
 Those responsible for clearing single projects provisionally clear single projects.
 At this stage, information should be made on
- The project head,
 - Project team,
 - Concordance with staff association/staff council,
 - Project initiation contract.
- 7th stage: Project initiation contract
 The head of project should complete the project recommendation into project initiation contract. This contract document should contain the following:
- Project objective,
 - Deadlines,
 - Costs,
 - Personnel,
 - Competences,
 - Coordination with disciplinary superiors, with staff association/ staff council etc.
- 8th stage: Final approval
 If the project initiation contract has been completely coordinated by all those responsible, then the project will be finally be approved. With the approval of project order, the real project work commences. Before final commencement, clear position should be taken on following:
- The objectives for client and other participants,
 - Decision competences,
 - Project phases,

- Reporting,
 - Required tools,
 - Control points
- (See table »Project contract«).

It is always happening that projects go through changes due to external or internal activities. It is recommended to formally record such change proposals.

The form »Sample of a modification application« shows a possibility of executing change proposals.

| | | |
|---------------------------------|------------|---------|
| Project contract: | | |
| Project goals: | | |
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| Project leader: | | |
| Project manager: | | |
| Reporting by project leader: | | |
| Competencies of project leader: | | |
| Schedule | | |
| Project begin: | | |
| 1 st Phase: | Beginning: | Ending: |
| 2 nd Phase: | Beginning: | Ending: |
| 3 rd Phase: | Beginning: | Ending: |
| 4 th Phase: | Beginning: | Ending: |
| Project budget: | | |
| a) Personnel budget: | | |
| b) Material budget: | | |

| | |
|--|-----------------|
| Modification application for project: | |
| The applying department: | |
| The application: | |
| Justification: | |
| Negative effect is not realised: | |
| Date: | Dept.head: |
| Project group comment: Project status as relevant: | |
| Input towards realization: Personnel: Time: | |
| Recommendation: | |
| Date: | Project leader: |
| Decision Project committee: | |
| Comment: | |
| Date: | Chairman: |

4 TYPES OF PROJECT ORGANISATION

In explaining the meaning of definitions, it was explained that projects are characterised by criteria like clear goal, uniqueness, temporal limitation, cooperation between branches and functions and inter-disciplinary characteristics. It is obvious that suitable form of organisation must be found for individual situations through special characteristics of this organisational method. Three possibilities are potential choices:

- 1 Pure project-organisation,
- 2 Headquarters project-organisation,
- 3 Matrix project-organisation.

The basic contents, advantages and disadvantages as well as favoured possible applications can be deduced from the following presentations. Generally it can be asserted that

- In »pure project organisation«, competence is invested exclusively in the project head;
- In »headquarters project-organisation«, competence is vested in the parent company;
- In »matrix project-organisation«, competence is shared (see the table »Competency sharing in classical project organisational forms«).

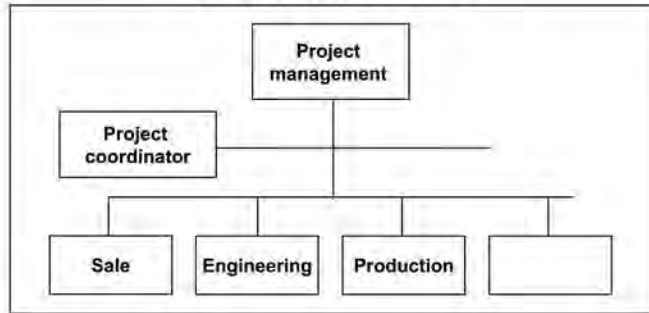
5 PROJECT PARTICIPANTS– QUALIFICATION PROFILES, TASKS AND CONFLICTS

The following are predominantly represented:

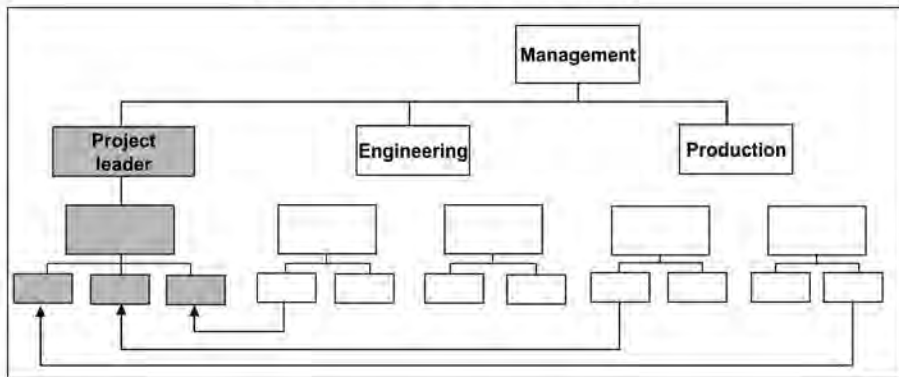
- Persons responsible for control/a controlling body,
- The project head,
- Team members,
- Specialised areas.

In the following, the qualifications expected of this group of people will first of all be treated in overviews and tables. Then in the end, information will be provided on team development and possible causes of conflict. In order to concretise the information and afford a concise presentation, we will consciously waive the so called »textual dessert« in this part of the presentation.

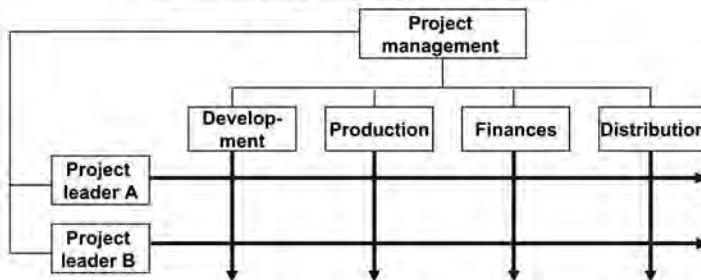
Staff project organisation
(Project coordination)



Pure project organisation



Matrix project organisation



Staff project organisation (Project coordination/influence management)

Features:

- The control responsibility of the project is taken over by a central headquarter functioning as »Project coordinator«.
- The existing organisation remains in place, i.e. the departments develop the project themselves.
- The »project coordinator« reports to the person(s) responsible or directly to the client.
- The »project coordinator« himself has no instructional authority.

Advantages:

- No organisational reorganisation, the hierarchy remains unchanged.
- No problems with detachment or/ re-integration of staff members.
- The line superior can flexibly control assignment of workers.

Disadvantages:

- Discrepancy between day-to-day activities and project work on the line.
- The danger is too big. Nobody feels responsible for the project.
- In case of doubt, day-to-day business is given priority.
- Delimitation of responsibility among participants is difficult.

Applications:

- Small projects.
- Projects involving several companies.

Pure project organisation

Features:

- An independent position is created under the leadership of the project leader.
- Participating staff members are commissioned from the headquarters under the project leader. He is thereby not only technically responsible for everything, but also responsible for participating personnel in the project.
- There is a »parallel-line organisation«, e.g. a project leader has a clear instructional authority and he is fully responsible.

Advantages:

- Everything is in a single hand as a result of the competence of the project leader.
- In case of unforeseen developments/influences, reactions and actions are prompt.
- A higher definition with the project leader and the team as a whole.

Disadvantages:

- This form of organisation is only then applied when the project is of a particular magnitude.
- Staff members can be taken out and later re-integrated.
- Individual workers e.g. specialists are not optimally employed.

Applications:

- Big projects lasting a long time or which are critical.
- When a quick reaction to market changes/customer wishes is desired. Nowadays, there is a range of companies who have established this form of organisation at the highest management level.

Matrix project organisation

Features:

- The project leader is the technical head while the head of the ceding department is head of personnel. Staff members serve two masters.
- The project head assumes responsibility for the project.
- Matrix project organisation is a combination of »Pure project organisation« and »Headquarters-project-organisation«.

Advantages:

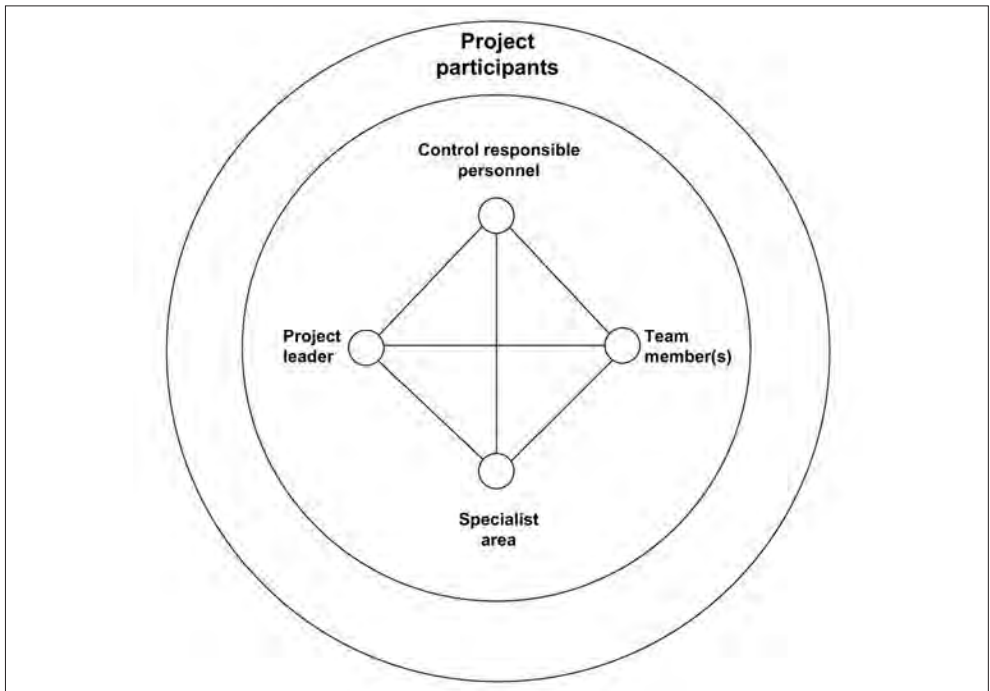
- There is no need to change existing organisation and their responsibilities.
- Flexible personnel control.
- More directed application of special knowledge.
- Networked thinking and integrated contemplation is required.

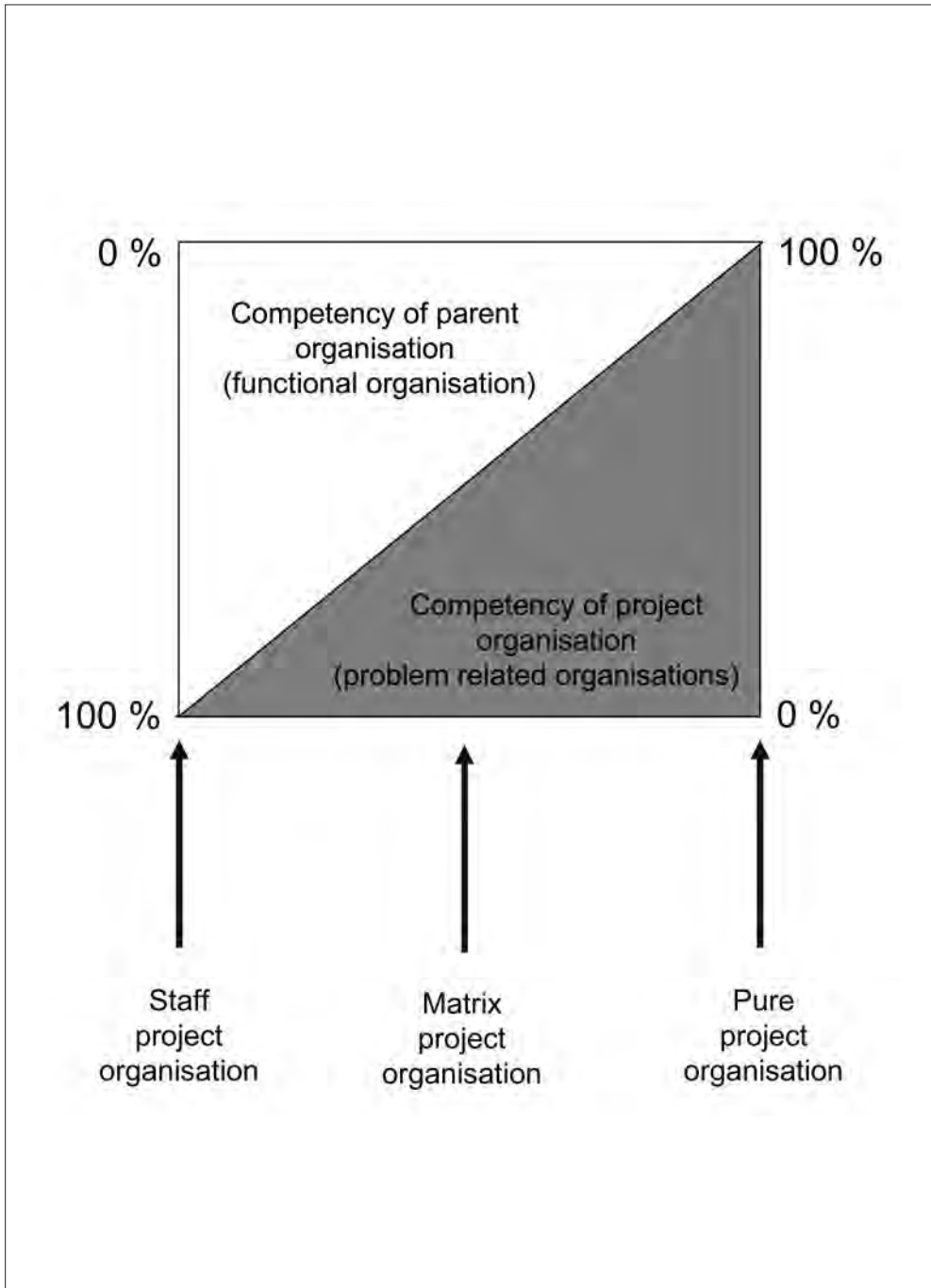
Disadvantages:

- Difficulties in delimitating tasks, responsibility and competency between line and project.
- Greater time input for decision making process and communication process by senior management and other co-workers.
- Dangers in concrete evaluation of workers

Applications:

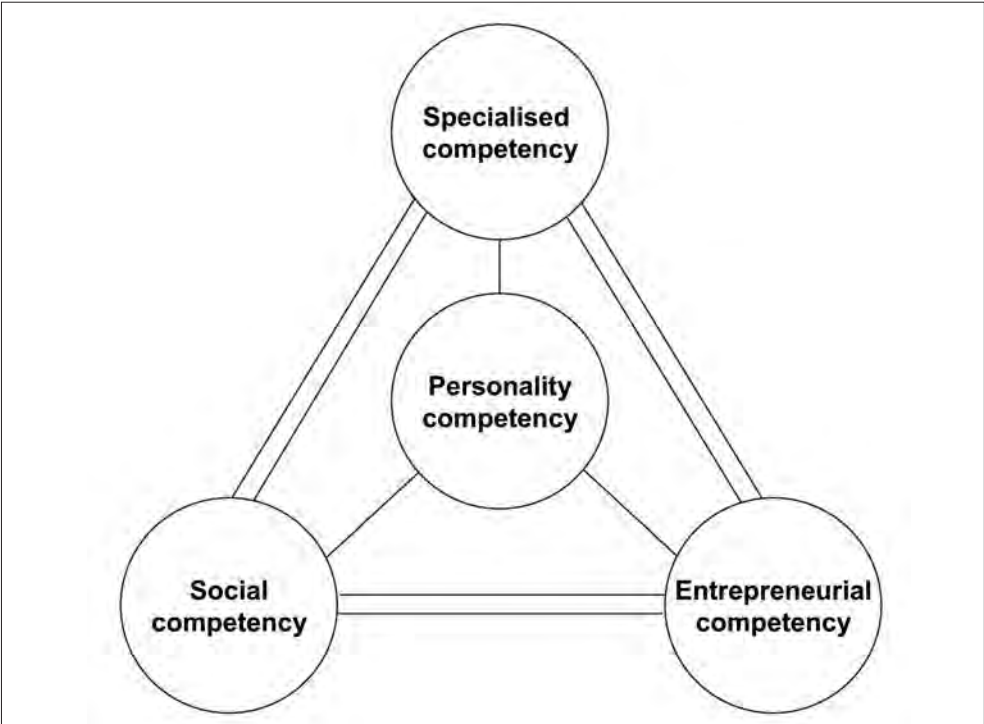
- Applicable at all hierarchical levels.
- Mainly by cross-linked problem formulation.
- Often applied by data processing projects.





158 | Competency sharing in classical project organisational forms

| Controlling personnel/controlling body (Project committee/control committee) |
|--|
| Tasks: <ul style="list-style-type: none">- Catalyst for the project- Controlling authority over the project- Determination of the goals- Approval of changes in set goals- Determining the general frameworks- Appointment of project leader- Determination of financial specifications- Determination of temporal specification- Determining the appropriate form of organisation- Total responsibility for the project- Clearance of the project- Clearance of individual »mile stones«- Information of management decision makers on the progress of the project- Summoning meetings with the project team- Motivation of team members and other participants in the project- Inspection of the project controlling- Representing the advantages and benefits of the project work- Development of final report- Dissolution of the team |



Personality competence of a project leader

The following are a part of the basic characteristics of a good project manager:

- He should think and act entrepreneurial
- He should be prepared to assume responsibility for decisions
- He should feel well in an environment of high uncertainty and dynamics
- He should portray features of a »key player« and »visionary standard bearer«
- He should be problem and goal orientated and have fun in solving problems and conflicts
- He should possess a positive and optimistic basic principles
- He should have negotiating skill and the ability to assert himself
- He should have the ability to inspire participants for the common goal so as the unleash motivation and energy
- He should be characterised by perseverance and tenacity in the pursuit of objectives

Professional competence of a project leader

The project leader is responsible for the realisation of the following special tasks:

- Determine and coordinate project goals and milestones
- Develop project organisation
- Establish project structure plan
- Adequate planning, directing and information systems
- Define work packets and assign them
- Conduct cost-utility analysis
- Estimate risks
- Create personnel and resources plan
- Prepare alternative solutions and bring these to decision
- Monitor schedules, milestones and costs
- Conduct regular status meetings, document agreements
- Regular information and coordination with the client
- Coordinate changes in goal and content and document these
- Secure project documentation
- Transfer and conclude project

Characteristics and competencies of a project leader from the perspective of team member

- Can lead a team successfully
- Is professionally competent although not the best expert
- Has a view for the basics
- Is an excellent strategist and planner
- Possesses astute thinking, an excellent analyst
- Capable of negotiating clear agreements internally and externally
- Has self confidence
- Fully committed to the project
- A good moderator, obliges and motivates team members
- Achieving progress and makes success obvious
- Fully represents the project outside
- Can impart the »we-feeling« and a positive attitude to objective of the project and its success
- In the position to address and manage conflicts

Characteristics and competencies of a project leader from the perspective of controllers

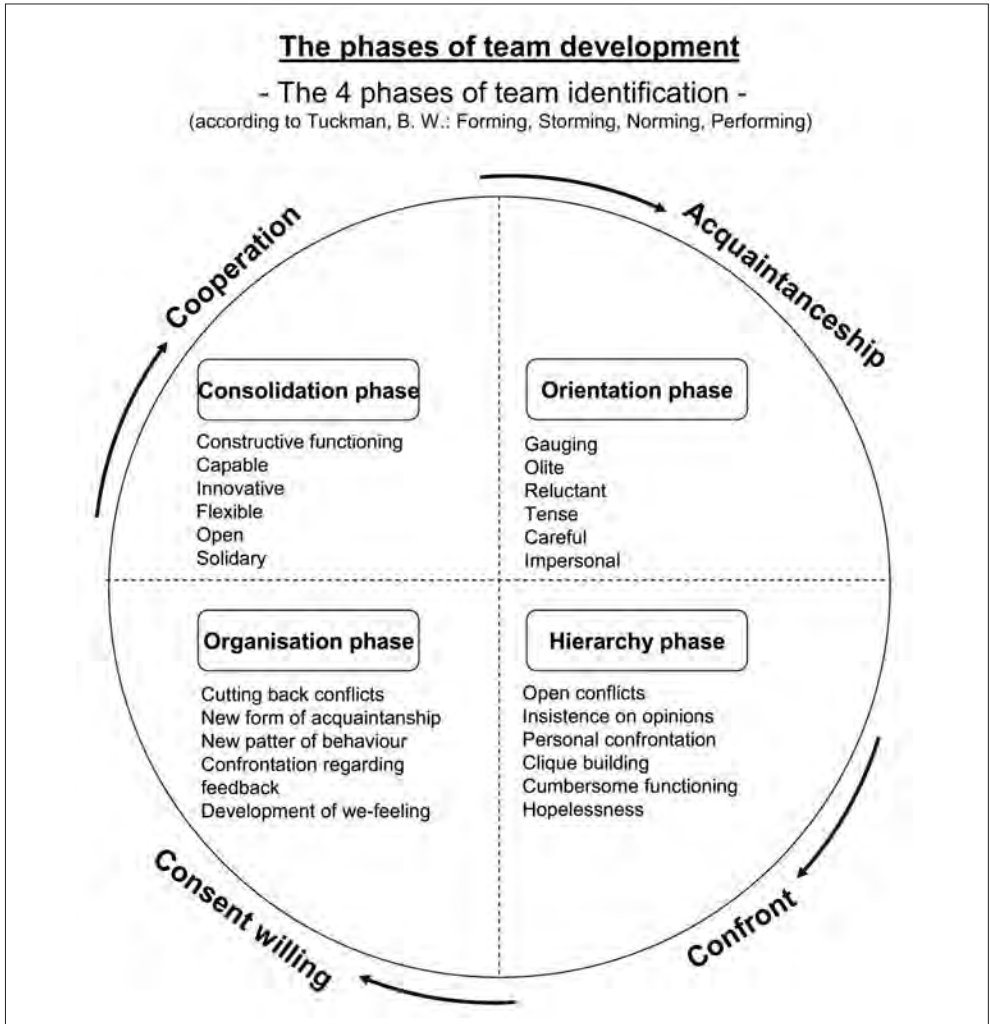
- Acts entrepreneurial
- Committed, volunteers
- Uncomplicated organiser
- Pursues a clear course
- Has everything under control
- Also capable of dealing with complicated people
- Also acclaimed by experts
- Factual, discussion readiness, balanced tolerant
- Capable of dealing with stress, not oversensitive
- Assertive even without formal authority
- Professional overview, adaptive fair and convincing negotiator
- Has time enough for the project
- Ensures good communication between the client and other participants

| Project XYZ: | Job description for the project leader |
|----------------------------------|---|
| 1. Job description | Project leader |
| 2. Owner (person) Representative | Fritz Huber Petra Mueller |
| 3. Subordination relationship | Directly responsible for everything concerning the project |
| 4. Tasks | <ul style="list-style-type: none"> - Execute the project according to agreements stipulated in the initiation contract - Project team presented in consultation with line superiors - Plan, monitor and control project with regards to the goals, deadlines and costs - Lead and coordinate project works - Ensure flow of information between all participants in the project - Prepare, effect and control phase decisions - Ensure documentation |
| 5. Competences | <ul style="list-style-type: none"> - Assignment of responsibilities to project participants within the framework of agreed temporal contingent - Leading the project groups - Initiate project meetings, control of fulfilment of tasks, deadlines, budgets - Right to negotiate in matters concerning the project with internal and external positions - Right of disposal of project budget - Authorisation of trips within the limit of trip-budget |
| 6. Responsibility and duties | <ul style="list-style-type: none"> - Fulfilment of project contract (contextual, deadline, costs) - Obligation to providing reports to the control body/client - Constant coordination with participants and all other affected |

How can a project leader avoid discouragement?

- Making team member a joint entrepreneur
- Emphasise the specifics, the newness of a task
- Deciding on and stipulating individual goals
- The employees are included in the goals of their own task
- Allow employees to work independently
- Takes into consideration individual needs and capabilities in tasks
- Enable a feeling of success
- Acknowledge performances (individually and in the group)
- Discuss about errors lack of success
- Direct profiling
- Recognise conflicts within the team and ensure clarification
- Maintain contacts internally and externally
- Be a role model
- Improvement of personality, knowledge, social and corporate competencies

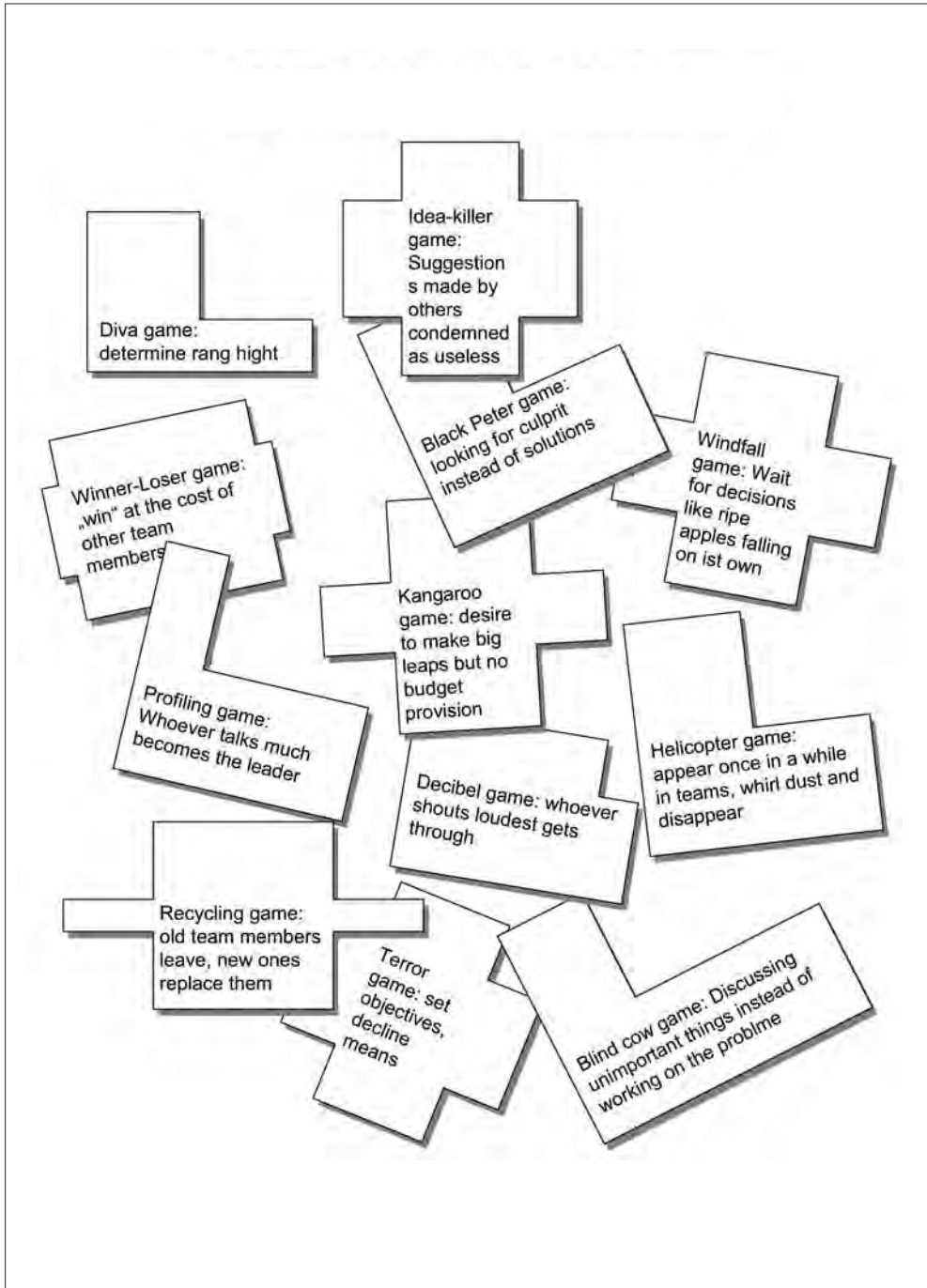
| Difference in personality, knowledge, social and corporate competencies between the project leader and team members | | | |
|---|-----|--------|------|
| Feature | low | medium | high |
| Competence categories | | | |
| Personality competence | | | |
| • Enthusiastic | | | ○ □ |
| • Self discipline | | ○ | □ |
| • Decision making ability | | ○ | □ |
| Knowledge competence | | | |
| • Expertise | | □ | ○ |
| • Skills | | □ | ○ |
| • Sense of judgement | ○ | | □ |
| Social competence | | | |
| • Willingness to cooperate | | | ○ □ |
| • Leadership behaviour | ○ | | □ |
| • Ability to motivate | | ○ | □ |
| Corporate competence | | | |
| • Goal oriented | | | ○ □ |
| • Creativity | | | ○ □ |
| • Thinking economically | | ○ | □ |
| <input type="checkbox"/> Projekt manager <input type="radio"/> Team member | | | |



161 | The phases of team development

| Influencing control of a positive team development through the project leader | |
|---|--|
| Dangers | Recommendations |
| Phase 1: Acquaintanceship | |
| 1. Prevalence of insecurity and excessive reluctance with individuals and groups. | 1. Make sure that each member is taken seriously and feels valuable to the project. |
| 2. Isolated thinking and an high entry barrier obstruct team development. | 2. Promote contact and communication among participating employees. |
| 3. The groups can not find the right way to one another, difficult to work. | 3. Take a lot of time at the beginning. Operate like a team member and a moderator. Try to form the groups and to direct them through demonstration. |
| Phase 2: Confrontation | |
| 4. Increased occurrence of conflicts. Different views, convictions and moral concepts. | 4. Conflicts are signs of team development. Permit controversies, try to arbitrate only in isolated cases, differences are okay. |
| 5. Each person claims ultimate wisdom for himself. Personal interests are at the forefront. | 5. Make it clear that project result is more important than the totality of individual performances and that common goal is more important than respective individual interests. |
| 6. The work is strenuous, success signals are not recognisable, discouragement becomes the order of the day. | 6. Try to alleviate the working process using well trusted tools and rules, make success experience possible, recognise accomplishments of individuals and groups. |
| Phase 3: Consent willingness | |
| 7. The we-feeling is still underdeveloped. | 7. Clarification of the significance of the project to the whole organisation. Make it clear that everyone should feel responsible for achieving set objectives. |
| 8. The feeling of responsibility of individual team member is still prevalent. | 8. Make clear to everyone in the team the significance of integrated thinking. |
| 9. Difficulties in compliance to deadlines and costs endanger the success of the project. | 9. Generally, a cooperative leadership style is more appropriate. But before the ship is threatened with sinking, an authoritarian leadership is required. |
| Phase 4: Cooperation | |
| 10. It is not always possible to reconcile classical procedures with innovations. | 10. Always question existing linear thinking. Encourage your co-workers to embark on new ways. |
| 11. Employees think too little like entrepreneurs- in spite of their high professional and social competence. | 11. Exemplify joint entrepreneurship to your workers. Make it clear that freedom is not per decrees. |
| 12. accomplished success is only going to be cannibalised by the »Fastest« | 12. Make sure that the sun shines on the faces of all your workers and elucidate that the championship can only be won together as a team. |

| Effective and ineffective teams | | |
|---------------------------------|---|--|
| Success factors | Effective teams | Ineffective teams |
| Goals | Precise and accepted | Vague or unknown |
| Co-workers | Individual goals are fully integrated with team goals. | Personal and professional wishes are ignored |
| Joint entrepreneurship | Will be experienced | Wishful thinking |
| Roles | Responsibilities are clear and responsibilities are willingly assumed | Individual responsibilities are vague, rights and duties are not precise |
| Conflicts | Take place and are encouraged they serve the purpose of enhancing team work | Are suppressed, lead to tensions and destructive attitude |
| Leadership | Is seen as collective task and comprehended | One is accepted as head, others practically prisoners of their tasks |
| Motivation | High, fun | It is our job |
| Environment | Good moods, work and laugh mood | Dry, cold. Each goes his way |
| Communication | Clear and open; provided even if not demanded | Dragging, often after demand |
| Power | Team members are self conscious and act accordingly | Many feel powerless and they easily resign to fate |



Conflicts in project groups

What measures can be taken?



- Dealing with conflicts practically means that one communicates his observations to the group, discusses these and tries to interpret these together
- Conflicts have to be discussed. This usually leads to a deep and real working together in the group.
- In any case, how conflicts are handled is decisive for further development in the group.
- It is often enough to bring the surface, reasons for the conflicts or disruptions as a means solving them.

Please remember:

Conflict...

- is an indication of problems
- requiring a solution
- prompts interest
- is the root of changes
- binds the group, let it mature
- enables self awareness
- prevents stagnation

Conflicts and disruptions in project groups

Indication of conflicts could be:

Symptoms

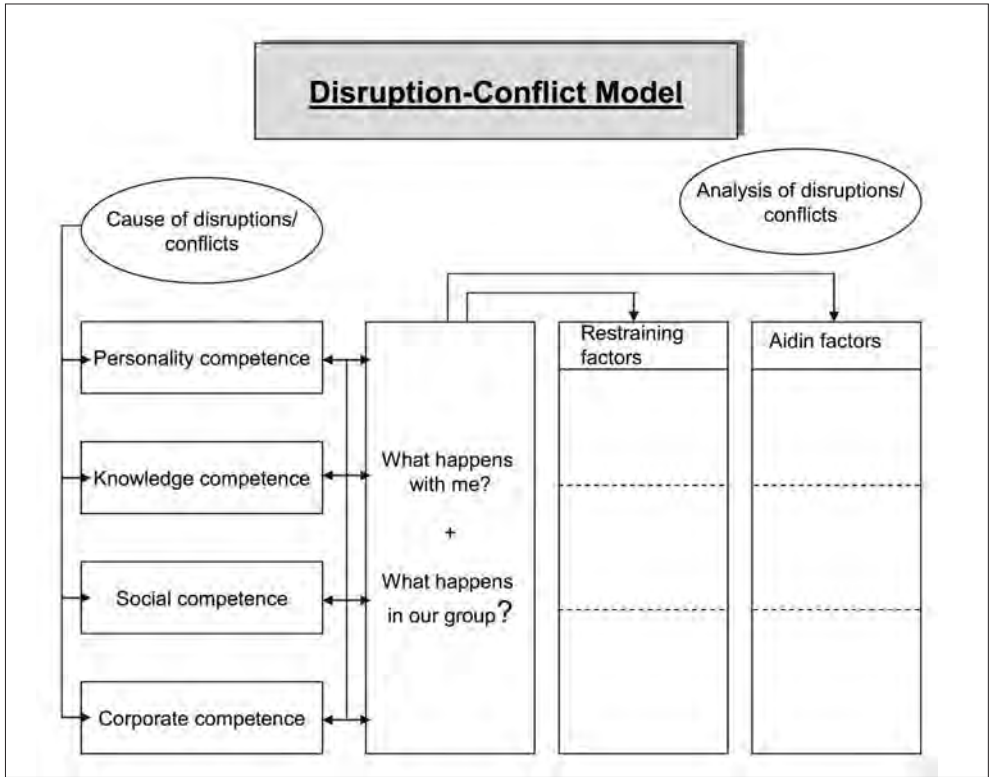
Members and project leader

- Are impatient with one another
- Are biased and refuse to yield
- Could not agree on proposals and plans
- Attack one another personally
- Speak derogatively about the group and its competence
- Accuse one another of not understanding the real problem
- Do not listen and are always repeating their own positions
- Everyone appears to be under time pressure, come late or do not come at all
- Participate too little, appear bored, yawn

Causes

Causes can be....

- Overstraining the group
- Too little challenge for the group
- Inner conflicts because they have other views, convictions and values
- Other or hidden objectives
- No interest in this task
- The feeling of not really being important
- Missing personal recognition
- Fear of decisions possible consequences
- Inter-personal conflicts, unable to bear one another



165 | Disruption-Conflict Model

6 GOAL AND CONTROL SYSTEMS IN PROJECT MANAGEMENT WITH REFERENCE TO SELECTED PROJECT PLANNING INSTRUMENTS

The quality of goal and control systems has considerable influence on the success of a project. If planning were to be the skill of »scratching oneself before it itches«, then this particularly applies to the control of projects in a particular way.

Goals of projects are differentiated into

1 SYSTEM GOALS

These consist of all specifications and wishes which are to be fulfilled in the end:

- Deadlines,
- Costs,
- Quality,
- Performance.

2 PROCEEDING GOALS

This occurs during the course of the project and concerns e.g.

- Mile stones,
- Specifications on the environment and means input,
- Working atmosphere in the team.

The following problematic is assumed in the table »Devil square«

- Temporal duration/deadlines,
- Costs/efforts,
- Quality,
- Extent of performance/quality.

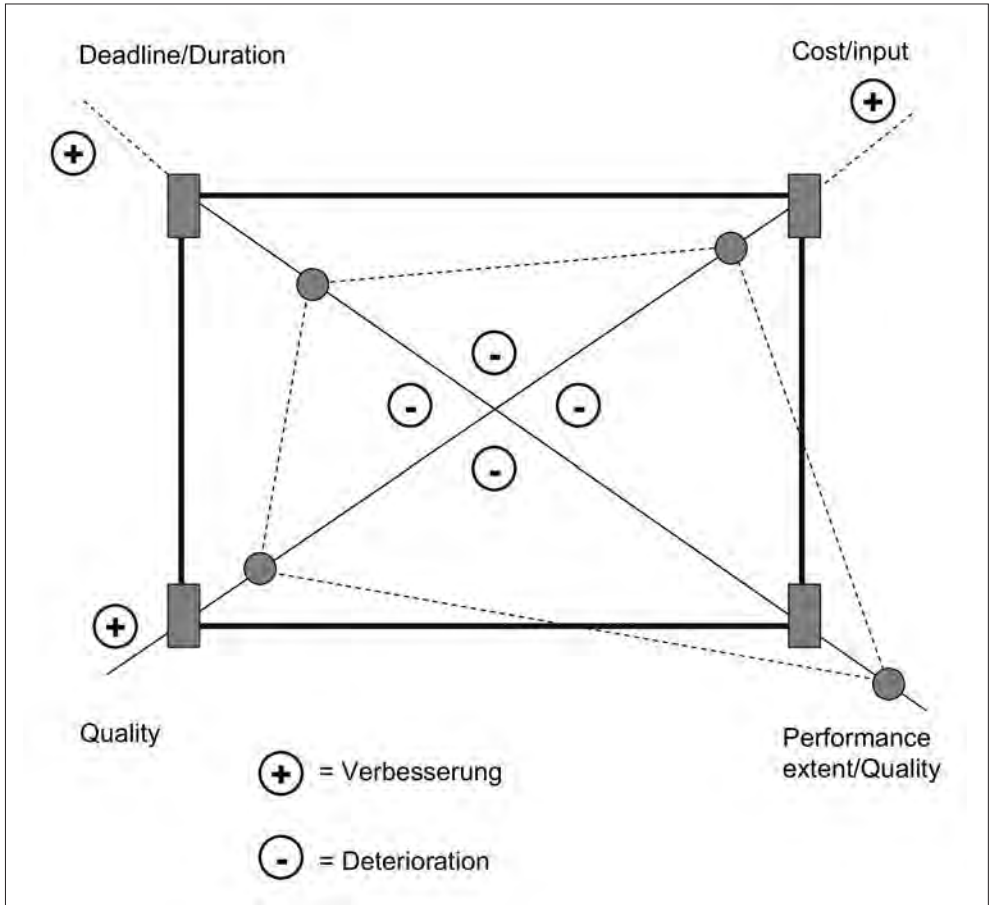
The necessity of planning results among other things from the following:

- In order to be sure that the goals are going to be achieved,
- In order to demonstrate how the goals are to be achieved,
- In order to foresee what is to be expected,
- In order to record the entire efforts! (employees, skill, resources),
- In order to secure the consent of all involved,
- In order to identify the interdependences within and beyond the project,
- In order to have a basis on which the project can be directed and controlled.

Planning also has a fundamental influence on the success of projects. Incomplete and bad planning is often a fundamental cause of conflict. This is impressively concretised in the works of Berella of SCS (on this, see table »Conflicts and project phases«).

The value of the goals can not be over emphasised.

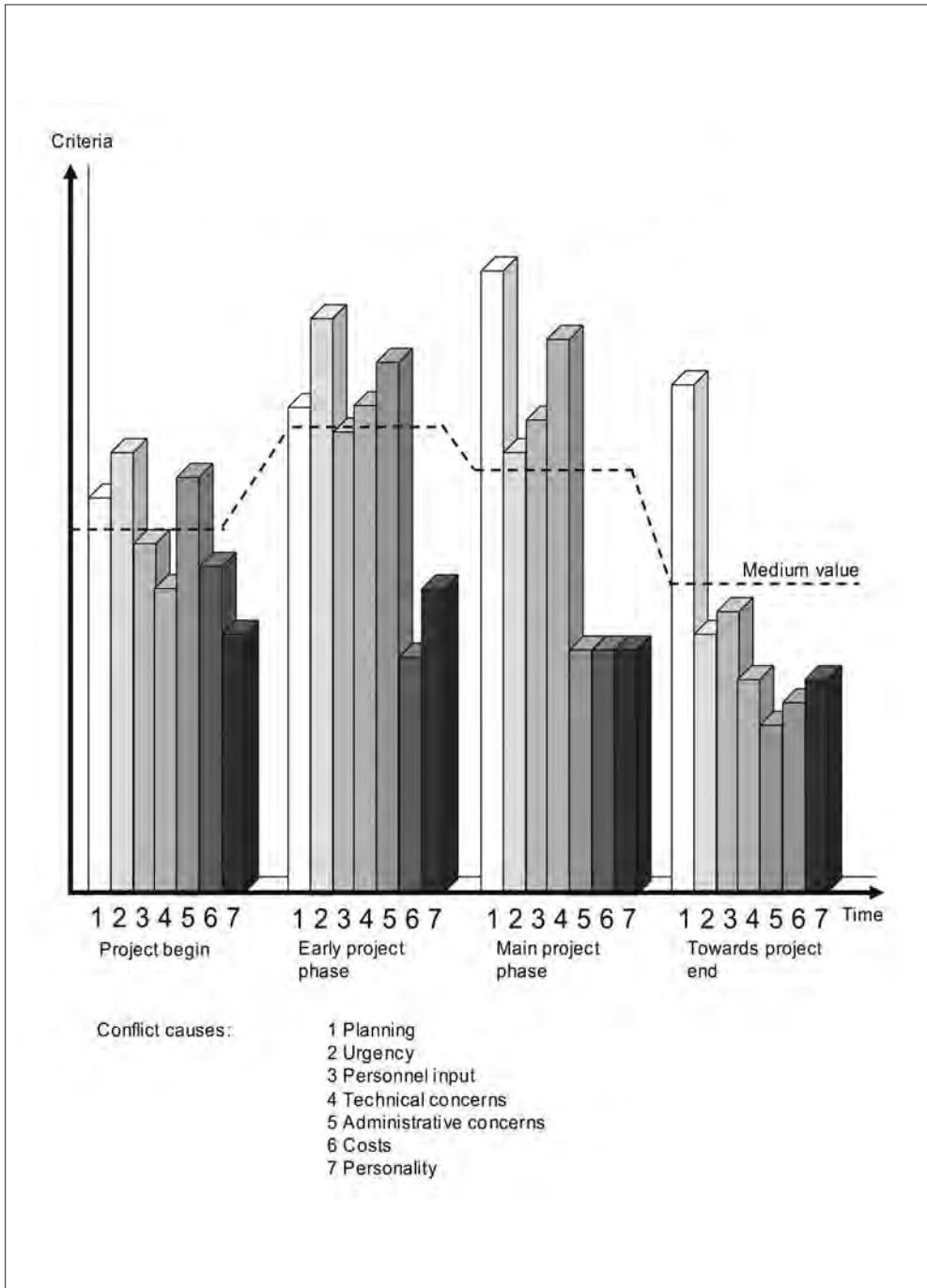
The ideal project goal is emphasised in the overview with the same name. Important however is that all participants are conscious of the advantages of concrete goals.



166 | The »Devil square«

The ideal project objective...

- Describes the desired final state
- is clear, comprehensible and explicit
- is imaginable (graphically)
- is solution neutral
- is challenging but achievable
- is quantifiable
- finds acceptance of all participants
 - Client
 - Planner
 - Executors
 - Users



Clear goals

- provide orientation,
- provide sense,
- motivate,
- awaken creativity,
- increase concentration,
- make active, lively,
- have leverage effect,
- assist in the choice of alternatives,
- makes result and success controls possible.

An orientation in the determination of project-goals is provided by the 6 Ws and 1 H (see table »Formulation of project objectives (according to the 6Ws and 1 H)«).

In proceeding goals, the milestones especially have a great relevance. With milestones, we understand specific and major events in the project process.

The following criteria are used in defining milestones:

- Start and end events
 - aggregate project start, end
 - Project phases start, end
 - Work package end,
- Test events and delivery event,
- Important events for the sponsor and management.

In this way, it is correct to perceive milestones as an effective means for success control. This should be made obvious to all participants.

For the presentation of milestones, bar charts and network plans are mainly used. Both methods will be comprehensively represented in the following.

BAR CHART DIAGRAM METHOD

For the presentation of projects in the practise, bar charts or GANTT-charts are increasingly being applied. The working processes will be depicted according to their technological process and their interdependencies over a time axis. The table »Presentation of a construction process« will clarify this method.

| Formulation of project objectives | |
|--|--------------------|
| Questions: | Our project |
| What should be achieved? | |
| Why are we doing that? | |
| How much should be achieved? | |
| When should it be finished? | |
| Which auxiliary conditions are to be observed? | |
| Which are the success factors? | |
| Who is responsible? | |

168 | Formulation of project objectives (according to the 6Ws and 1 H)

This method has a range of disadvantages in comparison with network plan method:

- The correlations between workflows are not clearly recognisable. In this way, construction process presentation doesn't really indicate whether excavation is the only condition for the phase »Carcass 1« or whether »Canalisation« must be finished by all means.
- In bar chart method, only one of several possibilities will be presented to address how the project can best be executed. Alternatives cannot be observed in this plan.
- Bar chart method provides no information at all on other possibilities on how the planning can be improved upon. This applies e.g.
 - with regard to production deadline,
 - assignment of personnel or
 - costs.

- Because of the fact that the correlations between workflows are not clearly recognisable, the effect delay in workflow will really have cannot be readily determined.

NETWORK PLANNING METHOD

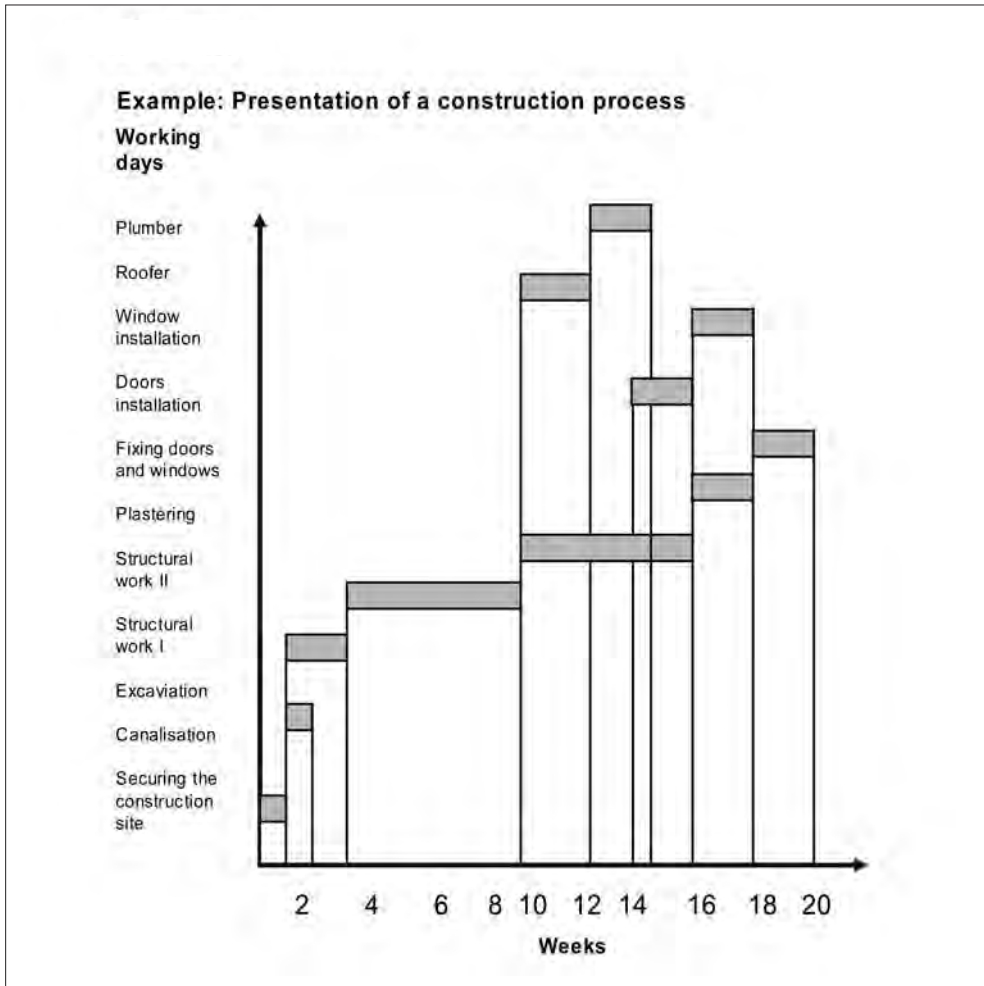
The represented disadvantages do not occur in the application of network planning method. This is why it has been successfully applied over the decades in project planning and controlling.

Network planning method is characterised by the following advantages:

- Distinctive interdependences of individual subtasks,
- Permits distinctive overview of the
 - procedures
 - procedures and next projects
 - events
 - critical path
- Simulations for several project processes,
- Acquisition of basic data for the planning of capacity, financial and operative needs,
- Realistic estimation of accomplishable deadlines,
- Early consultations among participating departments in the project.

In accordance to DIN 69 900, the basic features of network planning are:

| | |
|-----------------------------------|--|
| Project | Execution of the planned project, the tasks, problems e.g. construction plan, E+F project, organisational reorganisation..... |
| Process, Activity, Job | Time requirement of individual activities with starting and finishing points, e.g. concreting of the foundation, compilation of obligatory booklets, time requirements of a transport train. |
| Procedures and subs- Successor | The procedure which takes place indirectly or/and quently. |
| Arrangement | relationship A quantifiable interdependence between sequences or activities. FS= first sequence, CS= concluding sequence. |
| Event | Describes the setting in of a particular situation. For this reason, a process begins or ends, e.g. plans drawn, complete erection of necessary facilities. |



169 | Bar chart; Presentation of a construction process

Critical path

Is the longest activities process in a network. If the end of an activity moves on the path, then the last deadline of the project changes (calculative).

Knowledge and application of network plan method are shown in an example of the project »Construction of a bridge foundation« in the following. Following processes can be recognised as relevant:

| Key | Description |
|-----|--------------------------|
| A | Delimitating |
| B | Excavation 60% |
| C | Excavation 40% |
| D | Positioning 80% |
| E | Positioning 20% |
| F | Cementing |
| G | Removal of castings |
| H | Setting of concrete |
| I | Bringing the form-boards |
| J | Bringing cement/gravel |

(The percentage breakdown of the processes »excavation« and »positioning« is included so that the representation of the methods can be better recognised).

Table: Tentative procedure list.

At the latest, one notices in processes I or J that something is not right. Ultimately the form-boards (I) should have been brought before proceeding on positioning (D, E). One could correct the list by inserting I between C and D. The big question will be: will this now be appropriate? The answer is yes and no. Who says that I must precede C? Could both run parallel? This contemplation should show that the strict positioning of one after the other on the list is not appropriate to reflect logical relationships. One needs additional information, something in the form of direct predecessors. In case of a complex project, comprehensive examinations will be necessary in order to determine the direct predecessors.

Our example is presented from the good side because the immediate predecessors can be easily written down.

| Key | Description | Direct predecessors |
|-----|--------------------------|---------------------|
| A | Delimitating | |
| B | Excavation 60% | A |
| C | Excavation 40% | B |
| D | Positioning 80% | I,B |
| E | Positioning 20% | C,D |
| F | Cementing | E,J |
| G | Removal of castings | H |
| H | Setting of concrete | F |
| I | Bringing the form-boards | A |
| J | Bringing cement/gravel | A |

Table: Predecessor list with direct predecessors

Coming next is to conduct a time analysis. This begins by assigning temporal duration to each process in an integral multiplicity of selected temporal units for the project. We can assign the following time to the processes:

| Key | Description | Direct predecessors | Duration (days) |
|-----|--------------------------|---------------------|-----------------|
| A | Delimitating | | 1 |
| B | Excavation 60% | A | 6 |
| C | Excavation 40% | B | 4 |
| D | Positioning 80% | I,B | 4 |
| E | Positioning 20% | C,D | 1 |
| F | Cementing | E,J | 1 |
| G | Removal of castings | H | 1 |
| H | Setting of concrete | F | 3 |
| I | Bringing the form-boards | A | 1 |
| J | Bringing cement/gravel | A | 1 |

Table: Complete priority list

Even at this level, one still doesn't know anything about both the start and conclusion deadlines of individual processes; the total time is also not known. We will observe this below after we might have familiarised ourselves with the eventually proceeding methods.

Thereafter, the PDM presentation (Precedence Diagramming Method) will be elucidated. The individual processes will be represented on the right corner, the length side of which time is presented. This is however not the standard. Different possibilities exist which can represent the interdependences between individual processes.

END-START-RELATIONSHIP

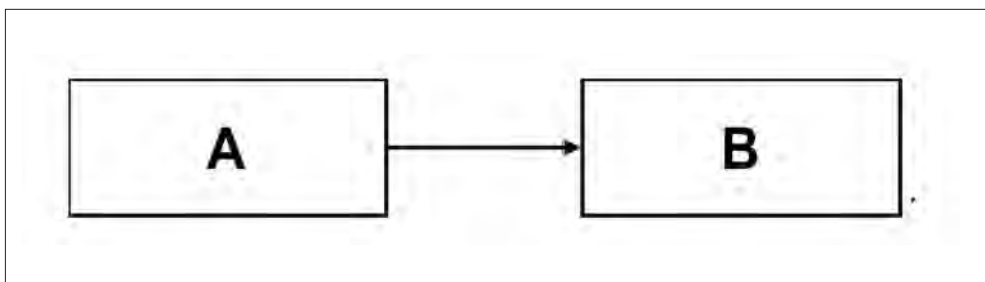


Figure: END-START-Relationship

The end of A is condition for the beginning of B

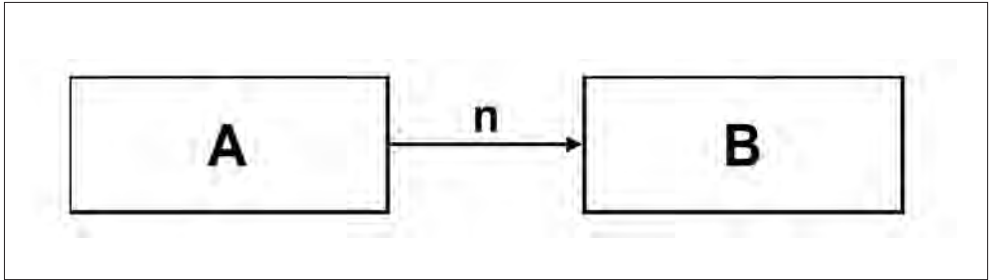
END-START-RELATIONSHIP WITH COUPLED INTERVAL

Figure: END-START-Relationship with coupled interval
B can only be started in n time unit only after the end of A.

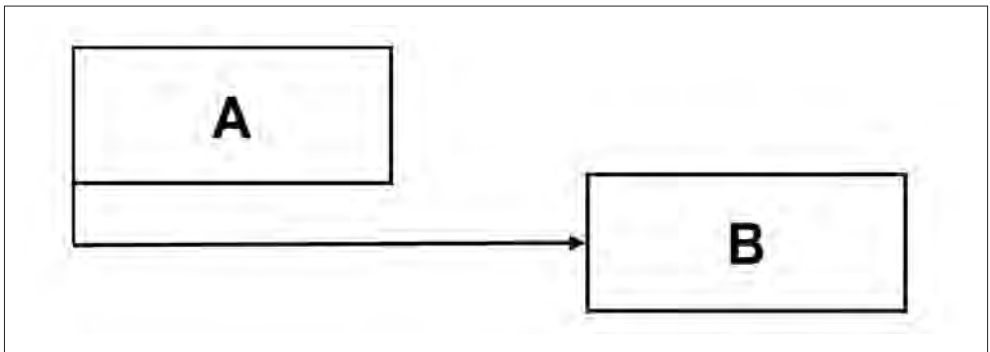
START-START-RELATIONSHIP

Figure: START-START-Relationship
The start of B is a condition of the start of A or: B can start earliest after A might have started.

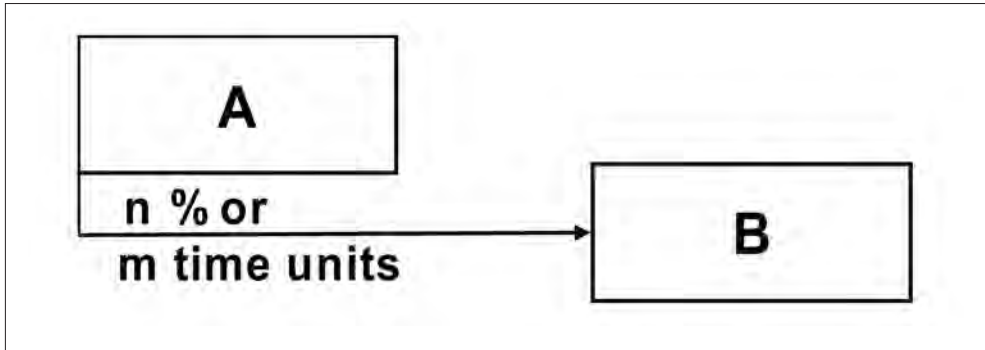
START-START-RELATIONSHIP WITH COUPLED INTERVAL

Figure: START-START-Relationship with coupled interval

The start of B sets as a precondition that n % of A must have been carried out or m time units of start of A must have elapsed..

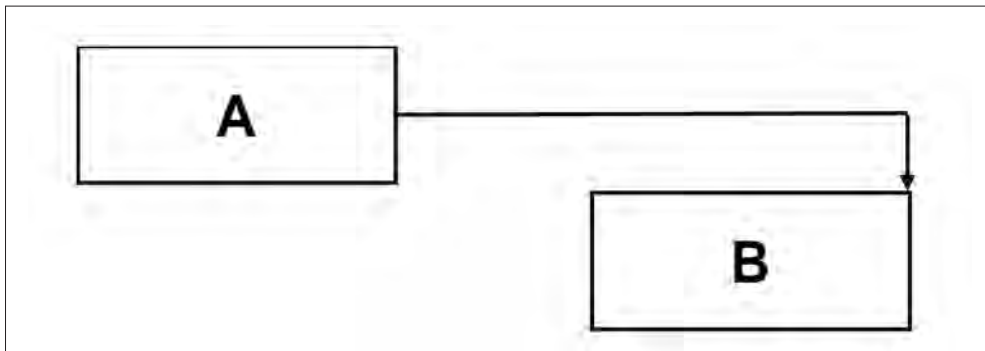
END-END-RELATIONSHIP

Figure: END-END-Relationship

The end of B means that A has already been concluded, or: B can only end earliest at the same time as A.

END-END-RELATIONSHIP WITH COUPLED INTERVAL

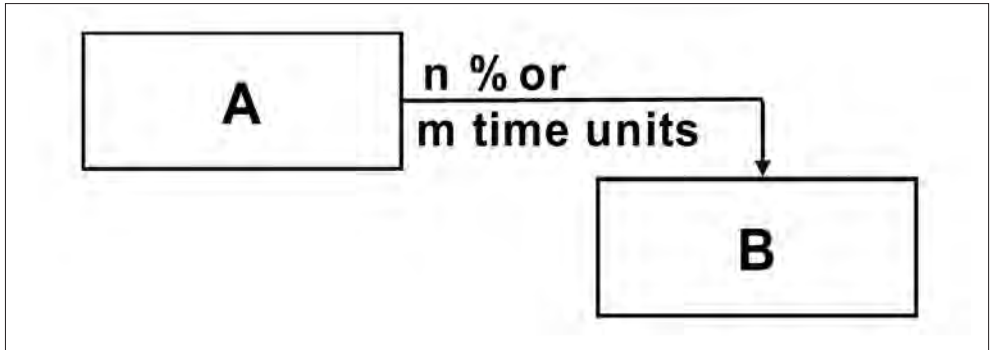


Figure: END-END-Relationship with coupled interval n % of B can only be carried out after the conclusion of A or/and B can only be carried out earliest in m time units after A must have been concluded.

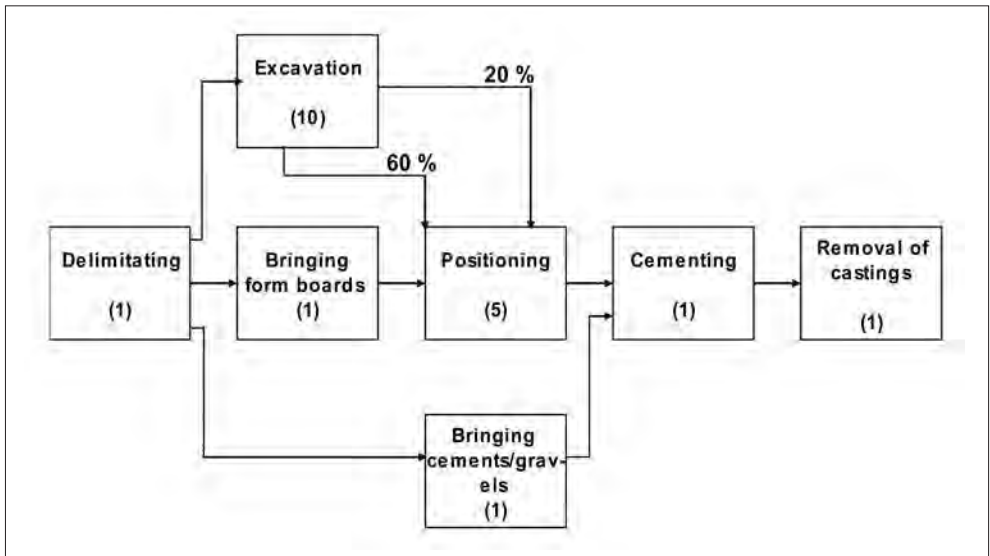


Figure PDM-network plan

On the basis of this network plan, we can also now bring the time analysis to an end. Until now, we have only categorised each process into length of time. First of all, we conduct a progressive calculation by which for each process the earliest possible start and earliest possible end, are calculated. In the following table, these deadlines are addressed at individual processes, respectively up on the left side of earliest possible start and up on the right to indicate the earliest possible finishing.

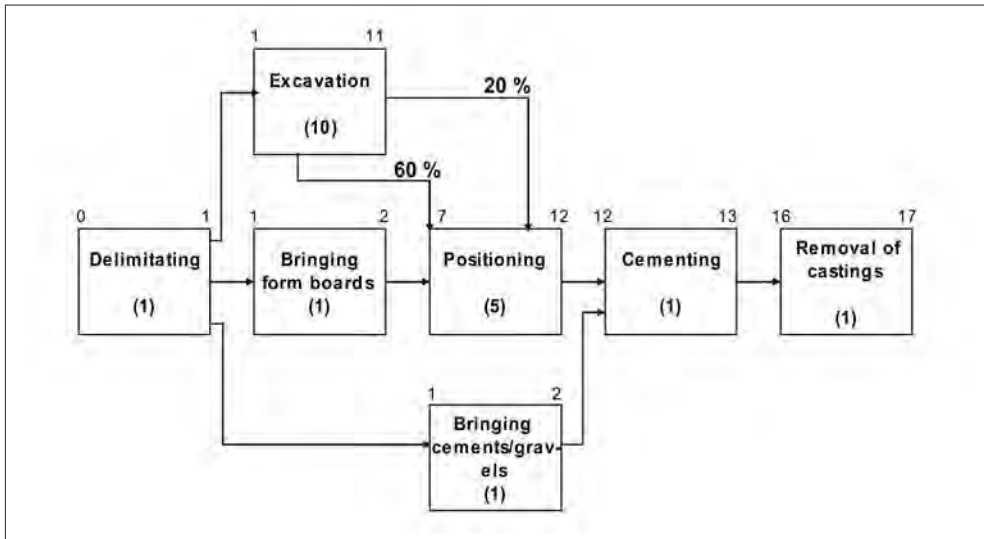


Figure: PDM- network plan with results of progressive calculation

How do these values come about? One starts with the process »delimitating« for which the earliest possible start is fixed at 0 time. Because »delimitating« lasts 1 time unit, the earliest possible end is 1. For the 3 following processes, »excavating«, »bringing of form-boards« and »bringing of cement/gravels«, the earliest possible starting date is known, namely 1. The addition of the duration of each process results in the respective earliest possible finishing time. If one process were to be dependent on others, one has to wait for the process lasting longest. This explains e.g. the starting date for the process »positioning« with 7.

The earliest possible end of the last process (»Removal of castings«) can be defined as the total duration of the project. Now, one normally also needs to know the latest permissible deadline for each process. This can be determined in a reverse calculation. In this case, one assumes the total period (of 17) and subsequently obtains the presented values in the following table (left below is the latest permissible start while right below is the latest permissible end).

On the basis of progressive and reverse calculations of each process, the following 4 deadlines result:

- Earliest possible start ES
- Earliest possible end EE
- Latest permissible start LS
- Latest permissible end LE

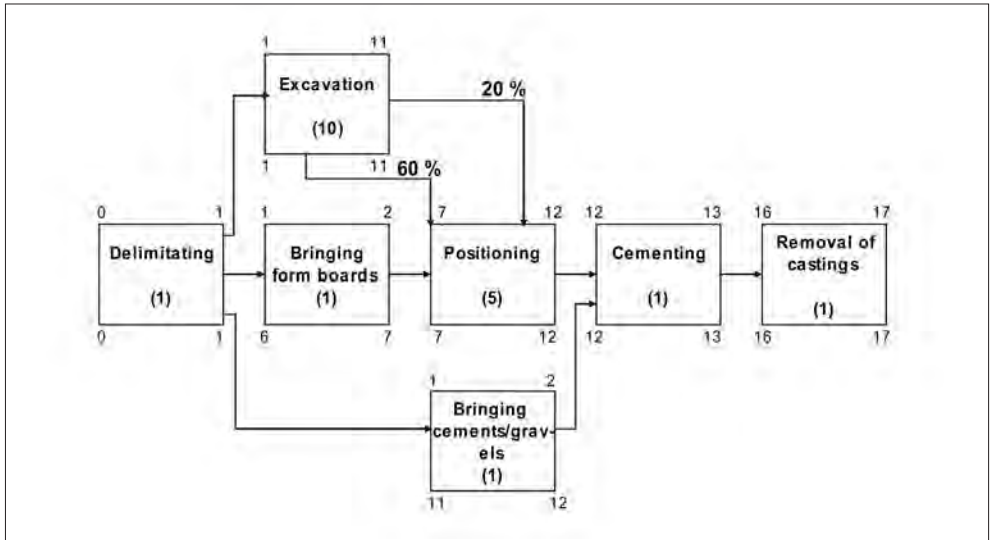


Figure: PDM-Network plan with the results of progressive and reverse calculations

If one observes these dates more closely, it becomes obvious that there are processes (toned in the table), where both earliest possible and latest permissible deadlines correspond.

This correspondence signifies the following: the process cannot be postponed or shifted without expanding the entire duration. These processes have no temporal buffer and this is why they can also be referred to as critical; they require the special attention of the project leadership. The lining up of critical processes is described as the critical lane.

For project planning and project controlling, it is recommended to utilise working forms as well as working aids. An example is shown in »Project planning and project controls«. In it, the following are (among others) incorporated:

- Description of sub-task,
- Number of sub-tasks (tasks with the same content contain same numbers),
- Priority of sub-tasks, whereby A stands for high, B for medium and C is for a lower priority,
- Time requirement (can be given in units e.g. minutes, hours, days),
- Delegated to co-workers, partners etc.,
- Number of workers (each participant receives a fixed number),
- The starting date signifies the beginning of activities,
- Control date serves the purpose of checking on progress of the project,
- The chance of realisation expresses how the chance of achieving the fixed date of completion can be ascertained at a particular control time. In this case, if a realisation

chance of 100% can be established, it means that the set completion deadline will be met. The lower the percentage is, the more difficult it is to adhere to completion date.

- End deadline, the deadline for the fixed end of sub-tasks,
- Costs of sub-tasks- ensuing personnel costs are collated here.

Such a working paper allows- among others- the following evaluations:

- Time input for all activities,
- Time input for same activities,
- Workload of employees as a result of the activities,
- Compliance with control dates,
- Realisation duration to measuring adherence to completion deadline,
- Possible endangerments of realisation of the project,
- Costs for individual activities,
- Costs of individual participants.

In »Estimations in a projects«, the input for the operations play a great role. Different conditions are to be fulfilled in this constellation:

1 DIVISIBLE ACTIVITIES WITHOUT INVESTMENT IN COMMUNICATION

In this case, time and personnel can be substituted. This means that the operation in question can be assigned to several other persons. The represented curve projection in the table »Estimations in a project« makes it clear for example that

- | | |
|------------------|----------|
| – 1 man or woman | 9 months |
| – 3 men/women | 3 months |
| – 9 men/women | 1 month |

will be required.

It will be assumed in this curve progression that no communication must take place between them.

2. DIVISIBLE OPERATIONS WITH INVESTMENT ON COMMUNICATION

If the conditions are present, even though the activities could be divided, a correspondingly time expenditure has to be added for consultations and reciprocative information. In the practise, a greater communication input is necessary. The function process is depicted in the table »Estimations in a project«.

3. ACTIVITIES WITH COMPLEX INTERDEPENDENCES

In complex interdependences, it is inalienable that employees are intensively trained and subsequently introduced to the problematic of the task. In realisation, constant controls, feedbacks and consultations between all parties involved is necessary. This makes it clear that it is impossible to shorten the duration of the project simply by assigning more people to the project. It is often so that the more the numbers of persons involved in a project, the longer the project will last. The represented function in the table »Estimations in a project« makes it clear that the optimal realisation of the project lies in the corresponding appropriate number of employees.

4. ACTIVITIES WITH INDIVISIBLE INTERDEPENDENCES

This fact makes it clear that the number of employees has no influence on the duration of operation. Because the activities cannot be divided, you could bring in as many people to the project as you desire without having to change the finalisation. Here, Kuepper refers to the plausible example of pregnancy. Now, it last only nine months to bring a child to the world. This process cannot be changed, not even if this responsibility can be shared among many women.

Within the concept of temporal disposition of project procedure, there are often difficulties. One allegedly has so much time at the beginning of the project. Concerning time analysis, there are different approaches to formalisation. A very simple possibility is in the compilation

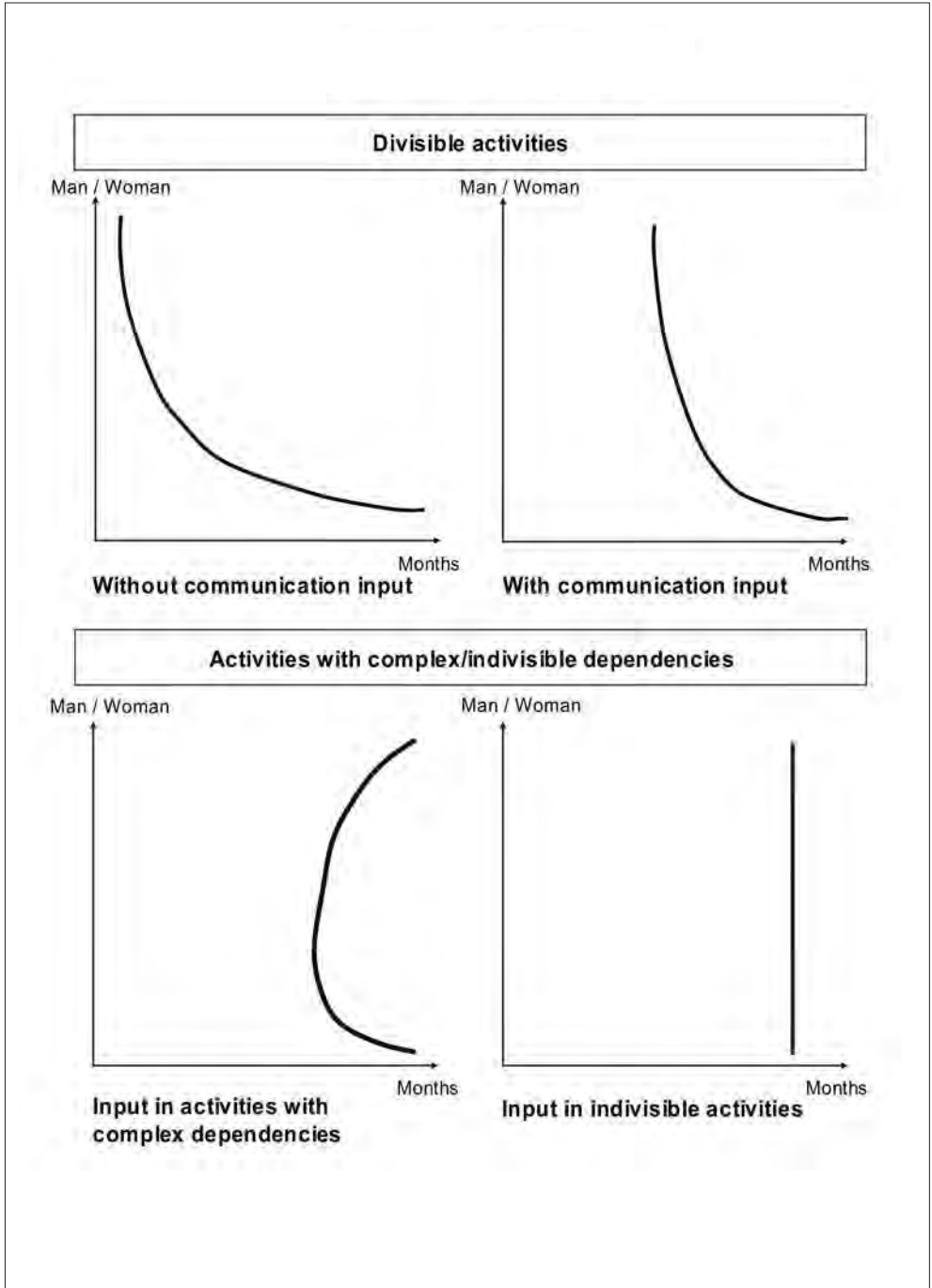
- of must deadlines: these are deadlines to which certain operations must have been performed,
- of today's deadlines: i.e. date the project commences and
- of activities (operations), which are given in time unit (minutes, hours, days etc.).

In both progressive as well as in reverse calculations, it is possible to ascertain the temporal buffer or even absence from work. If allocated time were to be short, then one has to contemplate which measure must be taken.

The following can for example be considered:

- Outsourcing of some operations,
- Intensified employee input (overtime, working over the weekends etc.),
- Best possible utilisation of work that can be undertaken parallel,
- Examination of the necessity of respective activities,
- Utility of potentials in a more efficient working process.

| Work sheet: „Project planning and project controls” | | | | | | | | | | |
|--|---------------------|----------------|---------------|--------------|-------------------|---------------|--------------|--------------------|--------------|------------------------|
| Project: | | | | | | | | | | |
| Date: | | | | | | | | | | |
| Designated finish date: | | | | | | | | | | |
| Description of sub-tasks | Number of sub-tasks | Priority A/B/C | Required time | Delegated to | Number of workers | Starting date | Control date | Feasibility chance | End deadline | Costs of the sub-tasks |
| | | | | | | | | | | |



The form »Project management- time analysis« shows a possible form of compilation of deadlines and activities. The times can be measured in the units of minutes, hours, days, months and years.

In the activities, attention should be paid to which work and to what extent it can be simultaneously executed. An indication of 100% means that a particular activity can be completely carried out parallel to another. A fixation of only 60% makes it clear that 40% of the operation cannot be processed parallel. This situation will be reflected in the duration of the project.

| | | | | | | |
|------------------------------------|-------------------------------------|---|-----|-----|------|------|
| Project: | | Acquisition of an "Internal Consultant" for correspondence course | | | | |
| | | Min. | Hr. | Day | Mon. | Year |
| Must-deadline: | Dispatch of prospects | | | 10 | 12 | n |
| Today's deadline: | | | | 1 | 11 | n |
| Difference: | | | | 39 | | |
| - Sundays | | | | 5 | | |
| - Holidays | | | | 1 | | |
| - Saturdays | | | | 5 | | |
| - Leave days | | | | 3 | | |
| - Sick days | | | | 1 | | |
| - Training for the project | | | | 2 | | |
| - Others | | | | - | | |
| Available / Missing time | | | | 16 | | |
| Nr. | Activities | Parallel execution | | | | |
| 1 | Determining target groups | | | 1 | | |
| 2 | Compiling the program | | | 3 | | |
| 3 | Checking the program again | | | 4 | | |
| 4 | Designing the prospect | | | 3 | | |
| 5 | Creating the proof copy | | | 3 | | |
| 6 | Checking the proof copy / clearance | | | 2 | | |
| 7 | Printing and supply of prospects | | | 2 | | |
| 8 | Write addresses | | | 3 | | |
| 9 | Packaging | | | 2 | | |
| 10 | Mailing of prospects | | | 1 | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| Duration of all activities: | | | | 21 | | |
| On time / delay | | | | 2 | | |
| Measures: | | 1. Consequential adherence of deadline specification 2. Intergration of graphic artist in the 44th calendar week 3. Consent of the printing office (H. Leinberger) with planned deadlines | | | | |

7 CHECKLIST FOR PROJECT MANAGEMENT

The following checklist is addressed at four groups:

- Controlling body (the client)
- Project head
- Team members
- The team as a whole.

Each question can be answered in a characteristic of 5-0, whereby single digits stand for:

- 5 = yes ; always
- 4 = very predominant ; mostly
- 3 = on average ; often
- 2 = conditional ; seldom
- 1 = very conditional ; very seldom
- 0 = no ; never

It will be desirable if the following will fill their checklists

- Controlling body,
- Project head and
- For each project participant.

The total sums are to be carried over into the ensuing hair-cross. In the process, an average value will be used for the evaluation of the third group. The evaluation sheet »Team total« will be filled out by every participant in the project. Also here, the average value goes in the hair-cross. The analysis provokes a range of inferences and questions such as:

- How many points will the controlling body give itself?
- How would the project head perceive himself?
- How would the employee appraise himself?
- How does the team see itself?

Because of the fact that all twelve questions are developed in the same structure, a good examination of self-perception and how one is perceived by others is possible. A detail provision of answers is possible with the second evaluation sheet. Here, obtained values for each question can be observed. An analysis of these numbers should be carefully undertaken. finally, enter the values in both evaluation diagrams.

| The controlling body | | | | | | |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | 0 |
| 1. Have I made sure that the goals are clearly defined? | | | | | | |
| 2. Are the general frameworks clearly described? | | | | | | |
| 3. Is it clear enough to me that I carry the overall responsibility for the a successful completion of the project? | | | | | | |
| 4. I bear the responsibility to selecting the right project leader and equip him with clear authorities. | | | | | | |
| 5. I am responsible for conveying expectations from the project to the project leader and the team. | | | | | | |
| 6. I do what is necessary for the team to obtain relevant competences (personality, knowledge, social and entrepreneurial competences). | | | | | | |
| 7. It is important to me that the project team understands itself as a team. I try to contribute my share to this line of reasoning. | | | | | | |
| 8. Internal and external communications are lived out by me as best as I can. | | | | | | |
| 9. For solution to problems, I get involved. I try to create the conditions for good conflict management through my attitude and with the help of fixed set of rules. | | | | | | |
| 10. I support motivation efforts of the team in different ways | | | | | | |
| 11. Holding of regular situational meetings is for me a matter of course. | | | | | | |
| 12. Everything necessary will be done by me to make the project a success. | | | | | | |

| The project leader | | | | | | |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | 0 |
| 1. The goals will be specified by me and will be made known to the team members. | | | | | | |
| 2. Adherence to general frameworks is for me an important success factor for my work. | | | | | | |

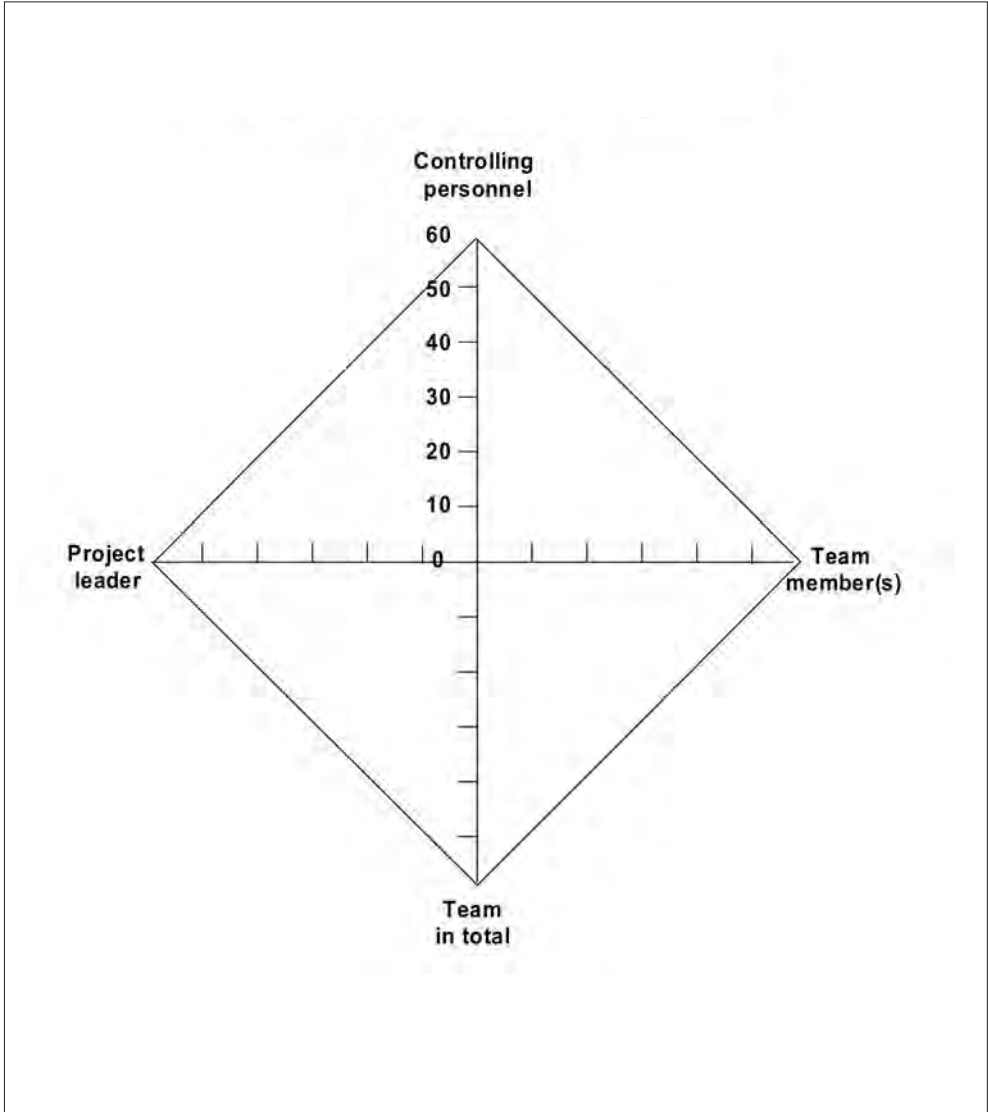
| | | | | | | |
|---|--|--|--|--|--|--|
| 3. I am conscious that I am decisively responsible for the successful execution of the project? | | | | | | |
| 3. I bear the responsibility to selecting the right project leader and equip him with clear authorities. | | | | | | |
| 4. I am responsible for choosing the right personnel so as to guarantee success. | | | | | | |
| 5. I bring over into the team the expectations of the management and I try to involve all participants in the goals. | | | | | | |
| 6. In the choice of team members, I pay attention to the right mixture of personality, professional, social and entrepreneurial competencies. | | | | | | |
| 7. I try to promote an atmosphere of support and trust within the team. | | | | | | |
| 8. To communicate with my team, superiors and participating specialist departments as best as possible. | | | | | | |
| 9. I try to make conflicts open so as to use the potentials for team development. | | | | | | |
| 10. I try to motivate the team as best as I can. | | | | | | |
| 11. I provide constant information to the team and coordinate with those responsible. | | | | | | |
| 12. I give all my strength, knowledge and wisdom in order to successfully execute the project. | | | | | | |

| | Team member | | | | | |
|---|-------------|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | 0 |
| 1. I know my goals and what is being expected of me. | | | | | | |
| 2. In my role as a team member, I act like a joint entrepreneur and observe the general conditions. | | | | | | |
| 3. I try to assume full responsibility for the tasks assigned to me. | | | | | | |
| 4. I try to ensure that my contribution to the team is efficient. | | | | | | |
| 5. I contribute actively and try to achieve my goals as best as possible in accordance with agreed set goals. | | | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| 6. I try to fulfil the competences expected of me. | | | | | | |
| 7. I support cooperation with the project leader and other team members in a constructive way. | | | | | | |
| 8. I communicate well with my team colleagues (internally) as well as with decision makers. | | | | | | |
| 9. I don't suppress conflicts, rather I address them openly. | | | | | | |
| 10. Motivation is intrinsic in me and they are very well encouraged by external factors. | | | | | | |
| 11. I pass on relevant and complete information to my team colleagues on time. | | | | | | |
| 12. I try to offer my contribution to the successful execution of the project. | | | | | | |

| The team as a whole | | | | | | |
|--|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | 0 |
| 1. The goals of the project and my goals are known to me. | | | | | | |
| 2. There is clarity on the general framework of our project. | | | | | | |
| 3. Assignments, responsibilities and authorities are clearly defined to all participants. | | | | | | |
| 4. The team possesses the right capabilities to act successfully. | | | | | | |
| 5. I am convinced that the company management, project leader and each member of the team know what is expected of them. | | | | | | |
| 6. The competence required will be very well provided by us (personality, professional, social and entrepreneurial competences). | | | | | | |
| 7. We profess ourselves to the team and live a team spirit as much as possible. | | | | | | |
| 8. Internal (in the team) and external (decision makers, specialist areas) communication is good. | | | | | | |
| 9. Conflicts are not swept under the carpet, rather discussed openly-beneficial to team development. | | | | | | |

| | | | | | | |
|--|--|--|--|--|--|--|
| 10. Motivation is high, it is fun to work in the team. | | | | | | |
| 11. The necessity of information is appreciated internally and externally. | | | | | | |
| 12. Success orientation of every participant in the project is very high. | | | | | | |



ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

3 THE »8-HOUR ANALYSIS«

INTEGRATED CORPORATE ANALYSIS WITH PROVEN TOOLS

GOAL(S):

The goal of this contribution is to develop an integrated approach to corporate analysis. This makes use of a range of instruments from »Practical corporate management«. The 8-hour-analysis has passed the practical test in the practise.

CONTENT:

- 1 Goal of the contribution
- 2 Consulting requirements and the 8-hour analysis
- 3 Goals and contents of the 8-hour analysis
- 4 1st module: the problem situation
- 5 2nd module: the success factors situation
- 6 3rd module: the market situation
- 7 4th module: the financial and costs situations
- 8 5th module: summary of results

INSTRUMENTS:

- Approximately 20 instruments from »Practical corporate management«

APPLICATION(S):

- For nearly all areas of business and administration.

UTILITIES:

- Quick execution
- Simple and clear plausibility
- A wide range of application possibilities
- Modular expandability of the product

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

The approximately 20 instruments were comprehensively presented in »Practical corporate management«. In this contribution, each one of the respective instruments being considered for application will be referenced in loose-leaf notebook. The desired information can be consulted at the appropriate positions.

1 PURPOSE OF THIS CONTRIBUTION

»Practical corporate management« was conceived as the tool box for solving problems in the areas of

- I. Strategic management
- II. Financial management
- III. Organisational and information management
- IV. Personnel management
- V. Procurement and production management
- VI. Sales management
- VII. Self management

The author of »Practical corporate management« has compiled a multitude of instruments and methods for practical corporate management and has developed many tools for the same purpose.

Depending on the specific problem presentation, potential instruments will be assumed, modified and as the case may be, may be conceived newly by the user.

At the forefront of the application, we have selective approaches to problem solutions.

The objective of this contribution is to develop an integrated approach for corporate analysis. This must take the 10 following premises into cognisance:

1. Quick execution
(hence 4-/8-hour-analysis)
2. Simple and clear plausibility
(hence regress to published methods)
3. Integrated and networked observation
(hence the observation of a) the problem situation, b) success factor situation, c) market situation and d) financial and costs situation)
4. Optimal support through experienced advisers
(hence the development to a licence product with comprehensive support)
5. Support through PC program
(hence an optimal symbiosis between individual and standardised corporate analysis)
6. Regress to operating ratios and databanks
(hence the development of data recall services)
7. Cost efficient development
(hence the specification of €2.500 for the analysis and €500 for analysis documentation by consultants)

8. Measures for quality assurance
(hence the specification of standards, rules and provision of aids)
9. Wide range of application possibilities
(hence the generalised conception which permits an area specific and individual adjustment)
10. Modular enlargement of the product
(hence the target collection of branch-know-how and permanent further training)

Within the framework of this contribution, a conscious attempt will be made to waive the descriptions of treated tools in »Practical corporate management«. Work forms for registration of facts will be presented only in isolated cases. Objective of the contribution is the integrated presentation of the analysis.

The 8-hour-analysis has passed the acid test in the practice. It is the corresponding situation which determines which appropriate method(s). This situational approach allows for flexible and dynamic work.

The 8-hour-analysis can be applied in:

- Medium sized companies in the sense of an integrated analysis
- Handicraft enterprise in the sense of an integrated analysis
- In big companies
 - a) integrated,
 - b) sectoral,
 - c) for individual product groups/business fields,
 - d) departmental orientation.

In the case of sectoral or departmental application, operating figure values are to be modified. In this case, productivity figures, added value data, cost data etc. all have a high relevance.

2 CONSULTING REQUIREMENTS AND THE 8-HOUR-ANALYSIS

I have been occupied with the methods and instruments of corporate analysis for many years. Consultants as well as authorities and companies have in the last decades favoured diversified procedures and methodical approaches. Respective systems and instruments considered for application have often been dependent on:

- The goal of the examination,
- The time duration of the analysis,
- The costs,
- The involvement of participants,
- The factual problems, as well as
- Verification management.

Certainly a range of tested analytical instruments had, and still retain their eligibility even until today. The changes within the organisation itself, the turbulences in the environment, free price fall, increasing displacement competitiveness, the new role of employees demand for rapidness and flexibility of logistic and a range of other developments are all changing the approach to consulting.

In the table »Changes in consulting approach«, the most important developments in consulting business are outlined. These may be only a rough outline but they present tendencies which are to be taken seriously in business consulting.

The product, »8-hour-analysis« strongly accommodates the presented changes. This is shown in the overview »Implementation of developments in corporate analysis through the 8-hour-analysis«.

3 GOALS AND CONTENTS OF 8-HOUR ANALYSIS

The 8-hour-analysis pursues the general goal of an integrated corporate analysis. The special goals are:

- In the course of the analysis, you will define and clearly describe your most urgent problem or problems. First solution approaches clarify what you have to do (Module 1).
- You will recognise the features (strengths and weaknesses) of
 - General success factors,
 - Branch success factors as well as
 - Specific success factors
 and you will be in a position to draw up the adequately activities (Module 2)
- You will develop a market analysis under the following aspects
 - Competitor analysis,
 - Customer analysis,
 - Product and service analysis,
 - Strategic analysis and
 - Innovation analysis (Module 3)

- You experience your company’s operating ratios for financial and cost situations and understand how to evaluate this (Module 4).
- You are in a position to prioritise the networked activities and develop ranking orders for the implementation.

The discussions on an individual and standardised analysis or consulting are being conducted, controversially for several years. More often, the different opinions can be traced back to unclear terms and set objectives in the consulting area. One is quick to agree when one is confronted with differentiated statements (between yes and no) such as:

| <u>Changes in consulting approach</u> | |
|--|---|
| <u>Now</u> | <u>Future</u> |
| 1. Analysis meant for differentiation | Concentration on the basic analysis |
| 2. Departmental view; area view | Integrated view |
| 3. Analysis of weak positions | Analysis of weak and strong positions |
| 4. Past and present oriented analysis | Future oriented analysis |
| 5. Facts analysis | Innovation analysis |
| 6. Internal image analysis | External image analysis (e.g. customers) |
| 7. Limited involvement of those concerned | Domination of consulting service by those concerned |
| 8. Boggled down methods | New solution approaches and instruments |
| 9. Cabinet commodity »report« | Live broadcast, that means »direct implementation« |
| 10. »White raven« and »grey eagle owls« call the shots | Learner organisation that is being carried by all |

| <u>Implementation of developments in corporate analysis through the »8-hour analysis«</u> | |
|---|---|
| <u>Requirements of the consulting</u> | <u>Realisation through the »8-hour analysis«</u> |
| 1. Concentration on core analyses | 1. A fundamental limitation follows in all four modules |
| 2. Integrated view | 2. Weak position, strengths, market and financial/cost analyses allow an integrated evaluation. |
| 3. Analysis of weaknesses and strengths | 3. Present character of success factors (2 nd module) |
| 4. Future oriented analysis | 4. Future character of success factors and evaluation of future positions in the future |
| 5. Innovation analysis | 5. Gaining of product, process and strategic innovation (3 rd module) |
| 6. External image analysis | 6. Obtaining customer opinion (2 nd module) |
| 7. Dominance of consulting service through those involved | 7. Strong involvement of participants |
| 8. New solution approaches and instruments | 8. The analysis has approx. 20 methods as content |
| 9. Live broadcasting, that means »direct implementation« | 9. Fixing of solution approaches and advancement of activity plans during the analysis |
| 10. Learner organisation that is being carried by all | 10. The analysis allows for constant update |

- Each analysis should basically have individual character.
- It must be customer oriented and should strongly consider take the specific situation of the company in question into consideration.
- Behind each successful analysis, there must be a tested system of procedures, analytical techniques, checklists and other different methods.
- An efficient and excellent analysis and consulting takes for granted a proven and tested tool box which contains standardised tools for the individual assignment areas and these should be problem, need and utility oriented.

If one accepts these theses or at the least, tolerate them, then one can confirm that the analysis or consulting must have to be individual, while the implements for economical reasons- can require certain standardisation. More and more instruments and methods are finding their ways into corporate analysis. Tools are being applied in numerous positions.

The integrated tools guarantee a strong individual orientation through individual modules and components. That this can be modified from case to case is a matter of course. The experienced user knows how one brings about a successful symbiosis of individuality and standardisation.

The division of the analysis in individual modules is depicted in the table »Content and chronology«.

4 MODULE 1: THE PROBLEM SITUATION

The goals and methods of this module emanate from the overview »Guideline to Module 1: Our problem situation«.

At the forefront of this part of analysis is the determination of problem fields and the solving of the most important problems.







Put the following questions to yourself:

- What is the most important problem to us at the moment?
- Which problem is equally of fundamental relevance?

Take as much as 90 minutes time for this module. This means that you work only on the most important problem or the two most important problems.

Goal of this module is therefore

- To recognise and be able to solve problems arising through projects,
- To evaluate possible alternatives,
- To convey those projects seen as important in a project recommendation

| Contents and chronology | | |
|---|--|--|
| Time | Module | Result |
|  | 1. Our problem situation | <ul style="list-style-type: none"> • Specify most important problems • Development of solution recommendations |
|  | 2. Our success factor situation | <ul style="list-style-type: none"> • Characteristic of success factors from own and customer perspective • Proposals for further development |
|  | 3. Our market situation | <ul style="list-style-type: none"> • Analysis of competitors, customers, products/ service performances • Sketching of solution approaches |
|  | 4. Our financial and cost situations | <ul style="list-style-type: none"> • Analysis of basic financial and cost ratios • Looking for solution recommendations |
|  | 5. Our networked activities from module 1 – 4 | <ul style="list-style-type: none"> • Evaluate and prioritise the activities • Create a catalogue of measures |
|  | 6. Conclusion of the 8 hour analysis | |

Guideline to

Module 1: Our problem situation

Goals

- **Development of the most important problems**
- **Structure the problems e.g. according to**
 - Relevance
 - Urgency
 - Susceptibility
- **Finding solution approaches**

Methods

- **Consultant workshop**
- **Solution matrix „Relevance/Susceptibility“**
- **Solution matrix „Importance/Urgency“**
- **Cards query „Weak points/Problems“**

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After problem identification, the data should be compiled together and information should be formulated concerning

- Problem description,
- Goals of problem solution,
- Description of possible problem solutions,
- Evaluation of alternatives and
- Points of intersection with other projects.

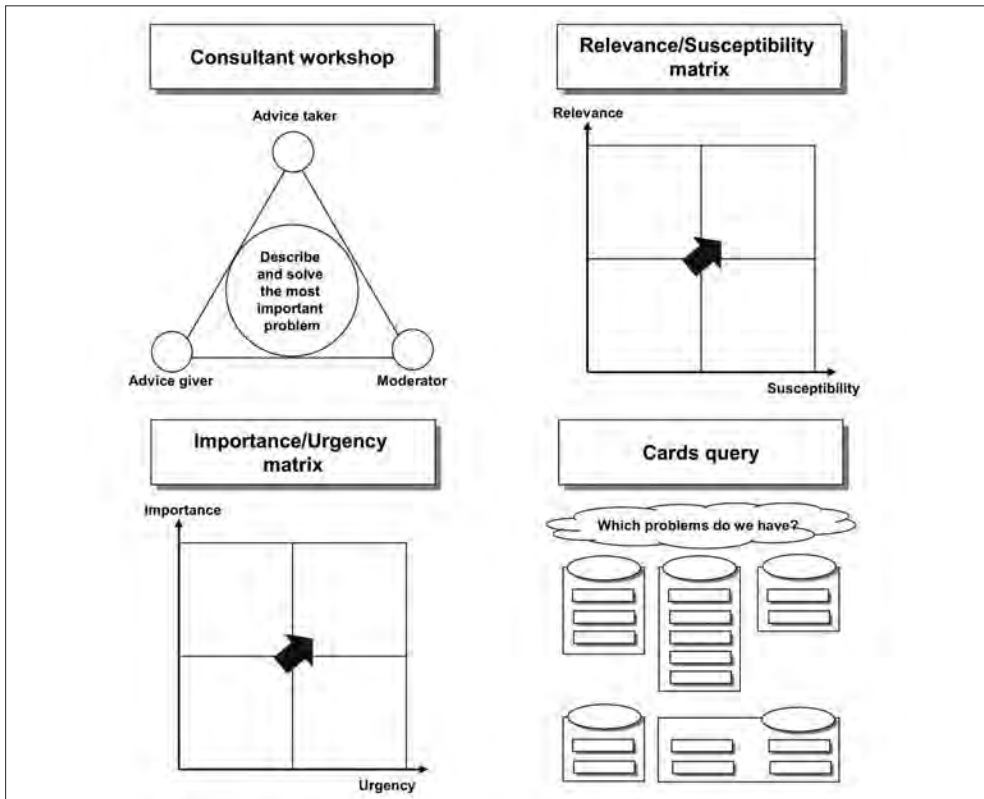
The following can be deduced as methods (see table »Methods for the analysis of problem situation«):

- Consultancy workshop
- Solution matrix »Relevance/Interferences«
- Solution matrix »Importance/Urgency«
- Solution matrix »Weak points/Problems«

The methodical approaches are comprehensively presented in »Practical corporate management«. In this contribution- as already undertaken in the first chapter- we will waive the descriptions and simply concentrate on the sources.

In order to support the user in the choice of relevant method(s), reference will be made to the synoptic presentation »Evaluation of methods for the analysis of problem situation«.

In practical life, it is recommended to make use of different spreadsheets. These spreadsheets help to optimise the analysis process, determine the major points and provide documentation support.



| Evaluation of methods for the analysis of problem situation | | | | |
|---|---|---|---------------------------------------|--|
| Criteria \ Methods | Consulting workshop | Solution matrix »Meaning/ Interference« | Solution matrix »Importance/ Urgency« | Brainstorming using cards »Weaknesses/ Problems« |
| 1. Goals of the methods | Determination of solution approaches to a problem | Classification of problems | Classification of problems | Determination of weaknesses |
| 2. Time input | 30 minutes | 20 minutes | 20 minutes | 45 minutes |
| 3. Minimum participants | 4 | 2 | 2 | 6 |
| 4. Knowledge requirements of moderator | Knowledge can be quickly learned | Limited | Limited | A moderator should have used this method before |
| 5. Collection of information from the user | Creativity is being demanded | Information is available in the heads | Information is available in the heads | Theoretical formulation of known problems |
| 6. Technical requirement | Flip chart or overhead projector | Flip chart or overhead projector | Flip chart or overhead projector | Pin-wall and moderator box |

5 MODULE 2: THE SUCCESS FACTORS SITUATION

The goals and methods of this module emerge in the overview »Guideline to Module 2: Our success factors situation«.

At the background of this analysis is the analysis of success factors.

The success factor system has passed its acid tested in practise. Numerous organisations in the economy and administration are applying this system in determining current and future success positions. Many business consultants are diagnosing the maturity grade of the organisation in question with the respective characteristics of success factors. The basic component parts of the system of success factors are:

THE GENERAL SUCCESS FACTORS

On the basis of comprehensive empirical examinations, six success factors, which have the general validity for every company/public authority, were ascertained. These are independent of commercial branches and organisations. The fact that specific characteristics will be possible is a matter of fact.

Guideline to

Module 2: Our success factors situation

Goals

- **Determination of the characteristics of a general success factors**
- **Determine branch success factors**
- **Development of specific success factors and determination of the features „today“ and in „future“ (own perspective)**
- **Seeking customer opinions on chosen success factors**

Methods

- **Life cycle of general success factors**
- **Worksheet „Branch success factors“**
- **Worksheet on specific success factors**
- **PC Program „SUBER“ (Strategic corporate consultancy)**

177 | Guideline to Module 2: Our success factors situation

THE BRANCH SUCCESS FACTORS

For every branch, there are specific success factors. The examination of these factors is a fundamental foundation for the development of company-specific and public authority-specific success factors. One obtains the following advantages through the stipulation of branch-specific success factors:

- The organisation is informed on which factors are decisive for success in a branch.
- Through the knowledge of branch-specific success factors, there is the possibility of comparing the characteristics of individual factors of one's business with the characteristics of the most important competitor or with the average in the branch in general. In this way, one has a good starting point for necessary activities.
- If the specific success factors have been developed, their completeness on the basis of branch-specific-success-factors will be examined.

THE SPECIFIC SUCCESS FACTORS

Under specific success factors are such factors to be understood, which determine the success or failure of

- Of an organisation/public authority,
- Of a branch/an office,
- A department/of a team or
- A person.

In this way, it will become clear that the system of success factors can be applied at every level of an organisation. Secondly, it is equally suitable for a personal progress assessment and the development of individual success positions.

As methods, the following can be deduced (see »Methods for the analysis of success factors situation«):

- Phase model of general success factors
- Spreadsheet »Branch success factors«
- Spreadsheet of the specific success factors
- PC program »SUBER« (Strategic business consultancy)

| Evaluation of the methods for the analysis of success factors situation | | | | |
|---|---|--|--|---|
| Criteria \ Methods | General success factors | Branch success factors | Specific success factors | PC-program »SUBER« |
| 1. Goals of the method | Determination of character of success factors | Classification of own and competitors' success factors | Determination of individual corporate success factors | Comprehensive analysis of success factors |
| 2. Time input | 30 minutes | 30 minutes | 60 minutes | 60 minutes |
| 3. Minimum number of participants | 2 | 2 | 4 | 4 |
| 4. Knowledge requirements of moderator | Knowledge of the system of success factors | Knowledge of the system of success factors | Intensive knowledge concerning the application | Experts in success factors system |
| 5. Collection of information from the user | Available knowledge is to be coordinated | Brainstorming in »system for success« | Common determination, prioritisation and categorisation of success factors | Coordinating of available knowledge |
| 6. Technical requirements | Overhead projector | Flip chart | Clip chart or pin walls | PC-software »SUBER« and a PC system |

General success factors

| Phases Criteria | I | II | III | IV | V |
|--------------------|---|----|-----|----|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Specific success factors

| Success factors | Feature | | △ |
|-----------------|---------|--------|---|
| | Today | Future | |
| | | | |
| | | | |
| | | | |
| | | | |

Branch success factors

| Success factors | <input type="radio"/> We <input checked="" type="radio"/> Competitor <input type="checkbox"/> Branch |
|-----------------|--|
| | |
| | |
| | |
| | |
| | |

PC Program „SUBER“

①

| | |
|---|---|
| A | P |
|---|---|

③

| | |
|--|--|
| | |
|--|--|

⑤

Customer opinion

②

Quick test

④

Active factors

⑥

Future

178 | Methods for the analysis of success factors

The tools for success factors system are handled in Practical corporate management.

In order to provide the user with assistance in the choice of relevant method(s), reference will be made to the synoptic presentation »Evaluation of methods for the analysis of success factors situation«

In this module, reference is made only to the PC program »SUBER/2« (Strategic business analysis and business consultancy).

With »SUBER/2«, you have the complete business on the test stand; from spread sheet analysis to strategic analysis and the analysis of customer satisfaction. With »SUBER/2«, you analyse the business within the shortest time, discover weaknesses and develop concrete solution approaches. The program with well over 2000 users is one of the most successful analysis programs in Germany.

BALANCE SHEET ANALYSIS (MODULE 1)

The basis for every type of corporate analysis is the detailed knowledge of the most important business data of the company. Only when one knows them will be in a position to

- Comprehend available structures and process and be able to categorise them,
- Be able to understand and evaluate acquired experiences within the framework of the examination,
- Develop adequate recommendations and action plans.

The analysis of balance sheets module of SUBER/2 makes it possible to collate the data for balance sheets and statement of income for seven years, compare them with one another and be able to derive quite a range of operating ratios from them. The result shows how the company has developed itself economically over the chosen time frame. Understandably, the time frame in question can be in the future. It is then possible to conduct simulations with target figures and compare these with real figures.

Operating figures system consists of the following areas of analysis:

- I. Analysis of profitability (five operating ratios)
- II. Added value (two operating ratios)
- III. Assets and liabilities structure (seven operating ratios)
- IV. Capital structure (seven operating ratios)
- V. Liquidity analysis (eight operating ratios)

With a glance at the available data of the balance sheet and statement of income, the user can very well appreciate the emergence of operating ratios results.

For every operating ratio, the calculative evaluation is to be provided. For the fact that up to seven reporting periods could be processed, it is possible to present different balance sheets and statement of income situations and be able to compare them with one another. References for the evaluation of operating ratios:

- Make efforts to evaluate collated data regularly,
- Conduct the analysis systematically,
- Determined concrete measures which should help to eliminate weak positions and promote strengths,
- Do not only consult internal comparison values during evaluation of the operating figures but also make effort to obtain informative figures for within the branch.

QUICK TEST (MODULE 2)

The quick test, based on Peter Kralicek's method, serves the purpose of quick analysis of a company on the basis of the four operating figures which can be derived from values of balance sheets and that of the statement of income.

These are

- Equity ratio,
- Debt redemption period,
- Total capital profitability and
- Cash flow in percentage of operative performance.

In addition to this, the financial status, results situation and a general assessment can be determined according to scores.

Apart from the test data with which the system has been presented and containing an example, the specific balance sheet and statement of income data should first of all be presented before the evaluation can be applied to respective companies. The ascertained figures and evaluation can either be presented on the monitor or they can be printed.

In order to be able to repeat the evaluation at any time or to be able to present the modified data, it is recommended to save collated data in my document before one leaves the module.

These very condensed operating ratios provide information on financial stability and on the results situation of the company. In this way, it is possible to finally answer one of the most put questions »Does the company in question have too much debt?«

The equity ratio, determined from the comparison of own capita (equity) with outside capital, provides information on whether has one too much debt (in cash units or in percentage of total capital) or not.

The debt redemption period, based on profitability of the company in relation to outside capital expresses whether the company can produce a healthy relation towards coping with the debts.

The total capital profitability makes judgement on the operative results in consideration of interests on outside capital in relationship with total capital. In this way, it indicates how far capital input can be justified.

The cash flow in percentage of operative performance makes judgement on the company according to its total success in a particular reporting period.

GENERAL SUCCESS FACTORS (MODULE 3)

Numerous empirical analyses on the success of an organisation show that there are six success factors which are generally valid for every company, irrespective of branch and size. Fact is that these six success factors are very present in very successful companies while they only feature averagely in less successful organisations.

These factors are:

- 1 Strategy
- 2 Organisation
- 3 Information system
- 4 Employees
- 5 Leadership system
- 6 Nearness to the customer

These six success factors are of a great relevance to each business venture or administration. The fact that specific characteristics could be possible in this constellation is a matter of fact.

The six general success factors will be classified into a range of criteria. These criteria contribute to a concrete description of individual factors.

The success factors underlie a phase model which can be differentiated according to the five phases of:

- I Start
- II Enlargement
- III Consolidation
- IV Growth
- V Integration

The grade of maturity and with it, the characteristic of individual success factors increase from the first phase to the fifth.

The fact that the maturity grade of all the criteria is described in the individual phases makes it possible to achieve a concrete assessment of progress.

The application enables in this way to ascertain the general success factors for every organisation. This happens in a two-fold manner:

- 1 A general success factor matrix serves as a basis. The classification of achieved character permits an initial progress assessment.
- 2 In the process of a broader analysis of success factors, differentiated indicators for every success factor will be provided. In this way, a good transparency is provided concerning the characterising criteria of individual factors.

SPECIAL SUCCESS FACTORS (MODULE 4)

While the six general success factors- irrespective of the specific specialities of a particular branch- are valid for all companies, specific success factors are valid for the individual branches. This module provides the company in question the opportunity to make a choice from an extensive catalogue of success factors from different branches.

If the listed success factors were to be insufficient, it is then possible to add new success factors.

CUSTOMERS' OPINION (MODULE 5)

With the modules »Balance sheets analysis« and »Quick test«, it is possible to present the momentary situation of the company from its historical development through analyses of balance sheets and statement of income.

The modules, general and specific success factors analyse the potential of an organisation under the consideration of »general« and »critical« success factors. They also give indications to the absolutely necessary changes within an organisation, the leadership etc.

Because of the fact that the evaluation »Which success factors are critical?« have to be personally conducted within the organisation, there is the necessity for external examination.

In the first instance, customers decide which of the success factors are critical from their personal perspectives: if these factors were only not satisfactorily covered, then the offered products and services can no longer be marketed to satisfy expectation. The corporate success will be endangered in this way.

STRATEGIC CORPORATE ANALYSIS (MODULE 6)

In a company's strategic position determination, it is increasingly no longer dependent on the analysis of historical data out of business accountancy; rather it is dependent on the evaluation of success factors of the future. For this evaluation, ten components- whose characteristics are to be determined by the user and on the basis of an evaluation of which progress assessment follows- will be consulted.

6 MODULE 3: THE MARKET SITUATION

The objectives and methods of this module emanate from the overview »Guideline to Module 3: Our market situation«.

At the background of the analysis of this module are:

- Competition analysis,
- Product and service analyses,
- Fixing of strategic orientation,
- Innovation analysis.

Competition analysis concerns among other things

- The analysis of competitors,
- Development of market outlets,
- Analysis of consumers of today,
- Expectation of consumers of tomorrow,
- Status and tendencies in supplier market,
- Development in the branches in relation to sub-branches,
- Threats of competitors,
- Technological influences on the market/markets,
- Competition under international aspects.

An analysis of product and service makes clear with which products an organisation is presently generating most of its turnover and what chances product offer has in future. The following contemplations can be derived from this constellation:

- Can the share of products with a high market potential guarantee future turnover development?

- Has there been an appropriate segmentation of the whole product pallet regarding »New generation products«, »Stars«, »Milking cows« and »Discontinued products«?
- Which profits/profit margins do single products bring?
- How is the structure of market share today and how would this change?

Guideline to

Module 3: Our market situation

Goals

- **Analysis of employees**
- **Analysis of customer groups**
- **Analysis of product/services**
- **Determination of strategic orientation (cost leader, added value or niche strategies)**
- **Argue for customer utility**
- **Discussion of innovative approaches**

Methods

- **Forms for competitor analysis**
- **Form for customer group analysis**
- **Product/Services analysis matrix**
- **Strategic orientation analysis**
- **Argument balance**
- **Innovation analysis**

As far as strategic orientation is concerned, providing answers to the following questions is paramount:

- Which of the three strategic orientations is dominant for the organisation?
 - Cost leadership,
 - Differentiation (added value),
 - Niche strategy,
- How could »Added value« be experienced?
- Are there different strategic orientations for individual product areas?
- Is the strategic orientation known to
 - The employees,
 - Customers,
 - Suppliers and
 - The public?

Apart from an analysis of market, product and strategic orientation which can be primarily determined from concrete data analysis and logical conclusion on the basis of recognisable calculations, is an indication of conducting innovation analysis based on a vision. The future will continue to be less influenced by trends of the past and the present. In this way, more and more innovations have to be developed. These must correspond to all levels of innovation approaches:

- Market innovations,
- Product innovations,
- Process innovations.

Concerning these questions, the following aspects have to be analysed:

- Which market innovations can be validated?
- Can competitive advantages be achieved through process improvements?
- Can competitive advantages be achieved through a strengthened ecological orientation?
- How could the »exit barriers« be further increased for customers in the sense of a winner-winner-game?
- Which product innovations can be validated?
- How can we realise our innovations as quickly as possible so as to achieve the status of »tempo-leadership«?

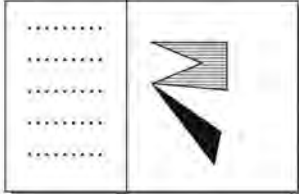
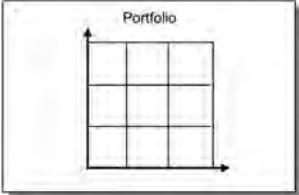
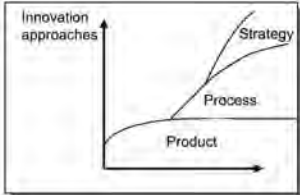
The analysis of the competition, product analysis, analysis of strategic orientation and the analysis of innovations form the basis for the development of strategies. The goal of a distinctive strategy lies in finding a position in which an organisation can best protect itself against the competition or how it can positively influence this accordingly.

Within the framework of the 8-hour-analysis, it will be possible to analyse every topic field. The idea is to provide answers to the most important questions relevant to the company.

The following can be consulted as methods (see table »Methods for the analysis of the market situation«):

- Form meant for competition analysis
- Form meant for customer group analysis
- Matrix of product and service analysis
- Strategic orientation analysis
- Arguments balance
- Innovation analysis

Most of the tools for the analysis of market situation are treated in »Practical corporate management«. In order to provide the user with the assistance in the choice of relevant method(s), reference will be made to the synoptic presentation Evaluation of the methods for the analysis of market situation (1 + 2).

| | | | | | | | | | | | | | | | | | |
|--|---|-----------------|-----|----|-----|-------------|--|--|--|-------------|--|--|--|-------|--|--|--|
| Competitor analysis | Customer analysis | | | | | | | | | | | | | | | | |
|  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Customer groups</td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;"></td> </tr> <tr> <td style="height: 40px;"></td> <td></td> <td></td> <td></td> </tr> </table> | Customer groups | | | | | | | | | | | | | | | |
| Customer groups | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| Product analysis | Strategic analysis | | | | | | | | | | | | | | | | |
|  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;"></td> <td style="width: 20px; text-align: center;">I</td> <td style="width: 20px; text-align: center;">II</td> <td style="width: 20px; text-align: center;">III</td> </tr> <tr> <td style="padding: 2px;">Cost leader</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">Added value</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">Niche</td> <td></td> <td></td> <td></td> </tr> </table> | | I | II | III | Cost leader | | | | Added value | | | | Niche | | | |
| | I | II | III | | | | | | | | | | | | | | |
| Cost leader | | | | | | | | | | | | | | | | | |
| Added value | | | | | | | | | | | | | | | | | |
| Niche | | | | | | | | | | | | | | | | | |
| Argument balance | Innovation analysis | | | | | | | | | | | | | | | | |
| <ol style="list-style-type: none"> 1. General utility 2. Special utility 3. Quantification in € |  | | | | | | | | | | | | | | | | |

| Evaluation of the methods for the analysis of market situation | | | | |
|--|--|--|--|--|
| Criteria \ Methods | Form meant for competition analysis | Analysis of forms meant for customer groups | Analysis of product and service matrix | Analysis of strategic orientation |
| 1. Objectives of the methods | Improvement of competition analysis | Customer segmentation | Positioning of competition ability | Determination of strategy |
| 2. Time input | 30 minutes | 30 minutes | 30 minutes | 30 minutes |
| 3. Minimum number of participants | 2 | 2 | 2 | 4 |
| 4. Knowledge requirements of the moderator | Knowledge of informative form of presentation | Command of sample application | Intensive knowledge with regard to the application | Knowledge of individual strategic concepts |
| 5. Acquisition of information from the user | The available information is normally not sufficient | Summarising of experience values and book keeping values | Common classification of customer and competitor data | General knowledge of the market |
| 6. Technical knowledge | Eventually folios of working forms and overhead projectors | Eventually folios of working forms and overhead projectors | Eventually folios of working forms and overhead projectors | Flip chart |

7 MODULE 4: FINANCIAL AND COST SITUATIONS

The objectives and methods of this module emerge from the overview »Guideline to Module 4: Our financial and cost situations«.

At the forefront of this module is the examination of the hard factors from financial and cost spheres. At the mid point however are the operating figures.

Operating figures should not only dwell on one's company in information. One has to complement the informational approach to one's organisation with a comparable viewpoint of other companies in the same branch or other branches. The comparable observation leads to measurement possibilities and therefore, to an abundance of questions in the area of corporate analysis (»Why is it so in company A and not the same with us?«).

Company comparison using operation ratios (can also be compared with the branch-average) present the real objective of the operating systems. Through comparisons, questions relevant to the company will burst open (»Why?«). The analysis procedure (quasi corporate diagnostic) provides the impetus for strategic contemplations (corporate therapy) and flows over into the examination of corporate objectives.

Admittedly, it should be mentioned here that it is not always easy to conduct operating figures calculation with the necessary external data materials because

- The data material is not often available and
- The data material is not often comparable.

The question of availability can be solved nowadays mostly through business associations, banks or through external consultants.

The question of comparability makes uniformity in the treatment of data materials absolutely necessary.

Guideline to

Module 4: Our financial and cost situation

Goals

- **Ascertainment of selected balance sheet and profit & loss ratios**
- **Development of ratios**
- **Compare with branch ratios**
- **Determination of cost comparison values**

Methods

- **Operating ratios analysis with forms**
- **Use of PC Program „SUBER“ (corporate strategic analysis)**
- **Databank retrieval of operating ratios**
- **Forms for cost calculation**
- **Forms for improvement of added value**

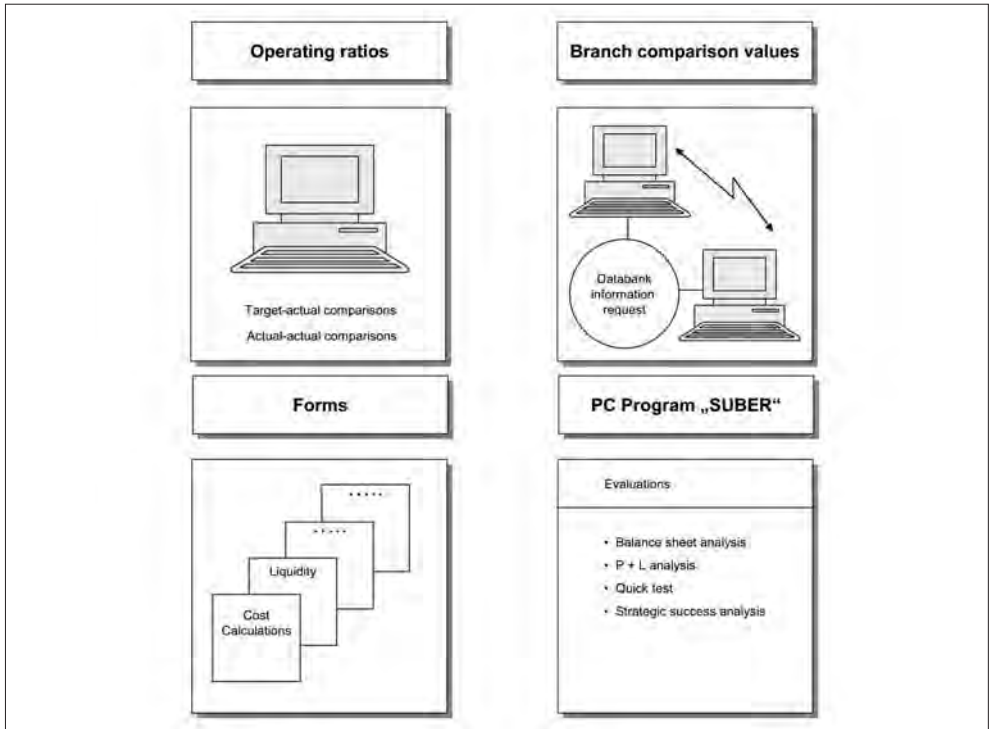
181 | Guideline to Module 4: Our financial and cost situation

The evaluation of corporations is an old topic. Attempts have always been made, especially from the perspective of the creditor, to analyse the situation of the debtor and to evaluate this as well. The basis for evaluation has always been primarily the balance sheets and statement of income calculations of previous years. With increasing turbulences and quick changes on the market, it has been proven that an analysis based primarily on historical data is correspondingly very dangerous. In many sub branches, such statements as »You can give the rabbit a balance sheet of two years ago« have been credited to many solvency examiners.

Nowadays it is increasingly no longer a matter of the analysis of historical data preservation institution »Accounting system«, rather it is a matter of evaluation of success positions of the future. The developed system assists in comprehensively evaluating organisations. For the evaluation, the ten preceding components will be consulted:

- 1 The general principle
- 2 Operating ratios
3. Added value chain
- 4 Products/services
- 5 Customers
- 6 Customer competition and branch attractiveness
- 7 Suppliers
- 8 General environment
- 9 Innovations
- 10 Success factors.

The following could be consulted as methods (see table »Methods for the analysis of financial and cost situation«):



| Evaluation of the methods for the analysis of financial and cost situations | | | | | |
|---|---------|---|--|---|---|
| Criteria | Methods | Comparison of internal operating ratios | Branch comparison values | Forms for financial and costs planning | PC-Program »SUBER« |
| 1. Objectives of the methods | | Determination of financial and cost status | Progress assessment against the branch | Improvement of planning conditions | Analysis and comparison with 35 balance sheet ratios |
| 2. Time input | | Dependent on initial input | Acquisition of the values from institutions and banks | Dependent on the form to be used | Collation: Approx. 2-3 hours. Evaluation: 20 minutes |
| 3. Minimum number of participants | | 2 | 2 | 4 | 2 |
| 4. Knowledge requirements of the moderator | | Knowledge in the interpretation of basic operating ratios | Knowledge of balance sheets and statement of income | Professional knowledge of how to fill out the forms | Development and content of the PCProgram |
| 5. Acquisition of information from the user | | Depends on information system | Securing necessary information from banks and other institutions | Depends on the forms to be used | Filling out the questionnaires |
| 6. Technical knowledge | | Eventually overhead projectors | Eventually overhead projectors | Eventually overhead projectors | Printed copies of the program |

- Operating ratios
- Branch comparison values
- Forms
- PC-Program »SUBER«

For the choice of the adequate method(s), the presentation »Evaluation of the methods for the analysis of financial and cost situations« will be of assistance.

8 MODULE 5: SUMMARY OF RESULTS

Network-thinking is a way of thinking which relates to the so called integral thinking and which is being used in numerous areas. A common wisdom says that the whole is more than just the sum total of parts. The behaviour researcher Konrad Lorenz did portray in his remarkable book »Rückkehr des Spiegels« that something new emerges as a result of relationships between »things«, which was not there before. In this way, very new perceptions of and solutions to problems will emerge as a result of conjunction or combinations of previously unrelated facts from very different areas of knowledge.

The individual human being, an establishment and the market, are totally complex and they are related to one another. Here, there are not just capital procedures and economic processes, rather emotional, intellectual, social, ecological and political processes which are connected to one another and which are not dissoluble within their existent environment. If one were to change a factor, something automatically changes in many other processes. No problem, no information and no idea stand alone in this constellation. The most important networks are of the immaterial type and they are neither visible nor measurable. It has been established in these complex systems to think and act materially integrally - as it has been practised in the science for a long time now and taught in schools as well. This is missing and more problems have been created than available solutions.

Within the scope of the 8-hour-analysis, it is necessary to consider all the activities integrally.

- Enter the measures derived from individual modules into the summarising form. (Guideline to Module 5: Our networked activities).
- Determine the responsibilities.
- Determine the priorities.

Guideline to

Module 5: Our networked activities

| Recommendations from | High Priority | Ranking order | Responsibility |
|-----------------------------|----------------------|----------------------|-----------------------|
| Module 1 | | | |
| Module 2 | | | |
| Module 3 | | | |
| Module 4 | | | |

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

E PERSONNEL E MANAGEMENT

| | | |
|---|----------------------|-----|
| 1 | TEAM MANAGEMENT..... | 568 |
|---|----------------------|-----|

1 TEAM MANAGEMENT

GOAL(S):

In this age of turbulences, high performing teams stand at the centre of a flexible operational and organisational structure. The goal of this contribution is to clarify the conditions for good team work, analyse the roles in teams and specify the different phases in the development of a team.

CONTENT:

- 1 The team as an elementary component in the organisation
- 2 Roles in a team
- 3 The composition of a successful team
- 4 Basic phases in the development of a team
- 5 Competition versus cooperation
- 6 Conflict management

INSTRUMENTS:

- Role profile
- Communication relationships
- Decision making processes in groups
- Test »occupational action style«

APPLICATION(S):

- Economy and administration
- For all staff groups

UTILITIES:

- Recognition of conditions for a good team work
- Understanding and determining roles in a team

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Role profile: personal thinking and action styles
- Communication relationships: project management
- Decision making processes in groups: organisational structure
- Test »occupational action style«. Self analysis

1 THE TEAM AS AN ELEMENTARY COMPONENT IN THE ORGANISATION

Groups, their composition, development and efficiency have a fundamental influence on customer and market oriented organisation. In order to guarantee an optimal cooperation, it is necessary to examine more closely group dynamic processes to which a team is exposed and which are responsible for good functioning. In time of turbulences, a high performing team stands at the centre of a flexible operational and organisational structure.

Human behaviour is to a large extent being determined by norms. Norms are social regulations, the so-called »rules of the game« and organising principles in communal life.

In a group, in cooperation with others, human beings find social security and comfort from others. With groups, learning processes can take place and accomplishments can be effected. The group exercises a formative function on its entire members. An individual doesn't just think, feel and act as an autonomous being, he is rather being influenced by progressive processes of the group. A group serves the satisfaction of social needs as for example

- the need for contact,
- the need for recognition,
- need for communication and
- the need for social status.

Norms are a very important condition for cohabitation of human beings. They develop out of the predominating moral concepts and are binding on all members of the group.

Group norms comprise of

- the goals and tasks,
- group specific behaviour,
- a corresponding way of thinking and
- specific attitude.

The norm-feeling represents a reference framework of a group. The stronger the group members participate in the definition of group goals and in the choice of the norms, the more they are prepared to assume and internalise these norms and the more effective will the customer oriented cooperation of all team members be.

The conditions for a good team work and the advantages of team work proceed from the following tables.

Conditions for a good team work:

- Only when everyone acts together with a common goal will the effectiveness of the team grow.
- Professional competence, social competence and entrepreneurial competence must exist in equal measures in a high performing team.
- All information must be circulated within the team.
- Cooperation, rather than a lone-warrior-attitude is being asked for.
- The preparedness to
 - question ones own statements and moral conducts,
 - accept compromises and
 - accept and tolerate the directness of team members
- Successful team work demands change in attitude of the individual!
- Tenacity and endurance in the pursuit of goals and objectives is being asked of!

Advantages of team work:

- Different professional qualifications are being brought in.
- All team members together possess a high professional, social and entrepreneurial competence.
- The standard of knowledge of all team members will be expanded. The team considers itself as a »learning organisation«.
- All together see more than a single individual.
- Creative solutions are going to be easily found through common stimulations.
- The risk of wrong decisions will be avoided.
- A stronger identification with results will take place.
- Education to tolerance, fairness and social behaviour will be promoted in the team.
- The team can function as an entrepreneur within an entrepreneur. All members see themselves then in the role of joint entrepreneurs.

A staff member needs the group in which he can integrate himself, with which he can consult, to whose members he can develop interpersonal relationships and to which he can develop a »feeling of belonging«. The stronger one feels himself accepted in the team emotionally, the bigger is his social security- and the stronger can one identify himself with the goals and tasks.

What must a team provide for the individual?

- Identity shaping through performance!
(have personal and occupational perspectives.)
- Personal recognition and moral conduct through the group!
(group members want to know which contributions they can personally bring and which share these may have on the result.)
- Bringing in own capabilities and knowledge!
(to have the possibility to apply available potential.)
- A definition of personal status in the group!
(which role group members are classified to and which expectations are connected to this)

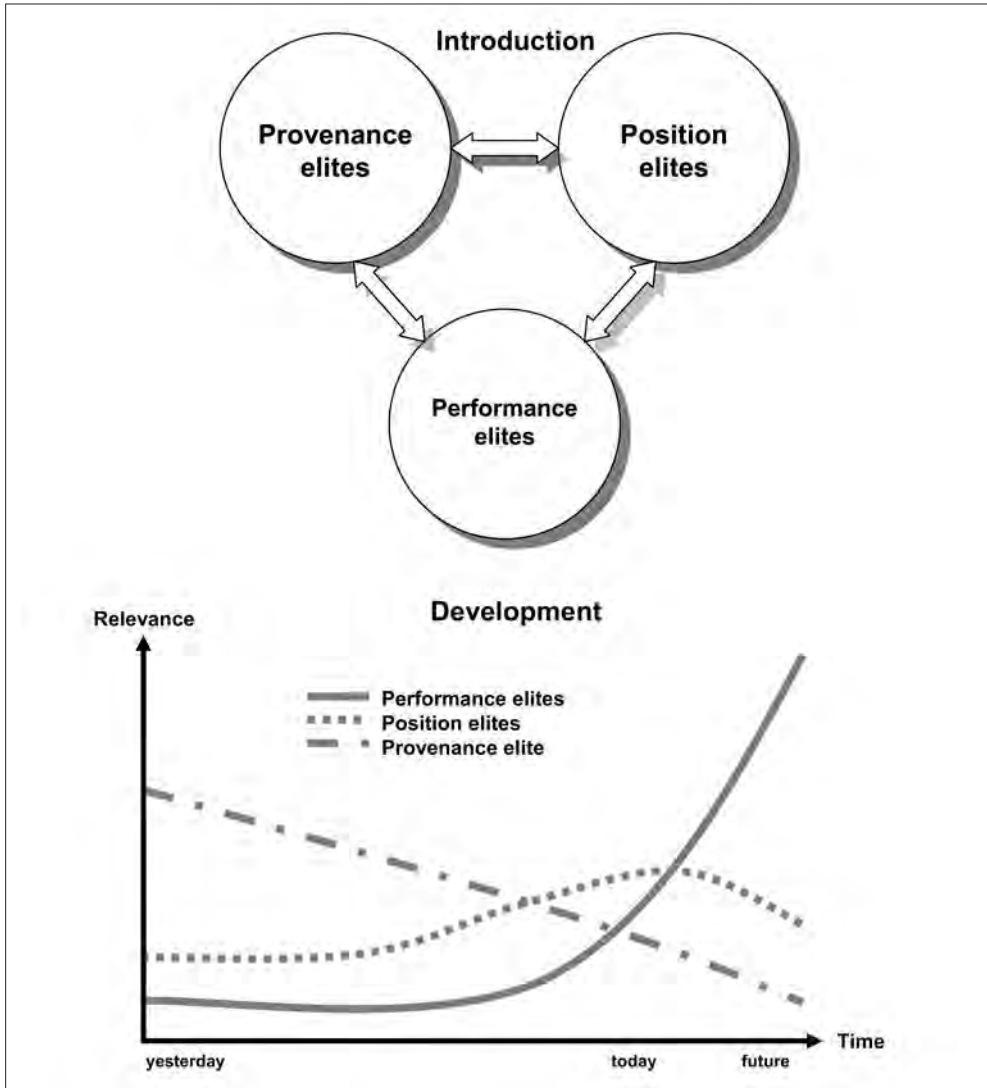
The future belongs to high performing teams. The time of lone warrior attitude is over. This means however a new evaluation of management structure. The significance of management will no longer be evaluated on the basis of a classification in an organisational chart and the number of employees; rather mainly through a confirmation of what kind of success is brought into the organisation. The performing elite will increasingly be represented through successful team (see table »Elite groups«). This presentation expresses the view that the so called provenance elite is continuously losing in relevance, that position-elites have it tough in this time of team management and that thinking in term of performance is being promoted as best as possible.

2 THE ROLES IN A TEAM

In every formal and informal group, group members take over certain roles for which they either decide themselves or such roles which are assigned to them on the basis of specific personality features. In the process of role assignment, one has to keep in mind that the functions which are connected with the roles can be essentially realised in every team. Persons charged with specific responsibilities could eventually assume other functions in the group and must not necessarily assume the same roles in different groups.

These roles are determined at the least through one's behaviour or self-chosen or determined as a result of the expectations of other group members. Whenever roles are not clearly defined i.e. what expectations are associated with which roles, there ensues role conflicts. The following informal roles as represented in the following overview can be detected in many groups

| Informal roles | |
|-----------------|--|
| The team leader | He has the function to lead his team in a goal oriented manner. He takes decisions on time and represents the group externally. |
| The popular one | He makes sure there is a good group atmosphere. He has the function of holding the team together, he is responsible for problems in the interpersonal area and arbitrate conflicts. |
| The competent | He is basically goal and task-orientated. He shows less interest for emotional sequences in the group. |
| The follower | He orientates himself mainly to the group leader and adjusts himself to group norms and the majority respectively. |
| The opponent | He is always on the opposing side of the team leader, deliberately makes team leader's roles controvertible or opposes individual team members. He often disputes objective decisions. |
| The outsider | He moves at the periphery of the group and only takes part minimally in impersonal or emotional occurrences within the group. |
| The scapegoat | He is always being blamed for conflicts and problems. He is seen as being weak; hence he bears the brunt of ensuing aggressions from conflicts. |
| The clown | He diverts the attention of the group to himself with jocular comments and funny behaviour. |



| Positions in working groups | | | |
|-----------------------------------|----------------------------------|---------------------------------|----------------------------------|
| Leaders | Experts | Followers | Outsiders |
| Stands at the centre of attention | Makes professional contributions | Carries out what others suggest | Corrects, complains |
| Leads and provides orientation | Informs | Follows | Rivals, stimulates |
| Coordinates | Analyses | Conducts | Lightens up, fools around |
| Summarises | Develops rules | Assists | Pushes himself to the background |
| Seeks consensus | Evaluates | Contributes | Withdraws |
| Arbitrates | Supports | Cooperates | Makes unusual recommendations |

According to Eunson, one can differentiate between three types of roles:

- Task roles,
- Socio-emotional roles and
- Destructive roles.

1. Task roles are being assumed by team members in order to ensure the conduct of shared tasks. The following roles are relevant:

- The initiator: he provides new ways and solution recommendations in order for the group to successfully achieve the groups' goals.
- The informer: he checks new ideas for their feasibility.
- The evaluator: he sets standards concerning their logic and correctness.
- The innovator: he spreads unusual and eccentric suggestions in professionally-related problem situations.
- The opinion provider: he provides values, norms and approaches to beliefs instead of necessary facts.
- The leader: he carries out decisions and measures of the team and concerns himself with deadlines and methods.
- The organiser: he takes care of external necessities like organisational materials, business procedures or process requirements like for example orders or order of business.
- The secretary: he makes a protocol of anything basic concerning functional areas of the group. He is the group's »Memory«.

2. Socio-emotional roles are assumed by team members so – aside from fulfilling their tasks- as to also optimise interpersonal relationships in the group.

These roles are especially important in order to guarantee constructive teamwork, cooperation and the finding of consensus. Members who are categorised into these socio- emotional roles must possess a high degree of social competence, i.e. of a certain measure of ability to work in a team in order to fulfil the following roles:

- The inspirator: he supports the team members humanly, encourages the shy, praises those who bring positive contributions and strengthens those without courage.
- Peace makers: he clarifies decisions of general principle, assumes the function of a team diplomat and tries to achieve agreement. He makes effort at avoiding conflicts in the first instance and tries to appear as a balancing element.
- Compromise promoter: he tries to solve problems, conflicts and difference in opinion through compromises which are acceptable to all parties involved.
- Tension mitigator: he makes efforts to mitigate tensions suddenly arising or a icy atmosphere through jokes or relating funny Incident.
- The confrontationist: he deliberately tries- but not aggressively to speak about problems in the team and interpersonal weakness points as well as exposing tumescent conflicts in order to be able to solve these constructively.

3. Destructive roles are contrary to constructive tasks and socio-emotional roles, destructive to a team. Generally speaking, the following characteristics belong to these negative roles:

- The babbler: he is always having something to say about everything. He is someone who speaks first before he thinks about what he wants to speak. Some team members sometimes don't have any chance to say anything once he starts to speak. Several valuable team members are lost as a result of this.
- Detail peddler: he mostly gets lost in small and meaningless details and loses overview of relevant details and a correlation to the whole. As a result of his permanent distraction from major points, team meetings often get out of rail because they get entangled in so many details.
- The disturber: in opposite to detail peddler, he doesn't speak to all team a member, rather only to those sitting next to him in such a loud voice that everyone becomes disturbed. Meetings and group discussions can easily be influenced by the disturber.

- The defeatist: he always needs negative comments for example »that can never work; we can never achieve that on time; I am not sure it is possible«, so as to be at the vocal point of the group's interest for just a few minutes. He diverts attention from the topic unto himself through his negative comments.
- The manipulator: he is always consciously trying to influence team members who don't have a firm opinion or those who are not adaptive in their behaviour for his personal interests. He achieves with these the majority who are then able to enforce the opinions according to his whims and desires.
- The schemer: he tries to divide the group by deliberately spreading intrigues about individual team members. In this way, he destroys the »we-feeling«. With his attitude, he develops causes for conflict and he is the cause of team quarrels.
- The dominator: he is always and deliberately putting himself at the centre of the group and expects that everyone should accept his opinion and decisions. He wants to be the group leader and draws every power and initiative to himself so that others hardly have any chance. As a result of this, there is no productive group effect, rather to solitary decisions of the dominating »lone warrior« in the group. The capability and knowledge of team members could not be used.

In the following, constructive relationships with destructive roles will be presented in order to be able to constructively manage conflicts which may emerge as result of the attitude of these kinds. It is however important in this process to observe that all measures which must be taken should nevertheless try to retain the feeling of belongingness to the group.

It doesn't serve the interest of the group to segregate these destructive mischief makers, but rather to reprove them by showing them how uncomfortable their behaviour has affected the effectiveness of the group. If the following measures were not to be success promising, it will be more sensible to remove those affected from the group rather than allowing them to put the whole group into jeopardy.

Dealing with:

- The babblor: one makes sure to reduce his speech time to a short time and pays attention that he doesn't prevent positive contributions from others through his negative comments.
- The detail peddler: one should attempt to steer his addiction to details in constructive direction and provide him with tasks that correspond with his talent.

- The disturber: the team leader should always attempt to strictly and a consequentially point out the destructive attitude of a disturber, who constantly interrupts discussions and meeting with his »contributions«, and ask him to exercise consideration and restraint in the name of the whole the entire group.
- The defeatist: because he primarily wants to propel attention to himself with his negative comments, one should tolerate him for a short time and proceed in a constructive way with the topic. It sometimes helps if the group gives him more attention in order for him to do without this attitude.
- The manipulator: the person credited with this role should be faced. The head of the group should demand of him to »take a stand« or he should be forced to openly state his opinion. In this way, he can no longer cause any damages to other members of the group or be able to manipulate these for his own purposes.
- The schemer: only an open confrontation can help in dealing with those identified with this role. Intrigues should not be permitted without actions in the group if a »pseudo-peace« is to be retained. In such a situation, the schemer must be made to discuss the issue and efforts are to be made to solve the problem amongst all involved. Such people are often behind »Mobbing at the work place«. They must be energetically put in their right places by the group leader.
- The dominator: if such a person were to be the group leader, all members of the team must commonly attempt to free themselves from his domination. They have to commonly prevent that only his contributions are rated as relevant and that only his opinions and views count. Here, only when the group members come together will they be able to put a dominator in his right place.

Roles in working groups cannot be classified or distributed discretionally, rather they have to be orientated according to the strengths or weaknesses of affected team members. Even formal roles which develop out of informal ones, orientate themselves to the capabilities of respective role players. An example of this is when a team member has over a long time shown clear interest and competence in organisational aspects, such a member should be entrusted with the responsibility of organising. The same applies to someone who has shown traces of humane capabilities and who in the past has often been able to successfully solve conflicts with his art. He becomes the role of the arbitrator and conflict solver in the group, even if this person doesn't strive for this role.

Role conflicts arise principally then, when another team member puts the formal leader's position in question. Such persons even sometimes enjoy a higher acceptance with other team members.

Conflicts will be inescapable when each claims exclusive leadership role for himself and is not prepared to find a consensus beneficial to group efficiency. In this situation, team capability is required because any kind of competitive thinking in the group will be counter productive.

In order to avoid conflicts in working groups, those responsible for the team should promote

- Task roles and
- Socio-emotional roles

as much as possible among team members and to proceed constructively against negative and destructive attitude to roles.

3 THE COMPOSITION OF A SUCCESSFUL TEAM

Members of a group should exhibit

- Different capabilities/ proficiency so as to be able to
 - to learn from one another,
 - bring in as many resources as possible,
 - enable divergent views and
 - optimise the effect of a team work;
- the following come from different hierarchical levels of an organisation in order to
 - be able to observe problems from every hierarchical level,
 - enable a high degree of information,
 - get to understand the views of all levels and
 - be able to have a personal integrated picture of events;
- be occupied by personalities who are mainly
 - systematic,
 - analytical and
 - rational

in confronting their tasks as well as

- in the processing of tasks, enabling creativity and analytical procedure, personalities should principally possess the following qualities:
 - integral approach,
 - intuitive and
 - emotional

the more heterogeneous the composition of a group in the area of capability and competence, the more prolific the total performance will be.

Conclusion: Team members should not be »easy care« but also they must be constructive in thinking, feeling and acting!

A good team is a combination of all important capabilities which are required in the process of tasks accomplishment. Group members together constitute a unit which is aiming at a particular goal. The following steps enable a sensible constitution of a team by the team leader:

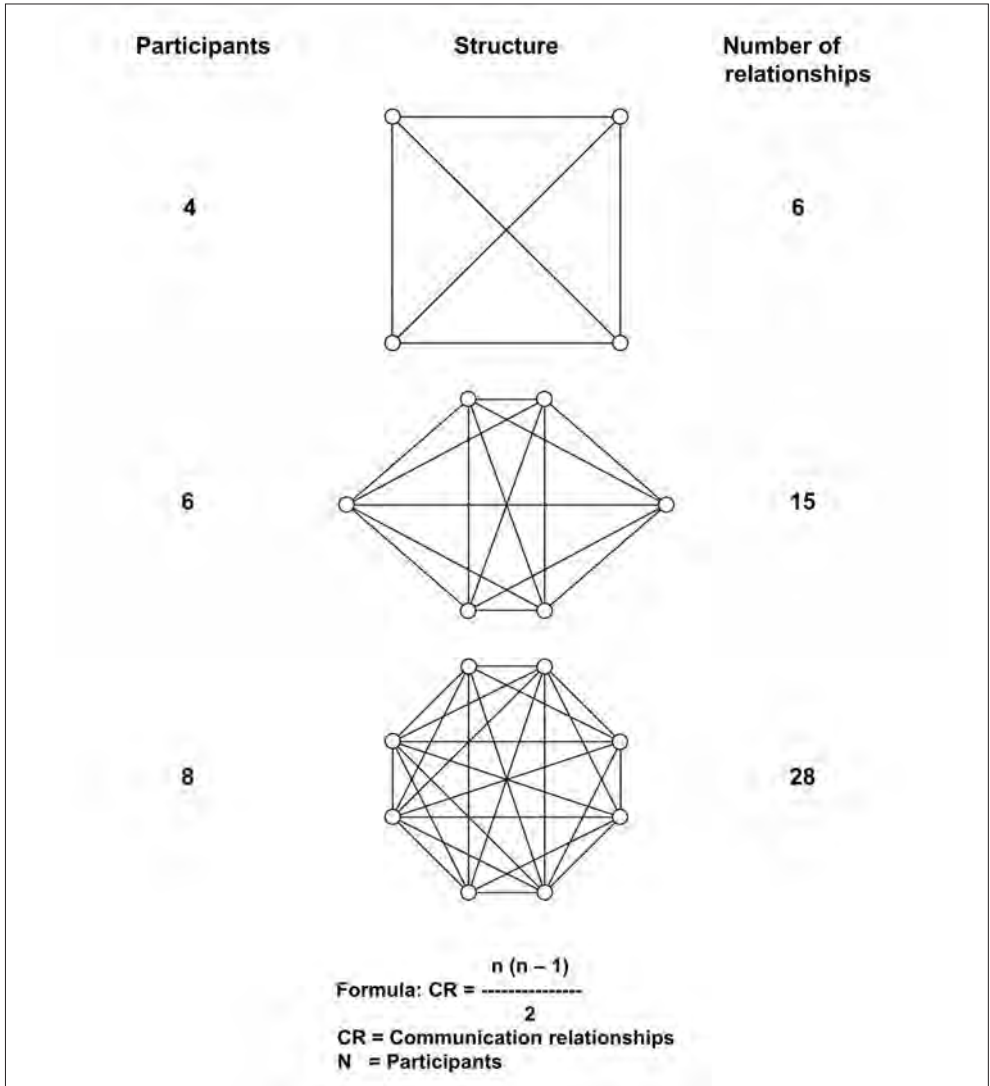
- 1st Step: the management must concretely define for what purpose and tasks the team will be used for.
- 2nd Step: now follows an analysis of capabilities and competence of available human resources. After the degree of qualification, team members will be chosen.
- 3rd Step: at this stage, each person will be allocated to tasks corresponding to his individual competence. This ensures highest possible work efficiency.
- 4th Step: running team meetings in which both the factual and relations levels are considered. This enables an harmonious interrelationship, a constructive accomplishment of conflicts and an optimal working result.

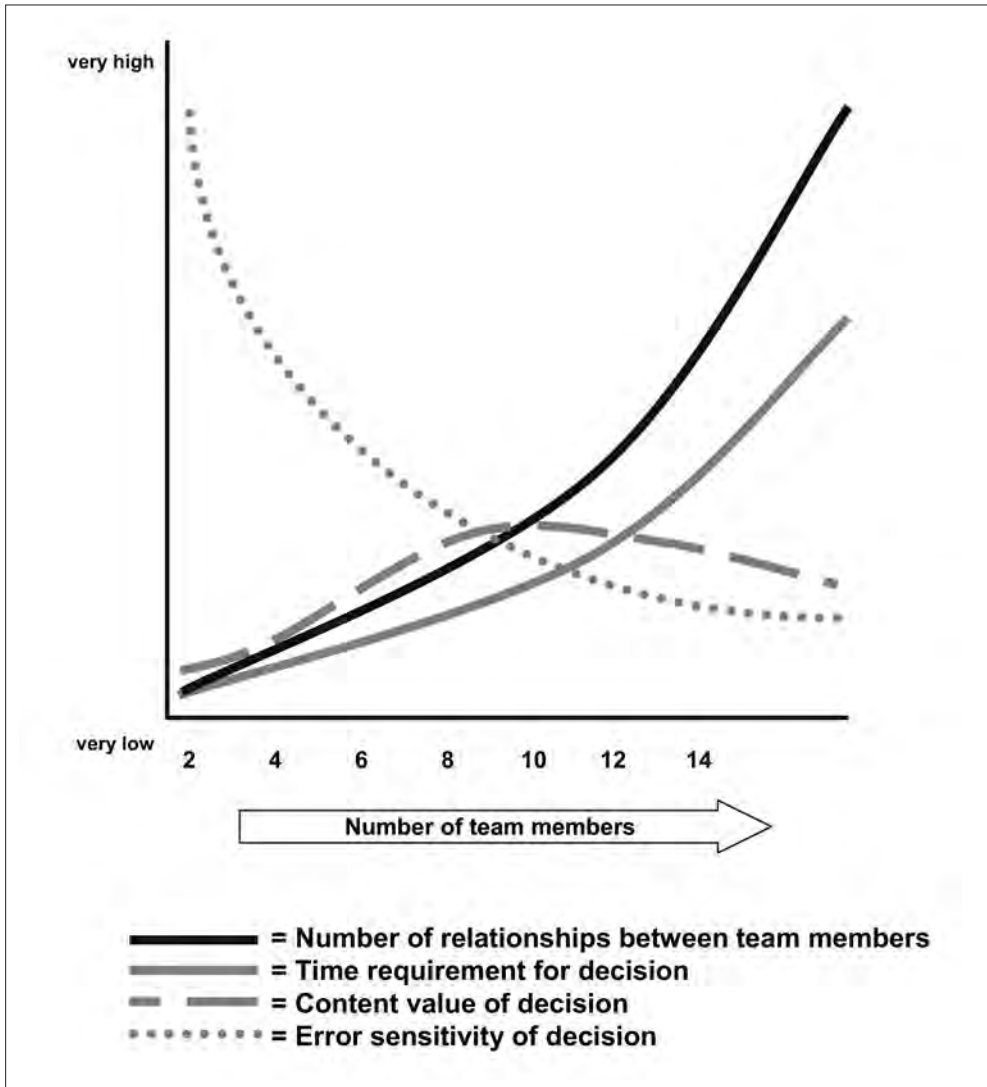
In constituting a team, attention should be paid to a reasonable size of the team. In the table »*Communication relationship*«, it will be shown how to calculate the size of communication relationship. It will be shown that there is communication relationship already when we have only 8 team members. The table »*Decision making processes in groups*« shows that there are disadvantages from a certain team size in

- time needed for decision,
- contextual value of the decision and
- the rate of error in decision.

With the following test which not only provide usage to individuals but also to organisations as well, teams which have to exhibit- apart from a great efficiency, a best possible customer orientation, can be optimally constituted.

The test should be filled out by every team member. In the course of comparison of individual profiles, it can be ascertained whether the whole profile of the team is characterised by harmony or not. In the practise, there are reasons to act whenever there is a great disparity in the different





ways of action. This analysis is also available as PC software (PERTAN).

TEST: OCCUPATIONAL ACTION STYLE

The questions in this test are principally aimed at the occupational situation so as to be able to provide concrete assistance to role assignment and ease the optimal composition of teams. Recommendations for the processing of the test:

- 1 Go through each question unhurriedly. Take note of only the statements which basically apply to you, make a note of the respective figures on a sheet of paper. Statements with which you are not agreed should be left unconsidered.
- 2 Enter appropriate figures in the evaluation block.
- 3 And subsequently, add up the figures in the rows »Analyst«, »Controller«, »Innovator« and »Communicator«.
- 4 Enter the number of points in the respective bar chart.

TEST:

- 1 In planning, I readily orientate myself to previous development.
- 2 The principle, »Turning those affected into participants« is to me a very important condition for joint entrepreneur.
- 3 To me it is important to fulfil all my appointments on time.
- 4 I rather control a result twice than relying on others.
- 5 The accomplishment of departmental goals is very valuable to me than long discussions of details.
- 6 I particularly like working in teams.
- 7 »Strategy is the art of scratching before it itches«. Strategic and target oriented thinking and acting is very important to me.
- 8 Mobbing attitude should not happen in my group.
- 9 Before commencing on a project, I need detailed facts and information.
- 10 For me, a good discussion is characterised by contribution of rational arguments and solution approaches.
- 11 All my tasks must be perfectly carried out.
- 12 As far as I am concerned, diligence, reliability and discipline have the highest value.
- 13 The classical obstructions between departments prove to be a barrier for thinking in a comprehensive way.
14. It is for me a necessity to approach others.
15. Listening attentively is an important communication factor for me.
16. In garnering of ideas, no idea is »crazy«.
17. I completely agree to the statement, »Whoever fails to act today will be forced in future to accept changes introduced by others«.
18. Understanding and empathy are conditions for a good interpersonal relationships.

19. I invest much time for my daily, weekly and monthly planning.
- 20 As a team leader, I approach the accomplishment of a project determinedly and consequentially.
- 21 In real investment projects, emphasis is on the amortisation period i.e. we will only invest in projects where we have a quick payback period.
- 22 Social competence is a very important leadership quality.
- 23 The statement »Whoever follows in the track of others cannot overtake these« is a basic impetus for me to pursue innovative approaches.
- 24 I pursue a mistake meticulously and persistently.
- 25 It is important for me to be reliable to others.
- 26 Whoever seeks absolute security finds »exasperation«. This statement makes it clear to me that taking risks in turbulent times is absolutely imperative.
- 27 Whenever colleagues need assistance from me, I am always there to help them.
28. I take independent and self-determined decisions after a careful analysis.
- 29 Buddy-like attitude is not important to me, I rather prefer to be a lone warrior.
- 30 I approach new methods and techniques with greatest care.
- 31 Cooperative agreement on goals is today a leadership instrument in the economy and administration.
- 32 Classical and mediocre solutions are not for me.
- 33 In taking decisions, I usually apply such methods where individual alternatives could be exactly described and evaluated, e.g. those that allow for logical conclusions.
- 34 Creativity means to me open-mindedness to new methods and techniques.
- 35 New employees will be integrated into the new job environment empathetically.
- 36 Disengagement from norms and values is an important condition for innovation capability.
- 37 In presentation, I use clear structures, a systematic development and a coherent structure development.
- 38 I find absolutely no use for the statement »a genius can adequately handle chaos«.
- 39 I feel very good in a working condition where the working atmosphere is right.
- 40 I keep strictly and consequentially to rules in the accomplishment of an assignment

Scoring sheet

| Analyst I | Controller II | Innovator III | Communicator IV |
|--------------|------------------|------------------|--------------------|
| 1 | 3 | 2 | 6 |
| 7 | 4 | 5 | 8 |
| 9 | 11 | 13 | 14 |
| 10 | 12 | 16 | 15 |
| 20 | 19 | 17 | 18 |
| 21 | 24 | 23 | 22 |
| 28 | 25 | 26 | 27 |
| 29 | 30 | 32 | 31 |
| 33 | 38 | 34 | 35 |
| 37 | 40 | 36 | 39 |

Bar chart

| Analyst I | Controller II | Innovator III | Communicator IV |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | 10 | 10 | 10 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | 9 | 9 | 9 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | 8 | 8 | 8 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | 7 | 7 | 7 |
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ANALYST

The action type I is mathematically and technically dispositional. He has an analytical competence and thinks unidimensional and detailed. He collects data and information step by step, puts them together and examines them from every angle. This type is self-determining personalities who pursue their set goals dominatingly and self-confidently and in the same process energetically, consequently. They are also critically observant in proceeding. His working procedure is result oriented- he is an introvert lone-warrior who distances himself from his colleagues.

CONTROLLER

The action type II is reliable. His actions are controlled. He works methodically, diligently and very correctly. He approaches a project with a systematic and meticulously thinking. He dares much more competence as others would expect of him and tends towards perfectionism whereby he requires numerous alternatives for decisions. Discipline, punctuality and diligence have the greatest value with him. In the search for mistakes, he is very persistent and insistent. He is a specialist in his working and interests areas, someone who proceed extremely cautious and methodically. He is mostly compliant but has difficulty in understanding spontaneous and unconventional personalities.

INNOVATOR

The action type III is conceptually oriented and he is an exceptionally active person. He is fascinated by unusual ideas and suggestions which must not necessarily be feasible. He thinks holistically and in rough coherence. Methodical, accuracy in every details are not necessarily his strengths. His quick decisions are basically based on intuition. He is always coming to quick decisions during meetings. Because of his high degree of preparedness for risks, spontaneity as well as his sweeping and convincing nature, he possesses the capability to affect everything in his environment and bring many things on line. He is fascinated by projects where he can apply his creativity and open mindedness to new situations.

COMMUNICATOR

The action type III is a decidedly a team compatible person who, apart from his contact enthusiasm is an understanding, empathetic and helpful employee. His integrative capabilities make him to be a team member who uses his communicative competence to harmonise interpersonal development of an enterprise; his empathy is being highly valued in conflict situations. This kind of person doesn't suppress emotions as this forms an important part of his personality. Operational togetherness and companionability are very crucial to him.

EVALUATION

After you have filled the respective columns according to your personal scores, you can ascertain in which areas you show more predominance.

Categorisation of respective characteristics and features:

While the types I and II (Analyst/Controller) can be classified to the left hemisphere, one classifies types III and IV (Innovator/Communicator) to the right hemisphere. Each hemisphere specialises on certain tasks so that their respective intellectual activities can be categorised:

The left hemisphere processes information logically and analytically, thinks rationally, methodically and calculatingly. It is the sit of speech centre, thinks verbally, in figures and then make conclusions. Here, details are processed, complex correlations are analysed and dismantled in sequences.

The right hemisphere processes sensory impressions intuitively and synthetically, thinks visual-spatially, pictorially, in forms, patterns and concepts. It forms together single, detailed information to a whole and it is artistically creative. It can handle complexities through its integrated way of perception without losing in detail.

By the evaluation of this test, one can on the one hand ascertain individual benefit and benefit for the company.

Individual benefits:

Individuals can- as long as they answer these questions honestly and sincerely analyse their action types. This places each in the situation to recognise:

- How he behaves in certain working situations,
- Where his strengths lie,
- Which tasks and expectations he can fulfil in his professional area,
- Where- on the basis of his characteristics- his right place would be,
- In which areas he would love to develop,
- Where his personal problems lie,
- Through which factors he can become a success factor in his organisation and
- How his roles in the team can be categorised.

Benefits to the enterprise:

An enterprise can benefit from the knowledge of professional action styles of its employees. Many people, who have totally different value and represent divergent methods are working together in several groups. With this test, an organisation can recognise

- Of which action type is characterised,
- Which members could be best for a team,
- Why there is a missing working efficiency in many teams and
- How groups should be optimally- according to tasks- occupied.

4 FUNDAMENTAL STAGES IN THE DEVELOPMENT OF A TEAM

When a team is formed and is assigned specific goals, then it is the most important thing that the group is entitled to sufficient development time. Even if all team members possess team competence- which is rather unlikely- a team still needs a long time until it can really function organisationally and in a humanly manner.

This relatively long start-up period is necessary for the group in order to go through the following development phases and for team partners to get used to one another. This enables a constructive teamwork. Because of the fact that the performance capability and results of the project of a team is not a sum of every individual performance, rather a result of harmonious interaction of the team as a complementary working group, makes this time very essential. This contemporary development and group dynamic processes have to be considered as a matter of necessity.

A working group is then a good team if everyone knows his or her place in the group and respects the others. This and a distinctive we-feeling ensure a group cohesion, limit disturbances and conflicts in interpersonal relationship to the barest minimum.

At the beginning of group building process, the following-whether in formal or informal groups- phases take place:

1st Phase:

Mutual careful gauging and acquaintance phase. This phase is characterised by:

- Reservation,
- Politeness,

- Insecurity,
- Observant attitude and
- Careful approach.

Apart from the possibility of self profiling and self affirmation, here rules also the prevailing fear of not being accepted positively and even of being rejected. The high expectations or requirements of individuals always produce insecurity at the initial stage.

2nd Phase:

Clarify the following questions:

- Identity question:
How should I act in this group and how can I be fully accepted?
- Requirement question:
Which expectations and goals have this group and how far can I complement with my personal requirements?
- Question relating to power:
Who is going to claim leadership and how can I exert influence myself and acquire prestige?
- Apparentness question:
How open are members of this group speaking with one another and what should I reveal about myself?

The following take place at this phase

- Power struggles,
- Status demonstration,
- Egoism,
- Frustrations,
- Conflicts and
- Contentions.

3rd Phase:

In the group development phase, we have the common learning process. The following will be learned and exercised:

- Factual contentions,
- Personal manners,
- Dealing with criticism and conflicts,

- Confidence and openness as well as
- Effective teamwork.

At this stage, certain stability has taken place as a result of mutual acceptance.

4th Phase:

The last phase in the development of an effective team is the mature stage where

- Working together is harmonious,
- Excellent performances are provided,
- Common goals are developed and
- Problems are solved constructively.

5 RIVALRY VERSUS COOPERATION

Planning and cooperation with one another, solving problems and social interactive actions are becoming more important. It is the wish of everyone- and also the necessity- to train and deepen the cooperative competencies which we have acquired. However what does the reality look like?

The confrontation game »How can I extend my social influence and how do I acquire more power?«, dominates in many companies. This makes it extremely impossible for desire for cooperation to gain ground.

If only one knows how strongly organisations are being braked nowadays by

- Bad cooperation,
- Selfish interests,
- Irrelevant conflicts and
- Rivalry thinking,

it will then be possible to measure how successful an organisation would have been if one would be able to remove these negative influencing factors. How can the situation be improved?

In conjunction with the aspiration for appropriate factual inputs in the group, there often ensues competition among team members which one can actually describe as natural, which however steers in a productive course.

If the impulse giving competitive factor is not being constructively handled and not being stemmed

or defused, it could expand into confrontation and with confrontation, a solution is seldom possible. Creating a balance between cooperation and necessary competition among group members is a very difficult undertaking for many senior management and team leaders. This can be managed with a lot of

- Sensibility and empathy,
- Personal strength of character and
- Psychological know-how.

In order to create a healthy balance between cooperation and competition, chances within the group must be fairly shared. Everyone should be provided with the same opportunities to achieving success. Losers must also be allowed to win and winners must learn what it means to lose as a way of securing group consensus. This is of absolute necessity in the interest of a functional team work.

If group performance is recognised more than individual performances- without having to neglect individuals in the process- an unnecessary power struggle within a group could to a great extent be avoided. Such solutions to problem are for team leaders or the senior management similar to walking a tight rope. They have to simultaneously consider both

- Group expectations as well as
- Needs of each group member

in the same balanced degree.

Cooperation can be easily achieved if a relatively high degree of coordination has been achieved. The most important elements are mentioned in the table »Influencing factors of the coordination degree«. In a situation of great sociocultural differences (e.g. different professional orientation and opposing demographical factors), differentiated value systems, incentive systems targeted at individuals etc. are cooperative conditions restrictive.

6 CONFLICT MANAGEMENT

In a working team, members influence one another; tasks, environment and groups consist in their constantly changing interrelations a high degree of conflict potential.

Conflicts are characterised by an irreconcilability of two or several approaches to a goal, i.e. as a result of different opinions, ideas or interests. In dealing with conflicts, it is important to know that conflicts have a »double face«. These two sides of a conflict relate

| Influencing factors | Obtainable degree of coordination | |
|---|--|---|
| | Low | High |
| Socio-cultural differences | Very different professional orientation and opposite demographical factors | Similar professional orientation and personal interests |
| Striving for influence by the functions | Power conflicts between individual functions | No power conflicts |
| Organisational structure | Rigid functional arrangement | Arrangement according to processes |
| Not-invented-here-effect | Resistance against the implementation of others suggestions (e.g. departments, branches) | Solutions from neutral persons are accepted without problems |
| Missing strategies/goals | Strategies, goals, success factors cannot be recognised | Clear strategies and a system of common goal definition |
| Value system | Differentiated value system | Common value system |
| Coordination climate | "each is an enemy of the other" | Coordination promoting attitude |
| Communication | Formal communication | High share of informal communication |
| Leadership system | No delegation of responsibility | Cooperative leadership style |
| Incentive system | Individual performance are preferred | Cooperative performance preferred |
| External pressure | No consideration of external factors | Increment of coordination preparedness through external factors |

- a) To the way the conflict is conducted:
 - Whether open outburst
 - Or icy estrangement;

- b) The extent of the effect of the conflicts:
 - Whether caused by fear/ aggression/ feeling of guilt etc.
 - Or as support for personality development;

c) To the deflection of conflict potential:

- Whether on the basis of concept of –externally-ideal enemy (xenophobia)
- Or on the concept of- internally- ideal enemy, e.g. Mobbing.

A constructive resolution of conflicts means not suppressing them, rather confronting the problems and accepting them.

- Discussion ,
- Revelation and
- Clarification.

of reasons of a conflict is the only way out of this problem- but the most difficult way as well of confronting conflicts.

How could conflicts be differentiated?

In meeting the condition of cooperation in a team, group or in the department, one could classify conflicts in the following areas:

- Factual conflicts and
- Social conflicts.

While factual conflicts are relatively easy to solve with good will in the team because it is easy to convince those concerned through factual arguments at the cognitive level, social conflicts are often solved with great effort input by the management or team leader.

Factual conflicts are recognisable in that they take place at the reasoning level and mostly concern

- Task definition,
- Their planning and implementation,
- Process of the work,
- Responsibility or
- Information need.

In a factual conflict the conflict solver appeals to the objectiveness of the adversaries and invite them to rethink their subjective opinions and interests once more and orientate themselves to the common and superior goals. Social conflicts are on the contrary emotion-steered and are hardly reachable at the reasoning level. This type of conflicts can be differentiated through the following behavioural pattern of those involved:

- Conflict partners show themselves mostly invincible,
- They react emotionally and not rationally and
- They behave out of proportion relative to the conflict.

In social conflicts, the root of the problem lies in the emotional life of those involved. Emotions develop from year long experiences and learning processes and could not be easily influenced by purely logical arguments. Here it mostly concerns complex value structure which touches on the self conception of those involved. This hardens the fronts and sometimes leads to escalations.

Important: Social conflicts must be recognised and solved at the early stage. In doing so, only the methods and negotiation techniques could be success promising. Such methods and techniques recognise that the feelings of a person can be affected and that solution can also be found at the emotional level. Knowledge of psychology is of absolute necessity for the arbitrator.

Following, you will find some recommendations to dealing with provocations:

- Remain factual.
 - Don't allow yourself to be challenged.
 - Don't lose self control.
 - Abstain from fruitless discussions.
 - Keep to facts.
 - Try to be patient.
-
- Take a deep breath!
 - Breathe evenly!
 - Speak slowly!

In conclusion, you will find some recommendations for resolving factual and social conflicts:

- All the colleagues have equal rights among themselves. No one is thus allowed to give his colleagues instructions. By extension, no one is obliged to follow instructions from others.
- Because one is not the superior to his colleague, he is thereby not having the right to control them in their tasks. He is only allowed to obtain important information for them.
- If someone has the impression- as a result of his experience or knowledge that improvements may be necessary with his colleague, he can tell him this but the colleague has the freedom to take or reject the recommendation without animosity.
- Everyone is obliged- if he has a plan touching on area of responsibility of a colleague- to seek a timely consent of this person. This self coordination at the same level means that the colleagues could reach a common understanding on the procedure.

- Exchange of information between colleagues must be treated confidentially and should only be passed on with the consent of the other; except it concerns information compulsory circumstances involving the superior or a third party.
- No one is allowed to inform the superiors or another colleague about activities involving the working area of another colleague.

Of equal great importance is the elimination of conflicts at the interpersonal level. The following are examples of possible problems situations:

- Envy and resentment on the status of the colleague is a common cause of conflicts.
- Lacking discretion of company founders among themselves mostly leads to unwarranted behaviour pattern.
- False or unwarranted information about a third party often culminates in unjust assumptions this person or may even lead to discrimination.
- A too optimistic self perception and a sustaining me-at-the-centre-position of individual colleagues gnaw on the nerves of others and force them in a loser position.

What should employees adhere to?

- They should make effort to adhere to the rules of cooperation in professional life.
- They should avoid, in their interaction with other colleagues such behavioural attitudes which could lead to conflicts in the interpersonal branch.
- Contribute a good role model attitude and be positively helpful in problem situations to your colleagues.
- Respect your colleagues as responsible individuals and tolerate their way of behaviour, even if these are not in conformity to yours.
- Have consideration of the needs of others according to value, respect and recognition in the society as an elementary condition for a good interpersonal relationship.

If the cooperation functions optimally within the concept of interpersonal relationships and through this, a cooperative Cooperation can be guaranteed instead of an overall performance-depleting Conflict, only then are the basic conditions for working effectiveness and working efficiency available on which a future oriented organisation can develop upon. A harmonious working atmosphere, characterised by mutual readiness to help and readiness to learn, makes it possible to achieve performance increment as well as increment in productivity. These two conditions are necessary ingredients for profit bringing for an organisation. make the effort to adhere to these recommendations. The statement »If you learn but change nothing, you haven't learned anything« can be justified by this contribution.

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

F PROCUREMENT AND PRODUCTION MANAGEMENT

| | | |
|---|------------------------------|-----|
| 1 | QUALITY MANAGEMENT | 598 |
| 2 | PROCUREMENT MANAGEMENT | 630 |

1 QUALITY MANAGEMENT

GOAL(S):

This contribution provides concrete suggestion for the development of a quality system. At the centre point are the 4 P's: quality philosophy, quality policy, quality procedures and quality practice.

CONTENT:

- 1 The problem situation
- 2 The 4 P's of quality system
- 3 Quality costs
- 4 Checklists for the examination of entrepreneurial and personal quality mature level

INSTRUMENTS:

- Leading principles
- The 4 P's in quality management
- Processes of quality improvement
- Checklists

APPLICATION(S):

- Improving quality consciousness
- Development of a quality system
- Determination of entrepreneurial and personal quality maturity

UTILITIES:

- Recognition of the relevance of the problem
- Understanding the realisation aids
- Determining entrepreneurial and personal weakness areas

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Leading principle: applicable for all topic areas
- 4 P's method: valid for all functional areas (see »Environment protection«)
- Cause-Effect-Diagram: transferable to most problem areas
- Checklist: applicable to all management areas

1 LOOKING AT THE PROBLEM

The theme Quality is at the moment to be found at the top of the list of topics on management. There are several reasons for this development. Among the basic factors influencing the importance of this theme are:

- Increasing customer expectations concerning quality of products and services,
- The Japanese challenges and the increasing internationalisation of markets,
- The strive for reduced environmental strains which are conditional to new or modified production processes,
- The increasing interrelationship of logistic processes between companies engaged in production or services,
- The ever growing complexity and variety of products.

Definitions for the term quality are multifarious. This arises from the fact that quality is complex, a difficult to comprehend term. In this way there is no definition which is right or wrong; the objective determines at last the content of the term. In this way, there are different approaches.

- 1 The universal, transcendental approach
Quality stands here comprehensively for high standards and requirements.
- 2 Product/ service approach
Certain characteristics are categorised to certain quality being offered.
- 3 Customer related approach
Here, one presupposes customer wishes. Products and services which best cover customer requirements are qualitatively high standing.

A more general and neutral paraphrase for quality is the definition in DIN 55350: »Quality is the totality of characteristics and features of a product or an activity which, when applied are adequate for the fulfilment of certain requirements«.

Haist and Fromm who have intensively spent time on the principles, methods and techniques of quality in companies interpret this term from customer perspective. According to their opinion, all attempts at achieving quality should be measured on the basis of customer expectations and customer wishes. As a result of this, they define quality »Correlating to customer requirements-requirements concerning function, price, delivery time, safety, reliability, environmental compatibility, costs, serviceable, customer service etc.«

An attempt at orientating the paraphrased concept on customers is unquestionably correct. An organisation cannot perceive customer in this sense as the classical customer, rather also that employee, that team, that department and that functional area which receive services are all valid

customers. This means perceiving customers in a more comprehensive way, both internally and externally. Apart from the role of »customers«, each employee is also at the same time in the role of a »supplier«, meaning supplier of products and services. The fact that the term customer is basically being understood in the classical orientation by companies in their day to day activity, e.g. the author presupposes in his definition of quality-demander that the customer is an external third party, he is a business partner. On the other side confronting quality-demander is qualitysupply and quality-supplier.

Quality-offer represents the factual level, the physical result or physical process of a product or of a service. The quality- supplier on the other hand represents the human level, persons who provide the actual material services. To simplify this, one is speaking of service when one speaks of quality-offer of products and quality- suppliers of products. From this background, the author perceives the following definitions as relevant for the purpose of understanding the term quality:

»Quality is the fulfilment of requirements of quality-demanders through qualityoffer and quality-suppliers« (see table »The Quality Triangle«).

As a consequence of this, the quality-demander is the measure for quality. The aim is to fulfil his expectations and needs. In numerous situations, these are however not always

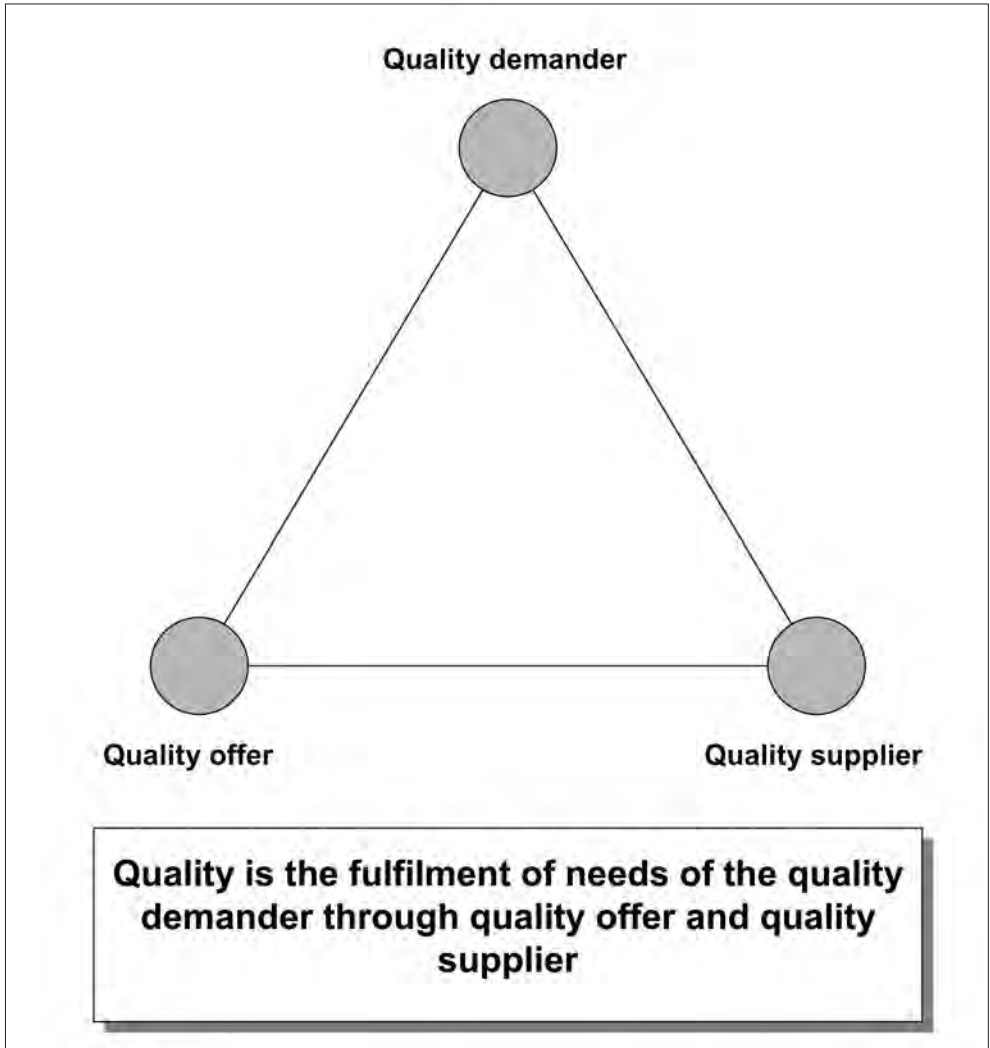
- 1 openly discernible,
- 2 precisely formulated,
- 3 being brought to the consciousness,
- 4 comprehensively derivable.

It is also to be considered that both external demander and internal demander represent a bipolar series of contacts of

- known and unknown customers,
- old and new customers,
- younger and elderly customers,
- comfortable and uncomfortable customers etc.

In spite of all these difficulties, customer expectations should be collated as precise as possible. The term quality is represented in our consciousness through a complete conformity with customer requirements. In this way, it is important to explain this in the following steps:

- 1 What are customer requirements?
- 2 Do the results of our activities conform to customer expectations?
- 3 Which measures are necessary for the retention of quality and improvement of standards?



187 | The Quality Triangle

The pragmatic implementation of the formulated term in practise is provided in the table »Quality criteria«. This contains the predominating evaluation criteria for quality- offer and quality- suppliers. It is your task to:

- 1 Check the two catalogues of criteria for their applicability in your organisation. Were single criteria to be modified or changed or were additional criteria to be necessary, then correct this list.
- 2 Permit the customers to evaluate individual criteria.

- 3 Develop - as far as this is possible- concrete recommendations for improvement and determine precisely individual activities.

The term »Quality« has witnessed different characterisations over time. In the course of several decades, the term quality was being defined from the perspective of the product. It is only in the last years that the need for quality was no longer being defined on the basis of technology, rather also it was extended over to all other areas of administrative processes. Results of several analyses have shown that normally, only a third of all mistakes results in ones own production and two third of all mistakes come from other functional areas.

In correspondence to the different objectives, new terms emerged. One finds in textbooks terms such as:

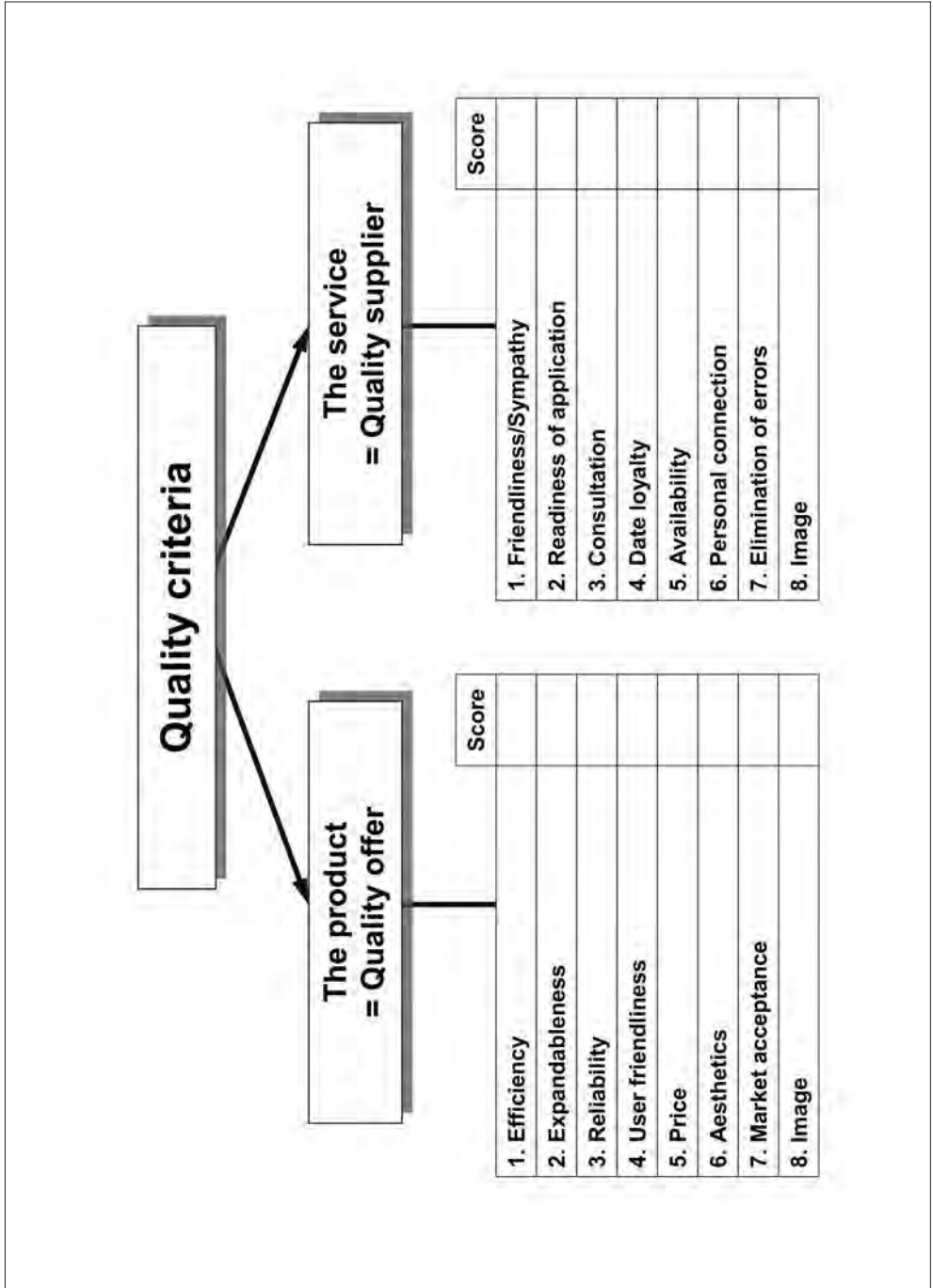
| | | |
|------|---|--------------------------------|
| TQC | = | Total Quality Control |
| CWQC | = | Company Wide Quality Control |
| MDQ | = | Market Driven Quality |
| QFD | = | Quality Functional Development |
| TQM | = | Total Quality Management |

In the development of a quality system, existing norms are basically to be taken into consideration. In this perspective, the »International Organisation of Standardisation« also known as the ISO, has wielded a great influence. The ISO is an umbrella organisation consisting of norm controlling bodies of over 50 countries. It has its headquarters in Geneva. It is the task of ISO to align recommended standardisations norms by individual countries.

The guiding principles determined by the ISO are given over to individual national norm organisations in the form of recommendations (e.g. in Germany it is the DIN and in America, the ANSI). These are integrated by each member country either directly or indirectly as norms or as modified norms. The question of unified standards makes trading easier; information exchange between countries equally becomes easier. The ISO 9000 has a far reaching consequence. It is an international norm which describes the contents of a quality assurance system. This norm has had a decisive relevance for industries because organisations were being denied access to government contracts if they don't have an evidence of quality assurance system based on this norm.

The content of this norm stipulates that methods and procedures must be established which will assure or guarantee avoidance of mistakes; that such mistakes are under control. Apart from this, the ISO 9000 conformity also requires an internal controlling system as much as the documentation of procedures and processes in a so called quality assurance booklet.

It is however recommendable to allow conformity with the processes to be confirmed by external persons, an additional assurance of the existence of quality management system. Apart from the



ISO Norm, there are other norms such as 9001, 9002, 9003 and 9004. Considered individually, the five norms have the following major emphases:

ISO 9000:

Guidelines for the choice and application of norms for quality management system as well as steps towards evidence of quality assurance.

ISO 9001:

Model for the derivation of quality assurance in design/development, production, assembly and customer service.

ISO 9002:

Evidence level of quality assurance for production and assembly.

ISO 9003:

The evidence level of quality assurance for final inspections.

ISO 9004:

Quality management and elements of quality assurance system.

2 THE FOUR P'S OF QUALITY SYSTEM

In the following, the realisation of a quality system will be introduced through four component units (see »The 4 P's of Quality system«):

- 1 Quality philosophy,
- 2 Quality policy,
- 3 Quality procedures,
- 4 Quality practise.

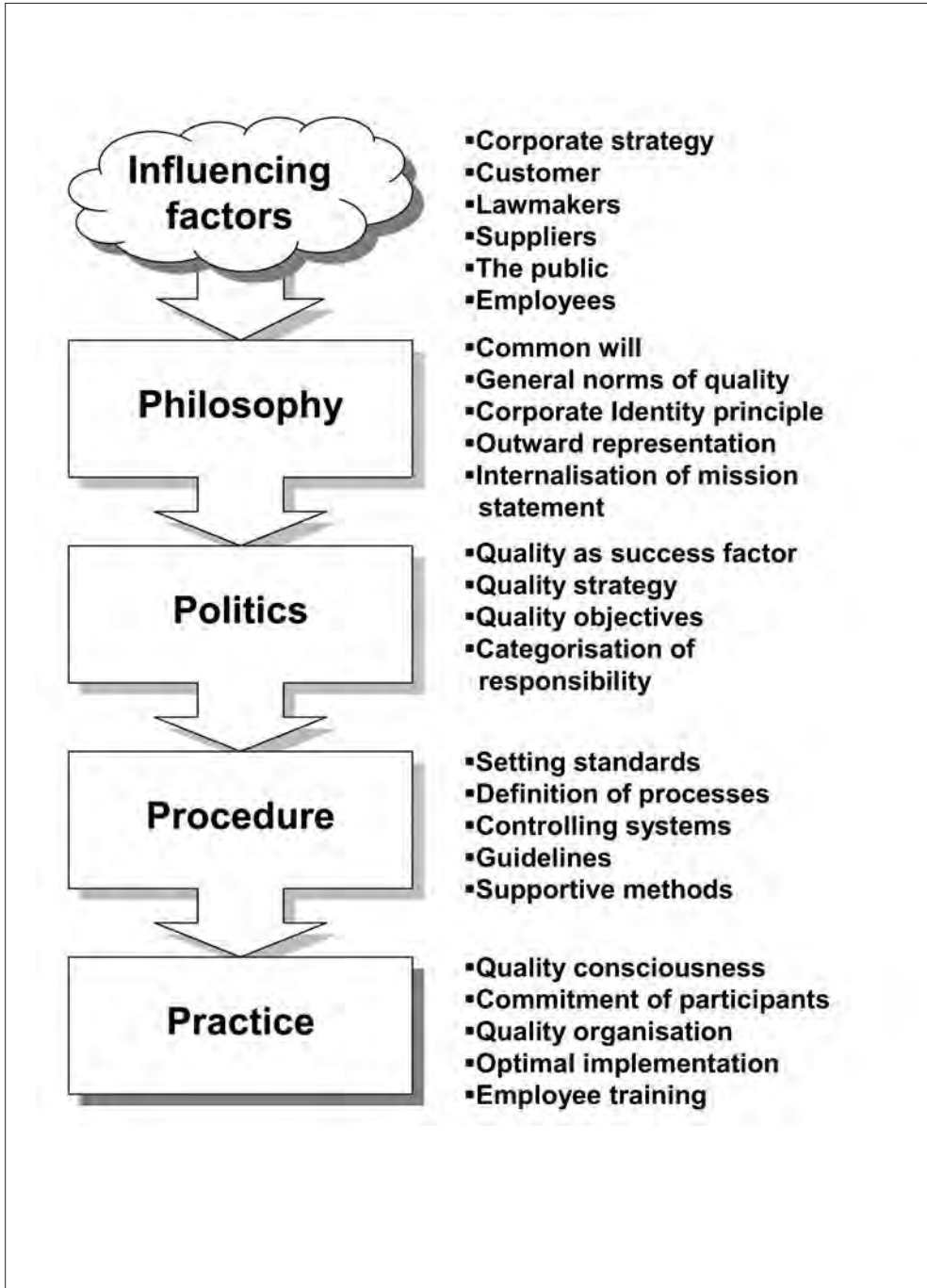
This order of arrangement can normally be recommended in the development of a quality system whereby a constant exchange of information between the individual phases can unquestionably be assumed. According to Phillip B. Crosby, a detailed procedure of a Zero-Mistake-Program has 14 steps. These are to be conducted one after the other with the aim of achieving »zero mistakes«. Here, it is to be noted that a Zero-mistake program does not compare to a Zero-Mistake-Process, otherwise expectations may arise which cannot be realised. The objective must be to make no mistakes, even when the goal at first seems unachievable. Juergen B. Blaesing correctly expresses this when he says: »Not the arrival is important, rather the journey there«.

| | |
|------------------------|--|
| 1 st step: | Determination and categorisation of management position concerning quality. |
| 2 nd step: | Composition of a steering group which will organise the program. |
| 3 rd step: | Make quality measurable, present actual and potential quality problems which will make an objective evaluation possible. |
| 4 th step: | Define the components of quality costs and declare their utility as an instrument for the whole management, |
| 5 th step: | Increase personal consciousness for responsibility for quality and systematically improve the image of the organisation as far as quality is concerned. |
| 6 th step: | Development and application of systematic methods in order to solve actually recognised problems as well as potential problems which will last over a long period of time. |
| 7 th step: | Preparation for the Zero-Mistake-Program. |
| 8 th step: | Train the superiors so that they can take over an active role in the Zero-Mistake-Program. |
| 9 th step: | Organise an event which will enable all employees to understand through own personal experience, that something is changing, has changed. |
| 10 th step: | Putting plans and commitment into practice whereby each employee is encouraged to putting improvement goals as priority for both himself as well as for his group. |
| 11 th step: | Removal of causes of mistakes; developing a reporting system whereby each can mention the problems which make it impossible for him to achieve his improvement goals. |
| 12 th step: | Recognition which shows appreciation for performances. |
| 13 th step: | Constituting expert teams. |
| 14 th step: | Starting again from the beginning; make it clear that the program for improving on quality is a never ending one. |

2.1 QUALITY PHILOSOPHY

Every organisation that takes quality seriously will right from the start require clear principles of quality. This represents a common, clear and obvious commitment. The formulated statements could be understood as the guiding principles for quality. Generally, these should contain:

- The customer decides on quality. His satisfaction determines business activities.
- Quality is a continuous management task. The management has a role model function.
- The employees contribute decisively to the realisation of quality objectives.
- Highest quality is to be expected from suppliers.
- Mistake prevention, rather than mistake identification is encouraged.
- Quality contributes to cost reduction. In this way, the efficiency of an organisation will be improved.



- Quality demands clearly stated objectives (Quality policy).
- Guiding rules is an important condition for the realisation of quality concepts (Quality procedures).
- Securing quality requirements must continuously take place in the processes, products and services (Quality practise).

The following tables represent

- The 12 guiding principles of quality of Bosch organisation and
- The quality principles of the company Putzmeister.

2.2 THE QUALITY POLICY

Quality policy concretises the quality philosophy. It concerns:

- 1 Quality strategy and
- 2 Quality objectives.

Quality strategy should be made for a time horizon of 3-5 years. Among other things, the following questions should be answered under quality strategy:

- Do we recognise the market requirements for single products and services on the market?
- Do we know the needs of our customers?
- Have we measured the degree of satisfaction of our customers?
- With which strategy do we want to develop competitive advantages?
- How do we achieve »Zero-Mistake-Processes«?
- Which customer and supplier process requires urgent improvement?
- What does our internal quality objective system look like?
- Which measurement methods and measurement frequency have we chosen?
- Which quality organisation is in place that can guarantee the achievement of our quality strategy, quality objectives and quality programs?
- Which measures are instituted for the promotion of quality consciousness?

12 Guiding principles for quality (BOSCH)

- 1 We want satisfied customers. This is the reason why high quality of our products and our services is the highest priority of our corporate objectives. This applies to services which are provided in our name on the market as well as in customer services.
- 2 The customer sets the standard for our quality. The judgement of the customer on our products and services is the guiding principle.
- 3 Our quality objective is always »Zero-Mistake« or »100% correct«.
- 4 Our customers don't only judge the quality of our products, they also judge that of our services. Quality must ensue on time.
- 5 Requests, offers, samples, reclamations etc. are to be processed thoroughly and efficiently. Already assured deadlines must be kept to under any circumstances.
- 6 Every employee of the company contributes to the achievement of our quality objectives in his work place. Therefore, it is the task of every employee, trainees and up to the Chief Executive to provide excellent performance. Whoever recognises quality risk + is unable to solve this within his competence realm has to inform his superiors immediately.
- 7 Each piece of work should be carried out correctly right from the start. This doesn't only improve the quality, rather reduces our costs. Quality increases productivity and efficiency.
- 8 Not only the error itself, rather the causes of errors must be eliminated. Error prevention has a priority over error elimination.
- 9 The quality of our products depends on the Quality of our purchase parts. As a consequence, demand of our suppliers the highest quality and support them in the pursuit of common quality objectives.
- 10 In spite of cautious care, mistakes can occasionally occur. As a result of this, numerous tested procedures were introduced for timely error detection. These methods must be applied with the greatest consequence.
- 11 The achievement of our quality objectives is an important management task. In performance appraisal of employees, adherence to working quality carries special weight.
- 12 Our quality guiding principles are binding. Additional needs of our customers must be given attention.

**Quality is a pillar of Putzmeister's
corporate philosophy**

**That thinking and acting which lead to high
quality utility**

QUALITY = The management precedes
QUALITY = Constant management task
QUALITY = Every employee participates
**QUALITY = Collective accomplishment with
sub-suppliers**
**QUALITY = Error prevention not error
determination**
QUALITY = Better than the competition
QUALITY = Satisfied Putzmeister customers
**QUALITY = Positive development of our
organization**

Quality is fun for everyone

Quality objectives concretise quality strategy. They are normally made for a period of one to two years.

The following requirements are must an integral part of objectives:

- 1 The objectives are collectively agreed upon by top management and responsible decision makers.
- 2 The objectives are in unison with corporate objectives.
- 3 A comprehensive objective system ensures a strict derivation of
– area objectives,

- departmental objectives,
 - team objectives,
 - employee objectives,
 - priority quality objectives at the corporate level.
- 4 All objectives are to be described as results.
 - 5 The objectives must be clear and free of contradictions.
 - 6 The objectives must be demanding and realistic.
 - 7 Every objective must be measurable in order to be able to make it verifiable.
 - 8 The objectives should be documented in writing.
 - 9 Top management and employee must conduct all their actions in accordance with set objectives.
 - 10 Monitoring of objective achievement is a continuous process.

In the formulation of quality objectives, it is especially important to be concrete enough. In the following, a few examples are mentioned:

Personnel area:

- Receipt of applications must be confirmed at the latest within four days.
- A qualified response (invitation, rejection, noticing) must follow at the latest 16 days after receipt of the application.
- The average training period for an employee in a year is seven days.
- Special quality training will be planned for every employee. Only a single day will be planned for this.
- Every senior management staff must have had assessment discussions about the previous year with the employees on or before the 1st of April.
- Every senior management staff and all staff members have a personal quality goal.

Production area:

- On schedule delivery of products X, Y, Z.
- Waste will be reduced by 12% in the coming year.
- The throughput time in production will be days for product A.
- An error free of 99.6% should be guaranteed for products.
- Production plans have to be observed.

Distribution area:

- Time needed to conclude orders are to be reduced by 20%.
- The following frequencies are to be observed during customer visits:
 - A-customers once quarterly

- B-customers once every six months
- C-customers once per annum
- Deadlines already agreed are to be observed 100%.
- Customer satisfaction level is to be increased by X percent on the basis of pre-determined indicators.
- The reaction of technical services- measured from the time a problem is registered until the problem is processed- should be reduced by X hours.

2.3 THE QUALITY PROCEDURES

The procedures serve the purpose of guaranteeing the achievement of goals. They consist mainly of the form of work instructions, guidelines and programs. The procedures are ultimately the »rule of the game« for all participants in the quality process.

The following requirements are demanded of the procedures:

- Precisely formulated, i.e. all the participants have a common interpretation,
- Thoroughly described, i.e. consisting of all quality requirements,
- Documented up-to-date, i.e. the guidelines are the latest.

1 EXAMINATION OF CUSTOMER SATISFACTION

The examination of customer satisfaction plays a great role in the procedures. In the following, ten basic principles for the determination of customer expectations are mentioned:

- 1 Try to obtain a comprehensive list of customer opinion.
- 2 Examine customer satisfaction in a kind of overview of results (e.g. from very good to inadequate).
- 3 During opinion survey, pay attention that customers award scores to questions basically at the extreme values (e.g. very good/ good or inadequate/unsatisfactory).
- 4 Make very sure that the right persons fill out the questionnaires.
- 5 Abolish anonymity during opinion surveys.
- 6 Conduct opinion survey on a regular basis (at least once a year).
- 7 Pay attention that the »fever thermometer« customer satisfaction is being taken seriously.
- 8 Integrate selected customer satisfaction criteria into personal achievement goals of senior management.
- 9 Pay attention that all necessary activities for the improvement of customer satisfaction are initiated quickly.
- 10 Make sure that action is taken immediately when there is complaint.

2 THE SIGMA QUALITY STANDARD

This method is being increasingly applied today for the achievement of quality objectives. It serves especially the purpose of fixing the striven »Zero-errorquality« for all products and services. The application of this method is very sensible for different areas of the corporation.

The principles of Sigma-quality concept is the normality which describes the variation of occurring values (e.g. of a fabrication measurement) surrounding the desired value (Expectation value). The mathematical methods can be calculated that every standard variation above or below the medium value (+ / -) borders a surface of each 34.13 percent. This means that the sum of 68.26 percent of the values accumulates within a area where there is each a standard deviation above or below the medium value. Were the sigma to equal 2 and the expected value to be 100, meaning that a value of between of the values 68 percent lies between 98 and 102. A further standard deviation leads each to the Plus zone and the for the Minus zone, we have each 13.59 percent. When sigma = 3, the area is bordered both above and below the medium value by 95.44 percent of all results. Another further standard deviation adds 2.15 percent to each side, so that 99.73 percent falls in the area which is going to be bordered each by three standard deviations above and below the medium value.

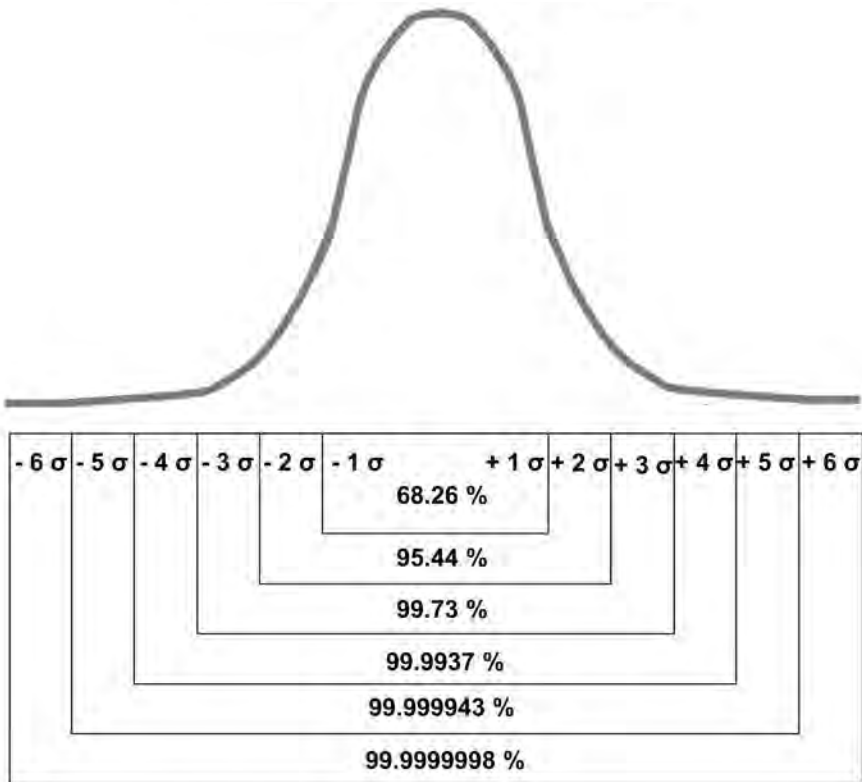
The IBM introduced and applied the »6-Sigma concept quality« world wide. This area of value can be described as error-free. In »6-Sigma quality concept«, only 3.4 values from a total of one million fall out of the optimal area (see the illustration »The Sigma Quality concept«).

In solving problems, it is important to systematically understand the real causes of a problem. It is recommended to differentiate between the following influencing dimensions (see the illustration »Cause-Effect-Diagram«):

- 1 Persons,
- 2 Program,
- 3 Processes,
- 4 Production material,
- 5 Production facility,
- 6 Product.

The Cause-Effect-Program makes use of arrows which are directed at the individual influencing dimensions. One can differentiate

- Main cause,
- Auxilliary cause and
- Remote causes.



Examples

- Sigma = ± 2 and expected value = 100:
68 % of the values lie between 98 and 102
- Sigma = ± 6 : 99.999998 % of the values
lie around the expected value

**Practice: 99.99966 % i.e. only 3,4 values
under one million lie outside of the optimal area**

In applying the Cause-Effect-Diagram, it is recommended to treat the following steps in group work:

- 1 Develop a concrete problem description.
- 2 Represent the structure of the Cause-Effect-Diagram.
- 3 Develop the causes, auxiliary causes and remote causes.
- 4 Check the causes for their influencing dimensions

In Cause-Effect-Diagram, no solutions to problems will be presented. Here, it is about the systematic and comprehensive compilation of the causes of the problems. For the compilation of solution possibilities, other methods can be applied. One of them is the Pareto Analysis which will be described below.

3 THE PARETO ANALYSIS

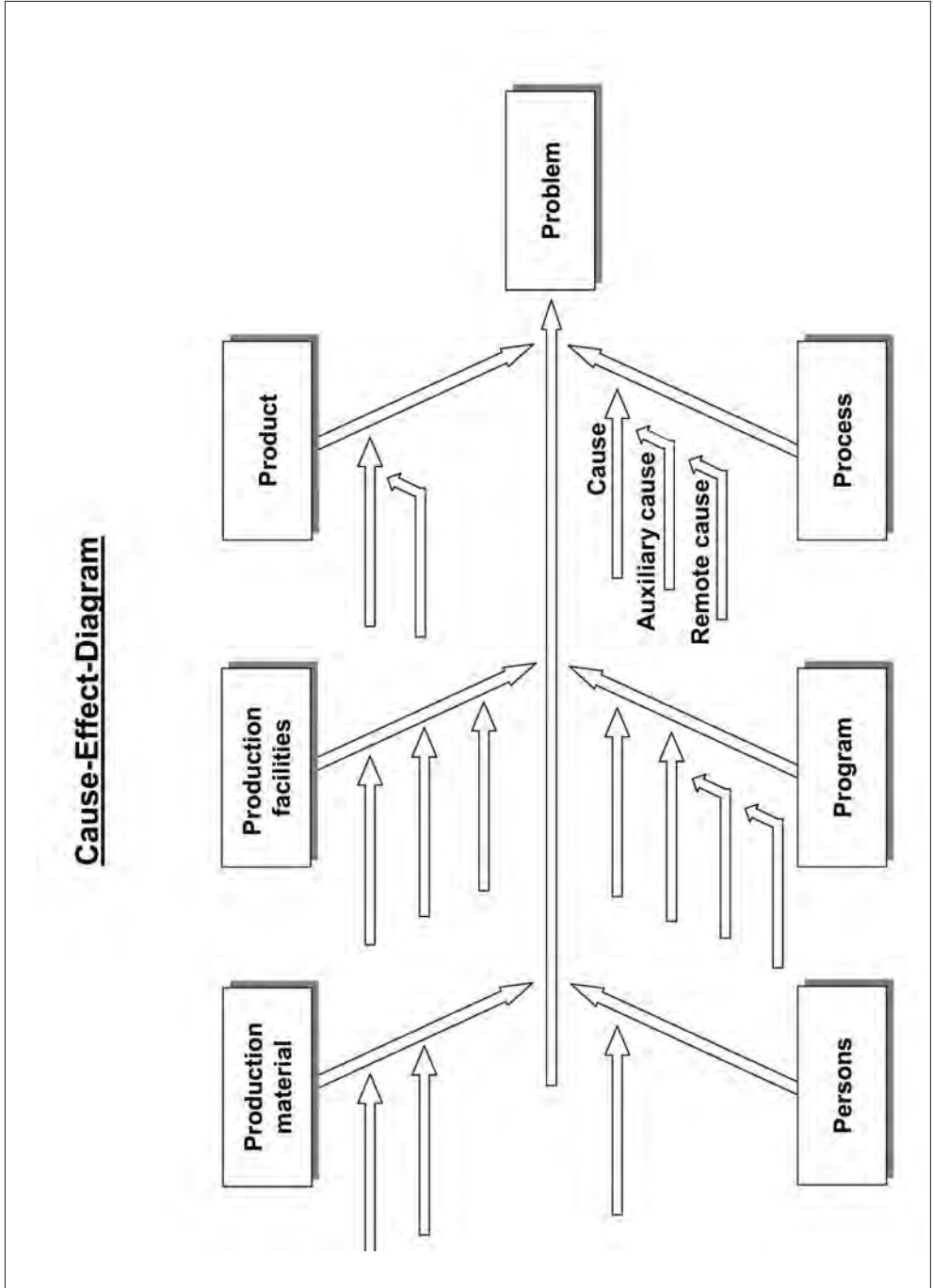
If one has examined the different causes for a problem on the basis of the Cause-Effect-Diagram, the next step will be to determine which one of these contributes strongest to the solution of the whole problem. This method was developed by the Italian social scientist Vilfredo Pareto. It shows that a great part of the problems can be traced back to a relatively small part of the causes. It was also known in the practise as the 80:20-rule. This means that 80% of the problems can be traced to only 20 % of the causes.

In the application of the Pareto Analysis concerning the occurrence of error can be differentiated in the following steps:

– Documentation of errors

For every kind of error, the absolute and relative frequency will be documented. The listing can have a resemblance as follows to an example by Haist/Fromm:

| Type of error frequency | Absolute frequency | Relative |
|-------------------------|--------------------|----------|
| F1 | 15 | 1.9 % |
| F2 | 7 | 0.9 % |
| F3 | 34 | 4.4 % |
| – | | |
| – | | |
| – | | |
| F10 | 327 | 42.0 % |
| F11 | 8 | 1.0 % |
| F12 | 12 | 1.5 % |
| Sum: | 778 | 100.0% |



– Organising the data

After the compilation of the errors, they will then be organised in desired ranking order. In the presented example, the errors are sorted according to the frequency of their occurrence (see the illustration »Frequency of occurrence of errors«).

– Graphical presentation of the Pareto Diagram

The horizontal axis contains the criteria meant to be analysed in the ranking order of importance for the whole problem. On the vertical axis, the typical percentage scale will be entered. If one enters the proportional share of the subject matter in a kind of stairway-like on the bar, mostly a similar diagram emerges such as in the example portrayed in the illustration »Pareto Analysis: Example of a Pareto diagram«. In this case, the axis displays the type of error and the proportional share in %. From the diagram, it can be seen that the three basic types of errors (F10, F6, F5) make up 80% of all errors.

Evaluation of the diagram

The diagram initially makes it clear to all participants which error causes and what influence these affect the problem. If one has identified the most important causes, the next stage is to provide answers to the following questions like:

- Which errors are caused by whom and to what extent?
- What does it cost to take care of the errors?
- What amount of time is required for taking care of these errors?

3 QUALITY COSTS

Costs for quality comprise of the following:

- 1 Costs of errors and
- 2 Costs for prevention and controlling.

The costs of errors comprise of (according to Haist/ Fromm) costs which arise as a result of internal and external errors.

Among others, costs of internal errors are characterised through:

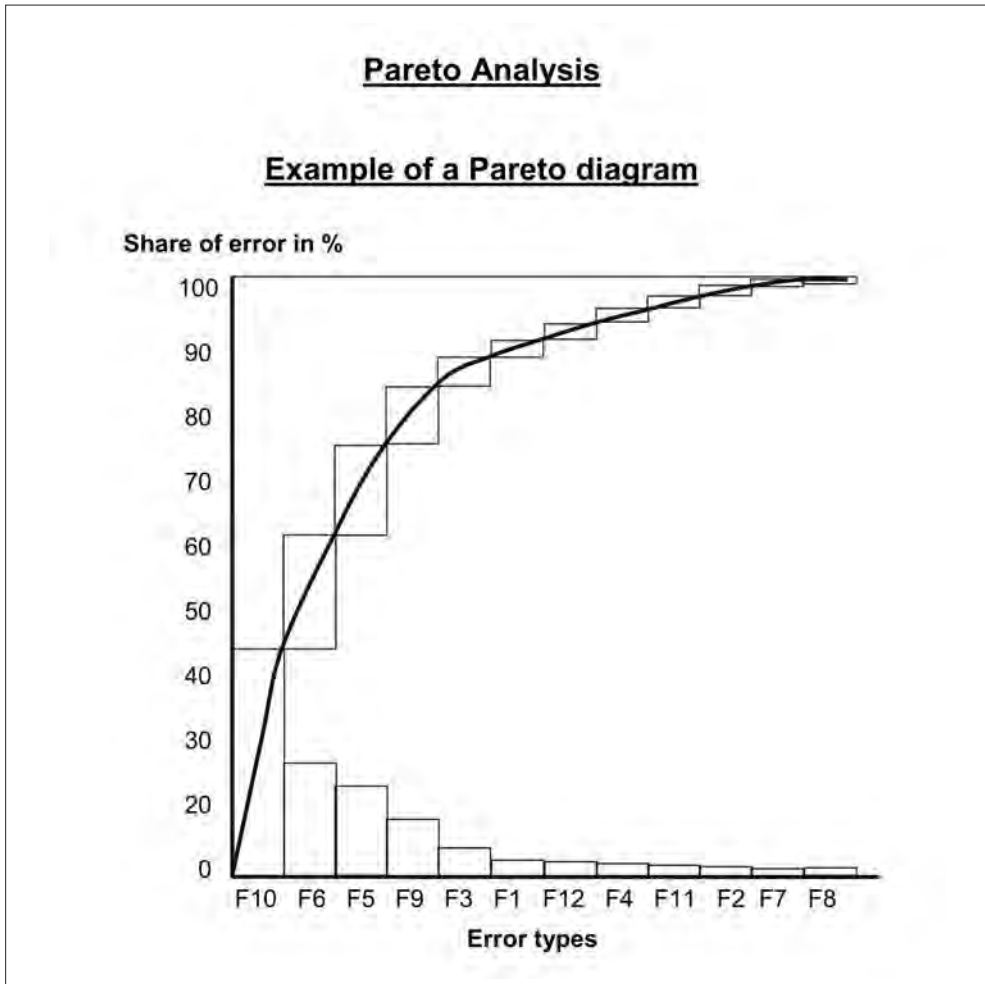
Pareto Analysis

Frequency of occurrence of errors

| Error Type | Absolute Frequency | Relative Frequency | Culmulate dSum |
|------------|--------------------|--------------------|----------------|
| F 10 | 327 | 42,0 % | 42,0 % |
| F 6 | 158 | 20,3 % | 62,3 % |
| F 5 | 122 | 15,7 % | 78,0 % |
| F 9 | 73 | 9,4 % | 87,4 % |
| F 3 | 34 | 4,4 % | 91,8 % |
| F 1 | 15 | 1,9 % | 93,7 % |
| F 12 | 12 | 1,5 % | 95,2 % |
| F 4 | 9 | 1,2 % | 96,4 % |
| F 11 | 8 | 1,0 % | 97,4 % |
| F 2 | 7 | 0,9 % | 98,3 % |
| F 7 | 7 | 0,9 % | 99,2 % |
| F 8 | 6 | 0,8 % | 100,0 % |

192 | Pareto Analysis

- Documentations for error analysis,
- Error recognition measures,
- Measures towards error elimination,
- Inspections towards quality assurance,
- Waste,
- Redundant processing,
- Reworking,
- Misdirected letter,
- Outfall.



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External errors generate costs through:

- Processing of complaints,
- Additional expenses as a result of repair services,
- Treatment of returned products,
- Repairing costs of errors at customers' place,
- Costs accruing from guarantee,
- Product liability,
- Decline in value,
- Contractual penalties.

Costs for prevention and controlling are constantly increasing during the process of achieving a »Zero-Error-Defect«.

Costs arising as a result of prevention are basically caused through:

- Quality program,
- Quality planning,
- Quality assurance,
- Training of employees,
- Training of suppliers/ customers,
- Customer interviews,
- Development analyses,
- Preventive services.

Costs arising from controlling comprise among others of:

- Initial controls,
- Process controls,
- Material controls,
- Additional investments for test equipment,
- Test analyses.

The table »Quality costs« shows the individual curve progressions. Costs of error decrease according to the level of quality improvement and these will be zero when »Zero-Error« level is achieved. Costs for prevention and controlling normally do not begin at zero because every organisation today possesses a minimum standard of prevention costs. In the presented model in the table »Quality costs«, a possibility could be chosen from different adequate possible alternatives. Alternative 1 assumes high costs of errors and lower costs for prevention and controlling. In Alternative 3 expected total costs of quality is at the minimum.

The analysis of quality costs which allows a feedback on quality objectives and quality procedures should be able to increasingly open the eyes of organisations to the necessity of investing in preventive measures.

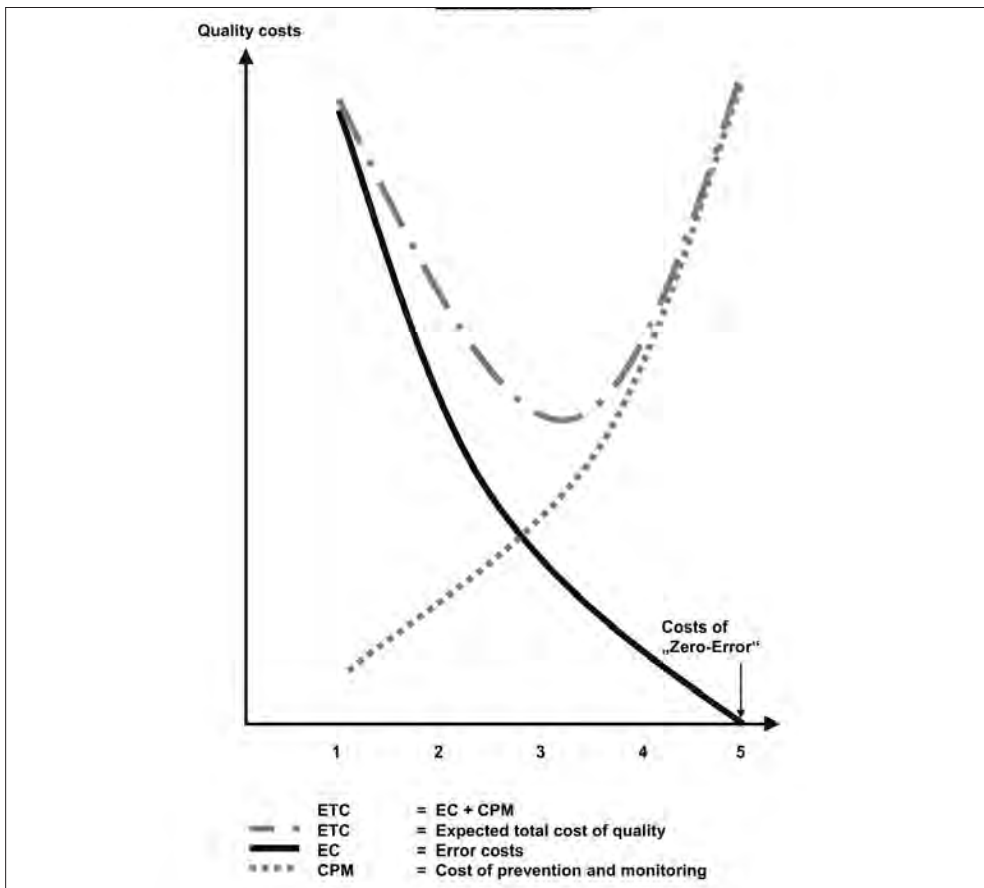
This is not only necessary from the strategic point of view (»Zero-Error-Defect«). In most cases, cost reasons force preventive measures to be taken for a business venture. Costs which arise in the process of correcting the errors are estimated too low most of the time. One only reckons with costs which are directly recognisable and easy to estimate. These could be e.g.:

- Costs for correcting errors at customers' place,
- Costs of guarantee services,
- Costs of complaints.

Costs which are directly connected to the errors, mostly indirectly (e.g. costs of irritating the customer, loss of customer etc.) are not always being considered during cost identification. These criteria are almost of qualitative nature. One is not attempting a quantification of this in Euro and Cents (because such an enterprise is unquestionably difficult). However, it is necessary at this juncture to apply the value comparison method in order to at least be able to have a sort of quantification for the qualitative characteristics.

This shows how the method can be concretely applied. In order to further clarify the transferability of this to other quality areas, an example is presented (see tables »Value comparison method«). The presentation shows clearly that qualitative methods could have decisive effects. In our example, a 1:1relation will be assumed in the evaluation of both the quantitative and the qualitative features.

Often, the difficulty to estimate criteria have a more serious relevance. Consequently however, costs arising as a result of errors could be made perceivable in an even greater dimension.



| | | | | | | |
|--|--------------------------------------|---------|--------|---|------|--|
| ① Quantitative costs <i>Processing a complaint</i> | | € 400,- | | | | |
| ② Quantitative cost elements - <i>Processing costs in the administration</i> € 90,- - <i>Costs of new parts</i> € 70,- - <i>Costs of fault repair</i> <u>€ 240,-</u> € 400,- | ④ Evaluation of cost elements | | | | | |
| | Low | | Medium | | High | |
| | 1 | 2 | 3 | 4 | 5 | |
| | | X | | | | |
| | X | | | | | |
| | | X | | | | |
| | | | X | | | |
| | | X | | X | | |
| ③ Quantitative cost elements - <i>Cutback of customer productivity</i> - <i>Discontent with the product</i> - <i>Loss of confidence</i> | | | | | | |
| ⑤ Examining the value of qualitative cost elements | | | | | | |
| <ul style="list-style-type: none"> • Average evaluation <ul style="list-style-type: none"> - quantitative criteria: $\frac{6}{3} = 2$ - qualitative criteria: $\frac{12}{3} = 4$ • Assigned value of <ul style="list-style-type: none"> - quantitative cost elements: € 400,- - qualitative cost elements: € 800,- | | | | | | |
| • Total cost € 1.200,- | | | | | | |

| | | | | | |
|---|--------------------------------------|---|--------|---|------|
| ① Quantitative costs | | | | | |
| ② Quantitative cost elements | ④ Evaluation of cost elements | | | | |
| | Low | | Medium | | High |
| | 1 | 2 | 3 | 4 | 5 |
| | | | | | |
| ③ Quantitative cost elements | | | | | |
| ⑤ Determination of the value of qualitative cost elements | | | | | |
| <ul style="list-style-type: none"> • Average evaluation of <ul style="list-style-type: none"> - quantitative criteria: - qualitative criteria: • Assigned value of <ul style="list-style-type: none"> - Quantitative cost elements: - Qualitative cost elements: _____ • Total cost | | | | | |

4 CHECKLISTS FOR THE EXAMINATION OF CORPORATE AND PERSONAL DEGREE OF QUALITY MATURITY

The two following checklists are based on the 4 P's of quality system as treated in the second chapter:

- 1 The quality philosophy,
- 2 The quality policy,
- 3 The quality procedures,
- 4 The quality practice.

The first checklist allows for a diagnosis and progress assessment of the quality system in an undertaking. The second checklist enables a self-dependent assessment. The structure is the same for both tests. Award 0-5 points to each question. A maximum of 100 points could be achieved in each checklist. Try to secure improvement approaches in both checklists.

Degree of quality maturity of an organisation

| 1.0 Quality philosophy | Points | | | | | |
|---|--------|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 |
| 1.1 Is the effort at achieving quality integrated as a business principle? | | | | | | |
| 1.2 Are there guidelines for quality which document responsibility towards customers and the public? | | | | | | |
| 1.3 Is it made clear that »Quality« not only applies to production and labour but also to all functional areas? | | | | | | |
| 1.4 Are the suppliers completely integrated in the quality system? | | | | | | |
| 1.5 Are the guidelines on quality known to every management member and is the necessity for their application made clear? | | | | | | |
| Maximum number of points obtainable (25): | | | | | | |

| 2.0 Quality policy | Points | | | | | |
|---|-------------|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 |
| <p>2.1 Are there existing clear goals for quality improvement?</p> <p>2.2 Are there concrete measures for assessing goal accomplishment?</p> <p>2.3 Are customer needs and expectations being regularly examined?</p> <p>2.4 Does an intensive analysis of results of customer satisfaction lead to an improvement of customer satisfaction?</p> <p>2.5 Are managers and employees being involved in concrete goals and plans concerning quality?</p> <p>Maximum number of points obtainable (25):</p> | <hr/> <hr/> | | | | | |
| 3.0 Quality procedures | Points | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 |
| <p>3.1. Are there any regulations necessary for quality improvement in existence?</p> <p>3.2. Do procedures/programs extend to every functional area/ processes of the company?</p> <p>3.3. Are those methods necessary for quality improvement (e.g. Sigma quality standard, cause-effect-diagram) being applied?</p> <p>3.4. Were training programs, which further promote closeness to customers and quality improvement implemented?</p> <p>3.5. Are there any competition comparison and performance comparison analysis?</p> <p>Maximum number of points obtainable (25):</p> | <hr/> <hr/> | | | | | |

| 4.0 Quality practise | Points | | | | | |
|--|--------|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 |
| 4.1. Is it being assured that quality improvement is a long term, continuous process? | | | | | | |
| 4.2. Does every employee know that the quality of his performance bring about utility for both internal as well as external customers? | | | | | | |
| 4.3. Do you promote suggestions and initiatives for the improvement of quality? | | | | | | |
| 4.4. Are there any lack of bureaucratic barriers and customer oriented structures for an effective quality management? | | | | | | |
| 4.5. Are customers being integrated in the company to the maximum? | | | | | | |
| Maximum number of points possible (25): | _____ | | | | | |

Degree of maturity of individuals

| 1.0 Quality philosophy | Points | | | | | |
|--|--------|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 |
| 1.1. Do I know the different guiding principles (Statements) for quality? | | | | | | |
| 1.2. Have I practised these principles in my area of work? | | | | | | |
| 1.3. Am I trying to practise these principles before Internal and external customers? | | | | | | |
| 1.4. Do I motivate others to practise corporate quality principles? | | | | | | |
| 1.5. Am I constantly conscious that that my ways of action as quality provider has the same value as the products and services of our company? | | | | | | |
| Maximum points possible (25): | _____ | | | | | |

| 2.0 Quality policy | Points | | | | | |
|---|----------------|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 |
| <p>2.1. Do I contribute to it that quality goals are a fixed factor in my working environment (team, department, branch)?</p> <p>2.2. Have I made sure that there are concrete measurement gauges for the measurement of goal achievement?</p> <p>2.3. Are the needs of my internal and external customers fully known to me?</p> <p>2.4. Am I making efforts to satisfy in an errorfree manner customer requirements?</p> <p>2.5. Am I learning from past mistakes and constantly trying to eliminate causes of problem?</p> <p>Maximum points possible (25):</p> | <hr/> <hr/> | | | | | |
| 3.0 Quality procedures | Points | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 |
| <p>3.1. Can I make the claim that the conduct of my work is based on trusted rules with adequate quality standards?</p> <p>3.2. Am I contributing within my environment that breakdowns and complaints are treated very fast and in a customer oriented manner?</p> <p>3.3. Do I know any methods which contribute to quality improvement?</p> <p>3.4. Am I a mastermind for my partners (customers, suppliers) concerning quality improvement?</p> <p>3.5. Am I making efforts to keep my knowledge regarding quality improvement at the most current standard?</p> <p>Maximum points possible (25):</p> | <hr/> <hr/> | | | | | |

| 4.0 Quality practise | Points | | | | | |
|--|--------|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 |
| 4.1. Am I developing enough own initiatives concerning the enforcement of quality? | | | | | | |
| 4.2. Can I possibly see myself as a role model as far as quality is concerned? | | | | | | |
| 4.3. Am I also considering cost effects in all measures taken regarding quality? | | | | | | |
| 4.4. Am I trying to develop and carry out a win-win-game involving customers and suppliers in a quality processes? | | | | | | |
| 4.5. Am I considering the environmental impact while investing resources, processes and methods? | | | | | | |
| Maximum points possible (25): | | | | | | |

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

2 PROCUREMENT MANAGEMENT

GOAL(S):

At the centre of this contribution is a process for choosing suppliers. During this process, a range of tools will be integrated. These are suitable for arriving at an objective and comprehensible decision on the choice of the right suppliers.

CONTENT:

- 1 The objectives of supplier evaluation
- 2 Needs of suppliers today and in future - changes in the supplier structure
- 3 Description of supplier choice
- 4 Additional methods- recommendations for the application of procurement management

INSTRUMENTS:

- Portfolio analysis
- Network analysis
- Utility analysis
- Characteristic of success factors
- The ABC analysis

APPLICATION(S):

- Methodical approaches lead to an objectification, greater transparency and optimisation of the decision making process
- Improvement of relationship to suppliers

UTILITIES:

- Supplier analysis
- Strategic management

REFERENCE TO FURTHER ADVANTAGES OF THE INSTRUMENTS:

- Portfolio analysis: Strategic, personal and distribution management
- Network matrix: Success factors
- Utility analysis: Decision making process
- Characteristic of success factors: Strategic management
- The ABC-Analysis: Production and distribution management

1 THE OBJECTIVES OF SUPPLIER EVALUATION

Generally, the evaluation of suppliers aspires to realise of the following objectives:

1. Objectification of the supplier choice process

The idea is to take out subjective decisions and evaluate these by applying individual, specific criteria. In this manner, the evaluation appears suitable to the suppliers. The evaluation criteria should be described clearly and the persons applying them must be able to know how to apply these correctly.

2. Transparency of decision

The evaluation should be clearly documented. In this way, every decision making process can be comprehended by anyone. The necessity of documentation requires acquisition of the use of comprehensive data. The procedure applied in the process is basically known to the supplier and must have been accepted by him

3. Optimisation of decision

The decision must be optimised from the background of

- Economic efficiency of supply,
- Physical supply and
- Strategic supply.

Only when all the three evaluation criteria have been fully taken into consideration could one speak of an optimised decision making process from the perspective of a company. The basic condition in this respect is the realisation of the short term objectives (securing the supply) as well as the long term objectives (strategic supply capability).

4. Improvement of the relationship to suppliers

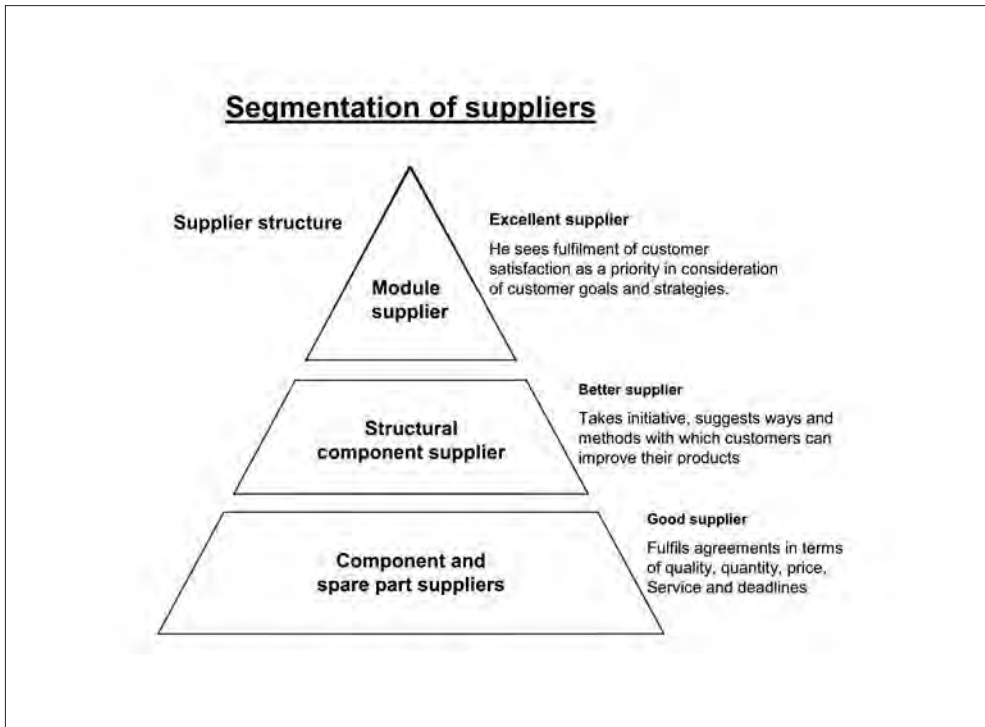
Physical supply and strategic supply aspects make it especially clear that both sides see themselves as partners. It is not only about conducting a one-timebusiness transaction, not a transaction on the basis of winner-loser-principle, rather a long term partnership with the basic understanding of a winner-winnerapproach.

2 REQUIREMENTS OF SUPPLIERS TODAY AND IN FUTURE CHANGES IN THE SUPPLIER STRUCTURE

In the last twenty to thirty years, the product has been at the cynosure of Supply services in Sale/ Material management. In the 80's material management and logistic were gaining more and more relevance. In the last years, the buyer/ supplier-linkage was increasingly being relegated to the background, i.e. strategic supply system was gaining a higher level of relevance. From this background changes in the supplier structure could be observed. The way leads from

- Component suppliers/ spare part supplier to
- Structural component suppliers to
- Module suppliers.

The following table shows typical classification of the segmentation of suppliers of a manufacturing company.



The module and system supplier is in possession of:

- A wide and recognised Research and Development know-how of his specialised area,
- Innovative and creativity potentials through qualified employees,
- Compatible CAD/CAM techniques,
- Ecological competence regarding materials and their recycling,
- Readiness for strategic partnership in the area of R&D,
- Quality oriented manufacturing and assembling processes as well as
- Sufficient capacity of personnel and equipment.

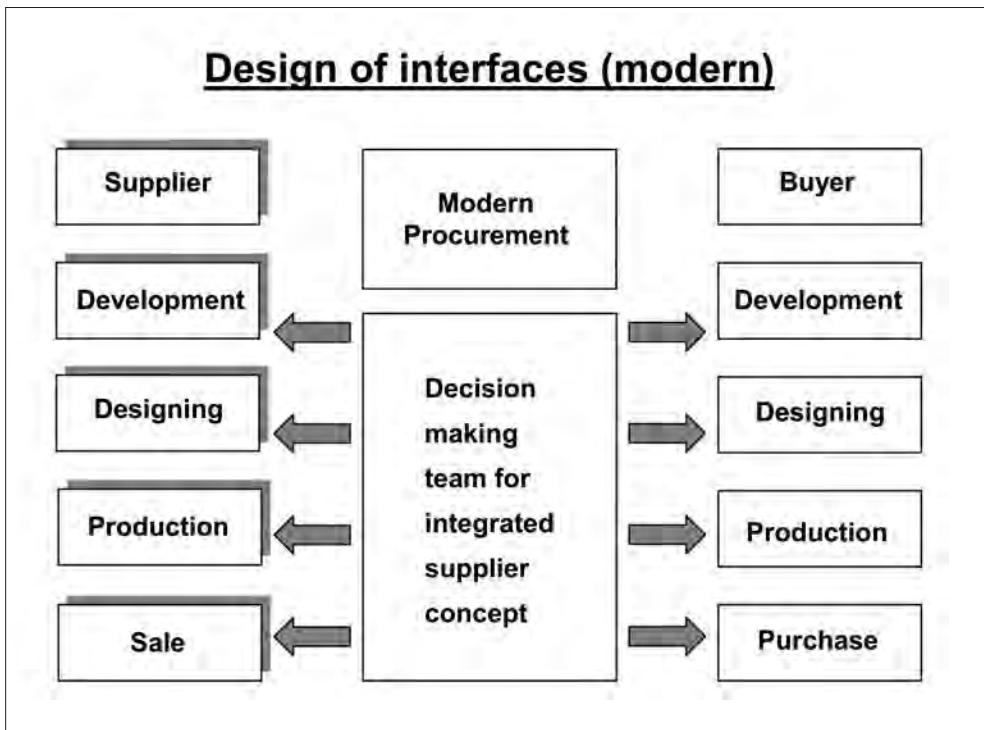
This would mean.

- Reduction of interfaces,
- Cost reduction,
- Acceleration of optimisation of developments,
- Better formal communication,
- Higher degree of automation and
- A more intensive input of logistic and information processing.

Such a linkage between buyer and supplier is subject to the best possible partnership between all participants. In order to accomplish this situation, a series of steps are imperative. The whole system can be structured on the basis of the 5 P's, which at the same time represent a general phase development.

| Five Phases | Main Focus |
|-------------|-----------------------------------|
| 1. Product | Product attribute |
| 2. Process | Material management |
| 3. Package | Module-/System-/ Package provider |
| 4. Policy | Strategic purchase |
| 5. Partner | Value chain partner |

For modern procurement, this development means a simultaneous planning of product and process and a simultaneous development. A team is inaugurated consisting of both the contract initiator and his suppliers with the goal of full exchange of know-how at the earliest possible stage of the project. This reduces time needed for development, reduces development costs and the total costs of supplier parts by avoiding repeated work. This early integration makes it possible for suppliers of development parts of the project to also become series suppliers, provided target prices have been initially agreed upon. The following table elucidates the Simultaneous Engineering-Process very clearly.



With the new developments, there is a complete departure from the old practise of supplier domination. The new developments lead to a gradual supplier and procurement marketing. In this way, the policy is basically directed at allowing both partners to get the best out of a given situation on the market. Also as a result of this, strategic competitive advantages are made possible for participants on both the medium and long ranges and operative performances could be optimised.

This leads to changes in

- Buyer profile (see table) and
- Choice of Supplier (see table).

| Changes in buyer profile | |
|---|--|
| Classical profile | Modern profile |
| Necessity for our action: | |
| Non dynamic hierarchical working structure | Flexible networks of project teams covering every department |
| Buyers operated in a firmly delimited department | Project team, the team ensures nearness to the technology, development and the consumers |
| Procurement logistic activities | Component parts of the process logistic, single production segments |
| Buyers negotiate prices and conditions | Vertical work sharing management with suppliers, certification of suppliers, costs and quality engineering |
| Strategic criteria are secondary | Strategic alliances becoming more relevant |
| Qualitative utility criteria were not evaluated | The quantification of qualitative utility arguments flows into the evaluation |
| The buyer has commercial training | Technical, logistic and legal knowledge move to the forefront |
| Buyer for end product manufacturers with own comprehensive production facilities, a great spectrum of parts | Only development and assembling, reduction of manufacturing depths, complex procurement procedures. |
| A strongly featured orientation in thinking in term of departments and sections | Integral entrepreneurial thinking and acting |

| Changes in choice of suppliers | |
|---|--|
| Classical attitude | Modern attitude |
| Necessity for our action: | |
| Suppliers don't sit in same boat until now, misunderstandings and problems were daily occurrences | Value added of end-product manufacturer |
| One-sided communication | Open and intensive communication between the value added chain |
| Choice of supplier after concept phase | Choice of supplier in the concept phase |
| Price is the most dominant criterion for choice | Choice criterion most importantly development competence |
| Many suppliers supply a single part | One, maximum two supplier to a part |
| Part suppliers | The way leads from component/ part suppliers to module suppliers |
| Change after one to two years | Determination based on model cycle |
| Design-responsibility lies with manufacturer, blueprints with suppliers | Suppliers independently take over designing |
| Price optimisation due to tender | Common achievement of target costs per supplied part, article. |

| | |
|---|--|
| Price increment with change of model | Continuing cost reduction on the basis of Value Analysis and Value Engineering |
| Finding cheapest supplier for a product | The way leads from price negotiation to cost discussions; this means a stronger cost transparency on both sides. |
| Many direct suppliers | Less direct suppliers |

Supplier choice can be undertaken applying different criteria. A possible division of the criteria can be conducted according to sub-classification as in the first section. This follows according to

- 1 Economical supply activity
- 2 Physical supply activity
- 3 Strategic supply activity

ECONOMICAL SUPPLY ACTIVITY

Price and conditions

- Price, price position
- Quantity dependence
- Rebates, surcharges
- Bonus
- Freight (ex work, free house)
- Packaging costs
- Taking back packages
- Custom
- Insurance costs
- Costs for tools
- Conditions of payment
- Cash discount
- Down payments
- Value date
- Costs of disposal

Creditworthiness and financial strength

- Capital situation
- Liquidity
- Fulfilment of liabilities

- Earning power, Cash flow
- Turnover
- Independence
- Legal form of organisation
- liability
- Image, market position
- Competence (Management)

PHYSICAL SUPPLY ACTIVITY

Commitment to supply deadlines

- Submission of tenders
- First prototype appointments
- Pilot production and pre-production appointments
- Technical changes
- Special actions
- Reliability

Flexibility

- Snapshots
- Special orders
- Volume increment
- Adjustment to capacities
- Changes
- Just-in-time-readiness
- Readiness to learn

Capacity

- Number of employees
- Amount of machines
- Warehouse capacity
- Market share
- Utilisation ratio
- Elasticity (different shifts)
- Marketing logistics

Location

- Transportation time and costs
- Traffic connectivity
- Risks
- Language
- Legal situation
- Geographical situation
- Mentality

Quality capacity

- Quality guarantee system
- Quality guarantee in the development process
- Quality guarantee in production preparation
- Quality guarantee during manufacturing
- Control mechanism
- Quality security with transportation, packaging and dispatch
- Quality in documentation and QS-documentation
- Quality security in material supply
- Quality performance

Service

- Consultancy
- Customer services
- Goodwill
- Speedy processing
- Quick reaction
- Thoroughness
- Free samples
- Field service
- Training
- Solutions to problems
- Data processing connectivity

STRATEGIC SUPPLY ACTIVITIES

Corporate policy factors

- Company policy
- Personnel integration
- Joint ventures, common participations
- Quotes
- Reciprocal business deals
- Long range deals

Development potentials

- Preparedness for risk and investment
- Trend feeling
- Rate of innovation
- Market knowledge (market research)
- Basic research for product management
- Problem solver
- Value analysis
- Value chain contributions

Know-how

- Material
- Process
- Problem solutions
- Creativity
- Protection rights
- Patents

Communication

- Keeping to promises
- Attitude during negotiations
- Advance information on malfunctions
- Escalations
- Trust-worthiness
- Openness

If one classifies

- economic supply performance,
- physical supply performance and
- strategic supply performance

to the 5 P's in supplier orientation, the result is depicted in the picture shown in the table »Synchronisation of supply activities with the 5 P's in supplier orientation«.

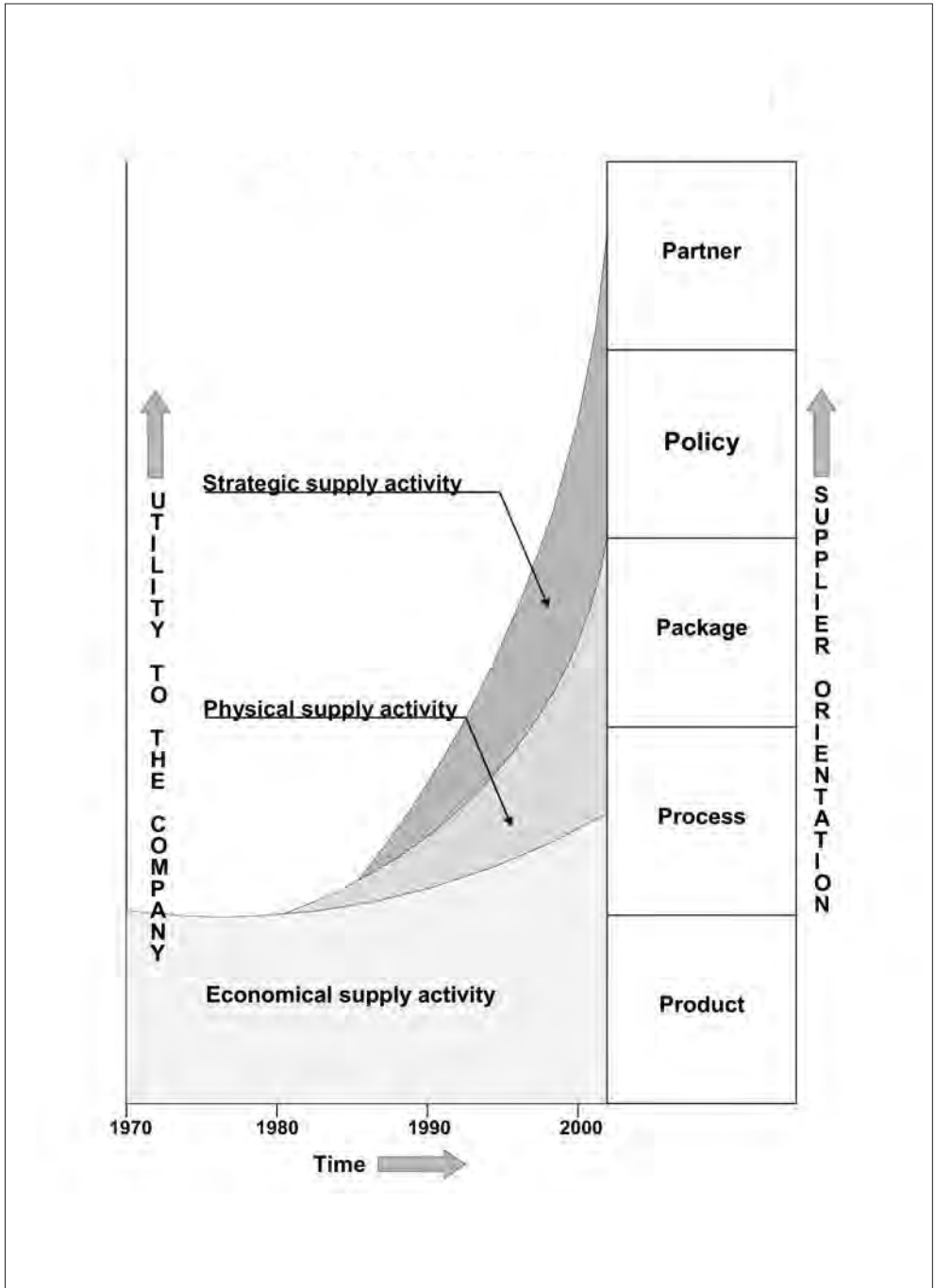
3 DESCRIPTION OF CHOICE OF SUPPLIER

The formulated statements in this section are based very strongly on the project work of the Internal Management Consultancy firm of Lothar Koenigstein. With his work on »The application of portfolio analysis and value analysis and networking technology in the search and choice of a system supplier«, he provided an impressive evidence on the known transfer of instruments and methods of practical corporate management in the procurement branch.

Market overview is a part of procurement market research. This means market observation and market analysis of certain products, functions and services. In order to successfully find potential suppliers, it makes sense to proceed methodically right from the time we decide on our choice of information sources. Possible information sources are colleagues at work, visiting trades fairs, journalistic materials, databanks, different organisations (IHK, Consulates and Association) as well as procurement service agencies.

In the following, a few databanks are listed with concentration on procurement, economy and company information.

| Name | Databank provider |
|--|------------------------------------|
| Procurement leader ABC of German Economy | FIZ Technik Data-Star |
| AMPRO System Catalogue Products of Mechanical Engineering and those of Electro-technical | FIZ Technik |
| Procurement leader German industries | GENIOS FIZ Technik Data-Star |



197 | Synchronisation of supply activities with the 5 P's in supplier

| | |
|--|---|
| Procurement leader Buyer- 1x1 of German industries Handelsblatt Hoppenstedt-Germany | FIZ Technik Data-Star GENIOS GENIOS DIALOG Data-Star |
| Procurement leader Fairs, rules, automatisisation | FIZ Technik Data-Star |
| Creditreform | GENIOS Data-Star |
| Textile industry | GENIOS |
| Procurement leader Who builds machines? Who belongs to whom? Who supplies what? | FIZ Technik Data-Star GENIOS FIZ Technik Data-Star |
| Wirtschaftswoche | GENIOS |
| Procurement leader The German electro industries | GENIOS FIZ Technik |

It must be taken into consideration that there are sometimes huge differences even within single information groups concerning information contents. As a result of this, it must first of all be considered which information is

- A must,
- A should or
- A could.

Content and extent of information are dependent on the product or services being asked of.

The choice of adequate source of information possibilities can be conducted with the aid of portfolio method. The selection ensues through the two axes

- Content of information and
- Costs.

Information content can be determined with criteria such as

- Name/ address,
- Products,

- Economic background,
- Contact person,
- Completeness and
- Actuality.

For the determination of costs factors, examples will be taken from our previous example (see table »Choice of information possibilities«). The criteria are

- Costs/Fee and
- Search efforts/selection.

From the table and graphical classification, it can be deduced that the example of Compass CD has the most information content at appropriate price.

3.1 CHOICE OF POTENTIAL SUPPLIER

On the basis of the information from market overview, potential suppliers will then be chosen. The following could criteria aid the choice process:

- Location,
- Company image,
- Market relevance of the company,
- Experience of the employees etc.

3.2 STARTING WITH THE INQUIRY

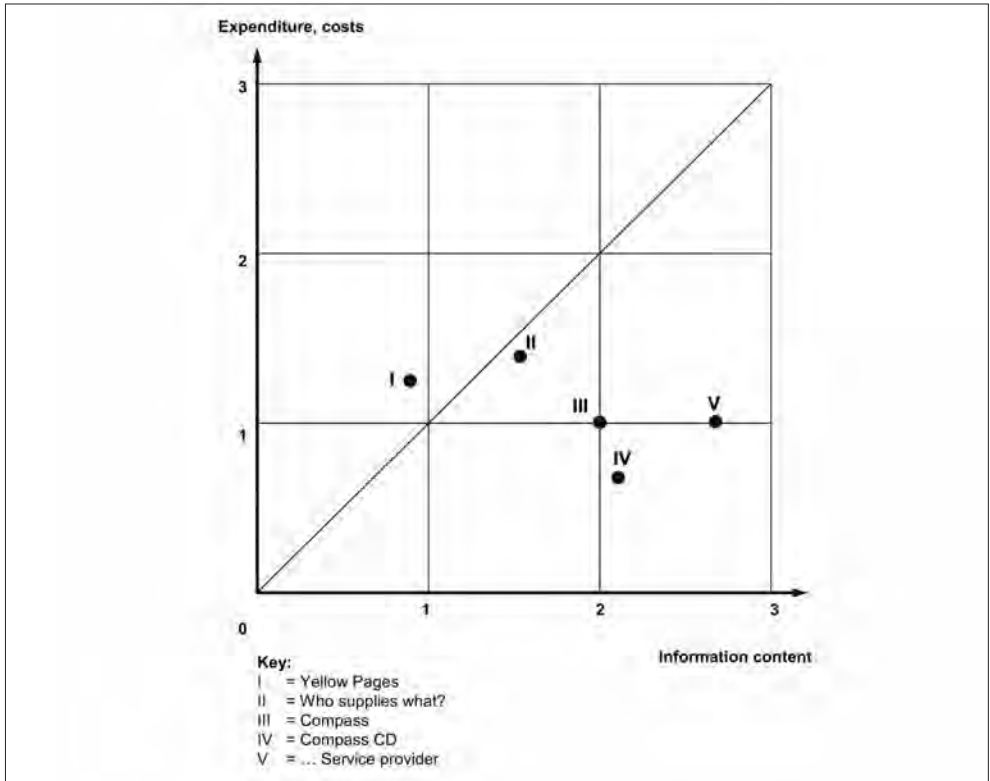
For the purpose of the inquiry, all information on the functions to be fulfilled must be readily available, e.g. functional description, quality requirements, supply quantities, total quantities, product start, product period of validity etc.

The suppliers must be given sufficient time for the processing. Apart from this, a contact person should be named to them in case of questions and in a more complex function, a whole group could be provided to attend to their needs and questions.

Choice of information possibilities

| Criteria/Possibilities | Yellow pages I | | Who supplies what? II | | Compass III | | Compass CD IV | | Service company V | |
|-----------------------------|-------------------|-------|--------------------------|-----------------|----------------|-----------------|------------------|-----------------|----------------------|-----------------|
| | Weight | Value | Value | Weight Priority | Value | Weight Priority | Value | Weight Priority | Value | Weight Priority |
| Information content | | | | | | | | | | |
| • Name, address | 0,10 | 3,00 | 3,00 | 0,30 | 3,00 | 0,30 | 3,00 | 0,30 | 3,00 | 0,30 |
| • Products | 0,20 | 0,00 | 2,00 | 0,40 | 3,00 | 0,60 | 3,00 | 0,60 | 3,00 | 0,60 |
| • Economic background | 0,10 | 0,00 | 0,00 | 0,00 | 2,00 | 0,20 | 2,00 | 0,20 | 3,00 | 0,30 |
| • Contact person | 0,10 | 0,00 | 1,50 | 0,15 | 2,00 | 0,20 | 2,00 | 0,20 | 3,00 | 0,30 |
| • Completeness | 0,20 | 1,00 | 1,00 | 0,20 | 1,50 | 0,30 | 1,50 | 0,30 | 2,00 | 0,40 |
| • Up-to-dateness | 0,30 | 1,50 | 1,50 | 0,45 | 1,50 | 0,45 | 2,00 | 0,60 | 2,50 | 0,75 |
| Sum | 1,00 | | 9,95 | 1,50 | | 2,05 | | 2,20 | | 2,65 |
| Expenditure/Costs | | | | | | | | | | |
| • Costs, fees | 0,20 | 0,00 | 1,00 | 0,20 | 1,00 | 0,20 | 1,50 | 0,30 | 3,00 | 0,60 |
| • Search effects, selection | 0,80 | 1,50 | 1,50 | 1,20 | 1,00 | 0,80 | 0,50 | 0,40 | 0,50 | 0,40 |
| Sum | 1,00 | | 1,20 | 1,40 | | 1,00 | | 0,70 | | 1,00 |

Key for the priority: 0 = very slight 1 = slight 2 = medium 3 = high



199 | Portfolio Analysis: Choice of information possibilities

3.3 EVALUATION OF TENDERS/ DECISION MAKING

After tenders have been submitted, they will then be entered in a so-called tender overview (see table) so as to be able to compare different individual values. For deciding on which supplier should become the future supplier, the Value Analysis Method should be applied.

This analysis serves the purpose of objectification and systemisation of the decision making process. It contributes to reducing the probability of wrong decisions. It makes it possible to make a decision under diversified degree of complex alternative actions using several criteria based on subjective moral perceptions.

The alternative with the highest perceivable utility would be chosen. The decision making process with the result is presented to us in the table »Utility value analysis: System suppliers-Choice«. Only the »hard« facts from the operative points of view are considered.

Tender overview

Composition of tenders for:

| Supplier | Tender-Nr. | of | Quantity scale | Price | Price units | Pricing term | Tool costs | Standing time (pcs) | Payment conditions | Cash discounts | Amortization cost/standing time | Net price | Delivery time in weeks |
|------------------|----------------------------|----------|----------------|------------|-------------|-------------------------------------|--------------|---------------------|----------------------------------|----------------|---------------------------------|------------|------------------------|
| Sample 1 | xyz | 19.10.05 | 10 | 3.500,00 € | Piece | ex works | 50.000,00 € | 500 | 30 Days net | -- | 100,00 € | 3.600,00 € | 16 |
| | | | 50 | 3.000,00 € | | | | | | | | 3.100,00 € | |
| Sample 2 | zyz | 18.10.05 | 10 | 3.690,00 € | Piece | delivery | 80.000,00 € | 1000 | 14 Days 2% ... | 5% | 80,00 € | 3.659,30 € | 20 |
| | | | 50 | 3.250,00 € | | | | | | | | 3.232,50 € | |
| Sample 3 | yxz | 17.10.05 | 10 | 3.400,00 € | Piece | carriage | 95.000,00 € | 1250 | 14 Days net | -- | 76,00 € | 3.476,00 € | 18 |
| | | | 50 | 2.950,00 € | | | | | | | | 3.026,00 € | |
| Sample 4 | zxy | 18.10.05 | 10 | 3.870,00 € | Piece | delivery at administration building | 120.000,00 € | 1500 | 14 Days 3% ... 30 Days net | - 3% | 80,00 € | 3.718,88 € | 24 |
| | | | 50 | 3.490,00 € | | | | | | | | 3.361,34 € | |
| | | | 100 | 2.990,00 € | | | | | | | | 2.890,89 € | |
| Current supplier | | | | | | | | | | | | | |
| Decision | see utility value analysis | | | | | | | | | | | | |

For the choice of a system supplier, »soft« factors also play a significant role. These are to be seen from the strategic and qualitative points of view. A possibility of prioritising qualitative criteria for the choice of suppliers is the application of the network method. With this method, one examines mutual effect the influencing factors have on one another. In the presented case, twelve factors which have an influence on the choice of decision were selected. In the table »Network matrix of influencing factors«, the extent of mutual influencing is presented. This is expressed through the active sums and passive sums.

From the graphical presentation of the result of the network matrix, it becomes evident which influencing factors have a higher activity/ limited passivity and which one has a higher passivity/ limited activity.

The calculation of the active and passive axis follows the following algorithm:

1. Formula:

| |
|--|
| Limitation of the active and passive axis: Sum of factors $[(n) - 1] \times 2; [(12 - 1)] = 22$ |
|--|
2. Formula:

| |
|--|
| Interface of the active and passive axis: Addition of active and passive sums: Amount of the factors (103: 12 = 8.6) |
|--|

As a result of transferring the obviously visible priorities in the graphical presentation, the weight of the influencing factors in the second utility value analysis will be applied for the choice of system suppliers. In this process, individual influencing factors are to be critically analysed once more. As a result of this, the value for quality will be separately but subjectively evaluated.

In order to be able to arrange suppliers in order of importance within the utility value analysis, it is necessary at the beginning to examine the extent of the influencing factors for each supplier. An example for the evaluation and presentation shows the following tables.

A few possible forms of presentation concerning the characteristics of the influencing factors are displayed for the reader. In specific cases, the relevant presentation should be determined or modified according to personal imaginations. This should be at the background of the aspired objectives.

The table »Characteristics of influencing factors today and in future (a general overview)« shows the respective characteristics of qualitative criteria on a scale of 0-10. The value 0 stands for very bad while 10 signifies a very good feature. The given values for »today« express the current estimation. The value for »future« provides information on what is concretely realisable. The column »Difference« shows the necessity for action. In the column Priorities/Remarks, the major aspects of each supplier can be clearly remarked.

Utility value analysis:
System suppliers-Choice (“Hard” factors)

| | | | | | | | | | |
|-----------------------------------|------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Objective of the decision | Choice of a system supplier | | | | | | | | |
| Unconditional requirements | Fulfillment of requirements | | | | | | | | |
| Choice criteria | Alternatives | | | | | | | | |
| | | I | | II | | III | | IV | |
| | W | P | WxP | P | WxP | P | WxP | P | WxP |
| Price | 25 | 2 | 50 | 4 | 100 | 1 | 25 | 3 | 75 |
| Delivery deadline | 15 | 1 | 15 | 3 | 45 | 2 | 30 | 4 | 60 |
| Guarantee | 10 | 1 | 10 | 4 | 40 | 3 | 30 | 2 | 25 |
| Payment conditions | 5 | 3 | 15 | 2 | 10 | 4 | 20 | 1 | 5 |
| Tool costs | 10 | 1 | 10 | 2 | 20 | 3 | 30 | 4 | 40 |
| Standing time | 10 | 4 | 40 | 3 | 30 | 2 | 20 | 1 | 10 |
| Development costs | 20 | 1 | 20 | 2 | 40 | 3 | 60 | 4 | 80 |
| Pricing term | 5 | 4 | 20 | 3 | 15 | 2 | 10 | 1 | 5 |
| Results | 100 | 180 | | 300 | | 225 | | 295 | |
| Decision | X | | | | | | | | |

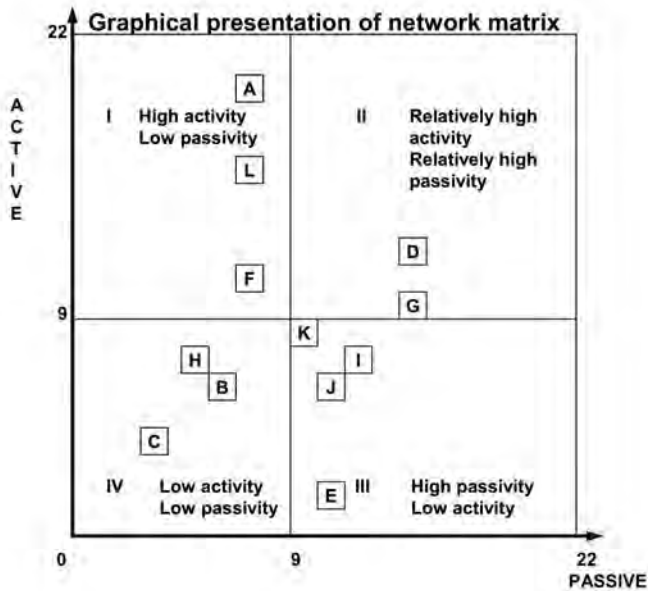
W = Weighting P = Priority (Ranking order)

The character of success factors »today« is represented both in a bar chart (see illustration) as well as a crosshair (see illustration), however only the current character is outlined in this presentation. Understandably, the »envisaged« situation can also be integrated in this illustration. This makes the need for action highly recognisable.

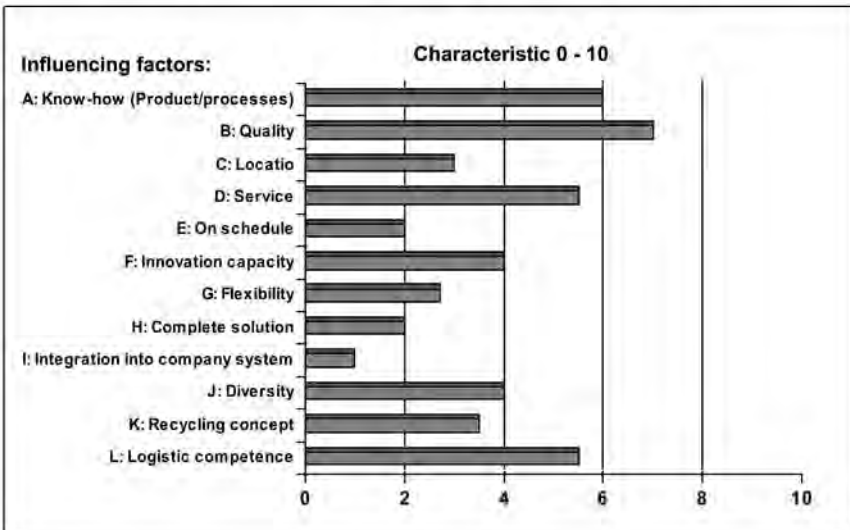
The illustration »Characteristics of success factors today and in future (detailed overview)« contains the basic and fundamental evaluation criteria for every influencing factor. The presentation enables the admission of further individual company criteria. In this way, there is the possibility of a differentiated analysis.

| | A | B | C | D | E | F | G | H | I | J | K | L | Active sum |
|--------------|---|---|---|----|----|---|----|---|----|----|---|---|------------|
| A: | | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 19 |
| B: | 0 | | 0 | 1 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 6 |
| C: | 0 | 0 | | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 4 |
| D: | 0 | 0 | 1 | | 1 | 0 | 2 | 1 | 2 | 1 | 1 | 2 | 11 |
| E: | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| F: | 2 | 1 | 0 | 1 | 1 | | 1 | 1 | 0 | 1 | 1 | 1 | 10 |
| G: | 0 | 0 | 0 | 1 | 1 | 1 | | 1 | 1 | 2 | 2 | 0 | 9 |
| H: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | | 2 | 1 | 1 | 0 | 7 |
| I: | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | | 0 | 0 | 0 | 7 |
| J: | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | | 1 | 0 | 6 |
| K: | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | | 1 | 8 |
| L: | 2 | 1 | 0 | 2 | 2 | 0 | 2 | 0 | 2 | 2 | 1 | | 14 |
| Passive sums | 7 | 6 | 3 | 14 | 10 | 7 | 14 | 5 | 11 | 10 | 9 | 7 | 103 |

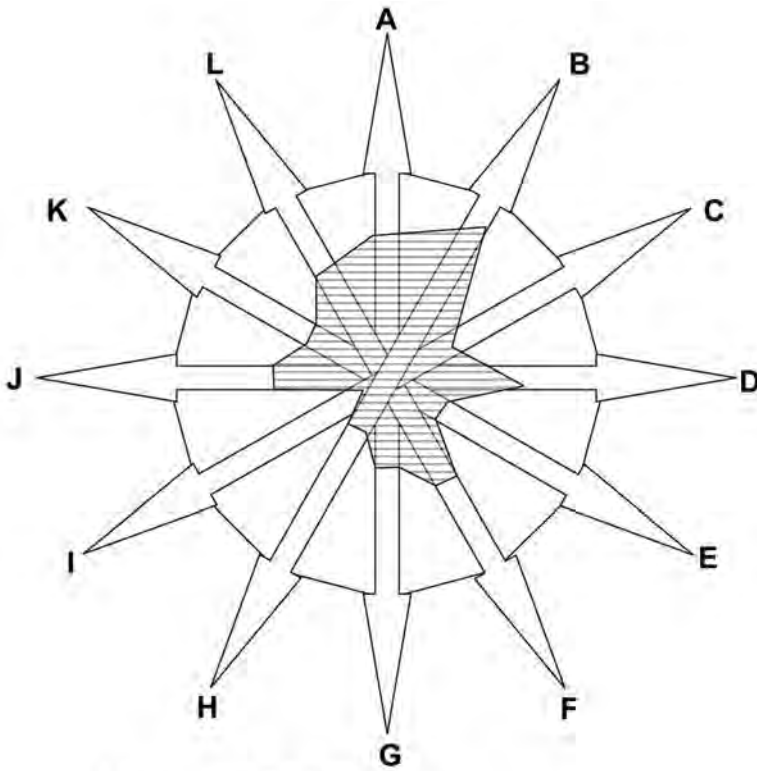
Influence level: 0 = no influence 1 = low influence 2 = strong influence



| Influencing factors | Characteristic | | Difference | Priorities, Remarks |
|------------------------------------|--------------------|-----------------------|------------|---------------------|
| | 0 = very bad today | 10 = very good future | | |
| A: Know-how (Product/processes) | 6 | 7 | 1 | |
| B: Quality | 7 | 8 | 1 | |
| C: Location | 3 | 3 | 0 | |
| D: Service | 5 | 6 | 1 | |
| E: On schedule | 2 | 4 | 2 | |
| F: Innovation capacity | 4 | 5 | 1 | |
| G: Flexibility | 3 | 5 | 2 | |
| H: Complete solution | 2 | 4 | 2 | |
| I: Integration into company system | 1 | 4 | 3 | |
| J: Diversity | 4 | 5 | 1 | |
| K: Recycling concept | 3 | 5 | 2 | |
| L: Logistic competence | 5 | 6 | 1 | |



203 | Characteristic of influencing factors today and in future (general overview)



- A = Know-how (Product/processes)
- B = Quality
- C = Location
- D = Service
- E = On schedule
- F = Innovation capacity
- G = Flexibility
- H = Complete solution
- I = Integration into company system
- J = Diversity
- K = Recycling concept
- L = Logistic competence

Characteristic of influencing factors today and in future (detailed overview)

| Influencing factors | Characteristic | | Difference | Priorities, remarks |
|---|--------------------|-----------------------|------------|---------------------|
| | 0 = very bad today | 10 = very good future | | |
| A: Know-how (Product, processes) | | | | |
| Production line facilities | | | | |
| Production organization | | | | |
| Employee qualification | | | | |
| | | | | |
| Average value | | | | |
| B: Quality | | | | |
| Quality assurance system | | | | |
| Significance | | | | |
| Documentation | | | | |
| | | | | |
| Average value | | | | |
| C: Location | | | | |
| Transport connection | | | | |
| Import transaction | | | | |
| | | | | |
| Average value | | | | |
| D: Service | | | | |
| Strategy | | | | |
| Data | | | | |
| Content | | | | |
| Transaction | | | | |
| | | | | |
| Average value | | | | |
| E: On schedule | | | | |
| Monitoring systems | | | | |
| | | | | |
| Average value | | | | |
| F: Innovativeness | | | | |
| Creativity | | | | |
| Methods | | | | |
| Basic research | | | | |
| Cooperation with academia | | | | |
| | | | | |
| Average value | | | | |

| Influencing factors | Characteristic | | Difference | Priorities, remarks |
|---|--------------------|-----------------------|------------|---------------------|
| | 0 = very bad today | 10 = very good future | | |
| G: Flexibility | | | | |
| Employees | | | | |
| System | | | | |
| | | | | |
| Average value | | | | |
| H: Complete solution | | | | |
| Comprehensive product knowledge | | | | |
| Knowledge of possible application | | | | |
| Knowledge of product environment | | | | |
| | | | | |
| Average value | | | | |
| I: Integration in corporate system | | | | |
| Defined interfaces | | | | |
| Open system structure | | | | |
| | | | | |
| Average value | | | | |
| J: Variation of alternatives | | | | |
| Modular product development | | | | |
| Flexible production line facilities | | | | |
| | | | | |
| Average value | | | | |
| K: Recycling concept | | | | |
| Material competence | | | | |
| Refurbishment competence | | | | |
| Feedback system | | | | |
| | | | | |
| Average value | | | | |
| L: Logistic competence | | | | |
| Planning reliability | | | | |
| Planning methods | | | | |
| Logistic controlling | | | | |
| Transport system | | | | |
| | | | | |
| Average value | | | | |

205 | Characteristic of influencing factors today and in future (detailed overview)

The analysis of value for strategic influencing factors (see illustration »Utility value analysis: System suppliers-Choice («Soft« factors)« shows another result for the evaluation of the operative factors. On the basis of the complexity of the decision making process, this should represent no surprise.

The task is to merge both Utility analyses so as to come to a conclusive result. For this purpose, the following possibilities are available to us:

- The addition of obtained points from both analyses
- Addition of obtained points from both analyses under the consideration of the weight of operative and strategic criteria
- Weighing of operative and strategic criteria under the consideration of respective most important criteria

For providing answer to the example, the third variant was applied. The weighing for operative criteria had 40% while 60% was awarded to strategic criteria. As a result of this, Supplier III becomes the future system supplier (see illustration »Utility analysis« (Summary).

The procedure explained in this section is a possibility of arriving at the specified objectives of supplier evaluation as determined in the first section.

Through methodical working process, one can recognise outstanding points to be clarified and can consider these during contract negotiations. Furthermore, one gains more knowledge on the character of influencing factors of each supplier (or success factors). At the same time, there is the possibility of recognising the realistic and the ideal current situation.

The implementation of the following tools during the choice-phase of a system supplier shows that they are suitable approaches for coming to an objective and comprehensible decision on the most suitable suppliers.

- Portfolio analysis,
- Network matrix,
- Utility analysis and
- Characteristic of the influencing factors.

| | | | | | | | | | | |
|-------------------------------------|------------------------------------|----------|------------|----------|------------|----------|------------|----------|------------|--|
| Objective of the decision | Choice of a system supplier | | | | | | | | | |
| Unconditional requirements | Fulfillment of requirements | | | | | | | | | |
| Choice criteria | Alternatives | | | | | | | | | |
| | | I | | | II | | III | | IV | |
| | W | P | WxP | P | WxP | P | WxP | P | WxP | |
| A = Know-how (Product/processes) | 20 | 2 | 40 | 3 | 60 | 1 | 20 | 4 | 80 | |
| B = Quality | 13 | 4 | 52 | 1 | 13 | 3 | 39 | 2 | 26 | |
| C = Location | 3 | 3 | 9 | 2 | 6 | 4 | 12 | 1 | 3 | |
| D = Service | 8 | 3 | 24 | 2 | 16 | 4 | 32 | 1 | 8 | |
| E = On schedule | 4 | 1 | 4 | 4 | 16 | 2 | 8 | 3 | 12 | |
| F = Innovation capacity | 13 | 2 | 26 | 3 | 39 | 1 | 13 | 4 | 52 | |
| G = Flexibility | 8 | 4 | 32 | 1 | 8 | 3 | 24 | 2 | 16 | |
| H = Complete solution | 4 | 3 | 12 | 2 | 8 | 4 | 16 | 1 | 4 | |
| I = Integration into company system | 3 | 3 | 9 | 2 | 6 | 4 | 12 | 1 | 3 | |
| J = Diversity | 3 | 1 | 3 | 4 | 12 | 2 | 6 | 3 | 9 | |
| K = Recycling concept | 5 | 2 | 10 | 3 | 15 | 1 | 5 | 4 | 20 | |
| L = Logistic competence | 16 | 4 | 64 | 1 | 16 | 3 | 48 | 2 | 32 | |
| Results | 100 | | 285 | | 215 | | 235 | | 265 | |
| Decision | | | | | X | | | | | |

W = Weighting P = Priority (Ranking order)

| Objective of the decision | Choice of a system supplier | | | | | | | | |
|-----------------------------|-----------------------------|---|------------|----|------------|-----|------------|----|------------|
| Unconditional requirements | Fulfillment of requirements | | | | | | | | |
| Choice criteria | Alternatives | | | | | | | | |
| | | I | | II | | III | | IV | |
| | W | P | WxP | P | WxP | P | WxP | P | WxP |
| Operative criteria | 40 | | | | | | | | |
| Price | 22 | 2 | 44 | 4 | 88 | 1 | 22 | 3 | 66 |
| Development costs | 18 | 1 | 18 | 2 | 36 | 3 | 54 | 4 | 72 |
| Strategic criteria | 60 | | | | | | | | |
| Know-how (products/process) | 25 | 2 | 50 | 3 | 75 | 1 | 25 | 4 | 100 |
| Quality | 15 | 4 | 60 | 1 | 15 | 3 | 45 | 2 | 30 |
| Logistic competence | 20 | 4 | 80 | 1 | 20 | 3 | 60 | 2 | 40 |
| Results | | | 252 | | 234 | | 206 | | 308 |
| Decision | | | | | | | X | | |

W = Weighting P = Priority (Ranking order)

4 FURTHER METHOD RECOMMENDATIONS SUITABLE FOR APPLICATION IN PROCUREMENT MANAGEMENT

4.1 APPLICATION OF THE ABC ANALYSIS

The ABC-Analysis is usually being applied mainly in procurement procedures. One of the objectives of this method is to obtain information on the priorities of procurement management.

The following material table and the graphical application (see illustrations »ABC Analysis in procurement management«) are taken from a seminar script of Prof. Dr. Marcell Schweitzer.

The practise usually functions with simple models. In the following, such an example will be reproduced. At this stage, the remark must me made that it is important to critically put them to the test. Understandably, it makes sense on many occasions to use a team in making a choice.

EXAMPLE

for the determination of priorities

| Ranking order 1-4 Lowest value has priority | Synthetic ma- terial parts | Blowers | Condensers | Working tools |
|--|-------------------------------|---------|------------|------------------|
| Share of procurement volume | 4 | 3 | 1 | 2 |
| Relevance for the production | 2 | 1 | 3 | 4 |
| Price situation, number of changes | 1 | 2 | 3 | 4 |
| Repurchase value | 1 | 2 | 3 | 4 |
| Quality features | 1 | 2 | 4 | 3 |
| Value | 9 | 10 | 14 | 17 |
| Rank | 1 | 2 | 3 | 4 |

ABC Analysis in procurement management (figures)

| Material Nr. | Quantity | | Value | | Value |
|--------------|----------|-------|---------|-------|------------|
| | abs. | rel. | abs. | rel. | Qty. share |
| 1 | 300 | 6,0 | 240000 | 8,0 | 1,33 |
| 2 | 1000 | 20,0 | 16000 | 0,5 | 0,025 |
| 3 | 200 | 4,0 | 60000 | 20,0 | 5,0 |
| 4 | 300 | 6,0 | 150000 | 5,0 | 0,83 |
| 5 | 400 | 8,0 | 60000 | 2,0 | 0,25 |
| 6 | 600 | 12,0 | 18000 | 0,6 | 0,05 |
| 7 | 250 | 5,0 | 400000 | 13,0 | 2,06 |
| 8 | 1400 | 28,0 | 56000 | 1,9 | 0,067 |
| 9 | 50 | 1,0 | 1400000 | 47,0 | 47,0 |
| 10 | 500 | 10,0 | 60000 | 2,0 | 0,2 |
| | 5000 | 100,0 | 3000000 | 100,0 | |

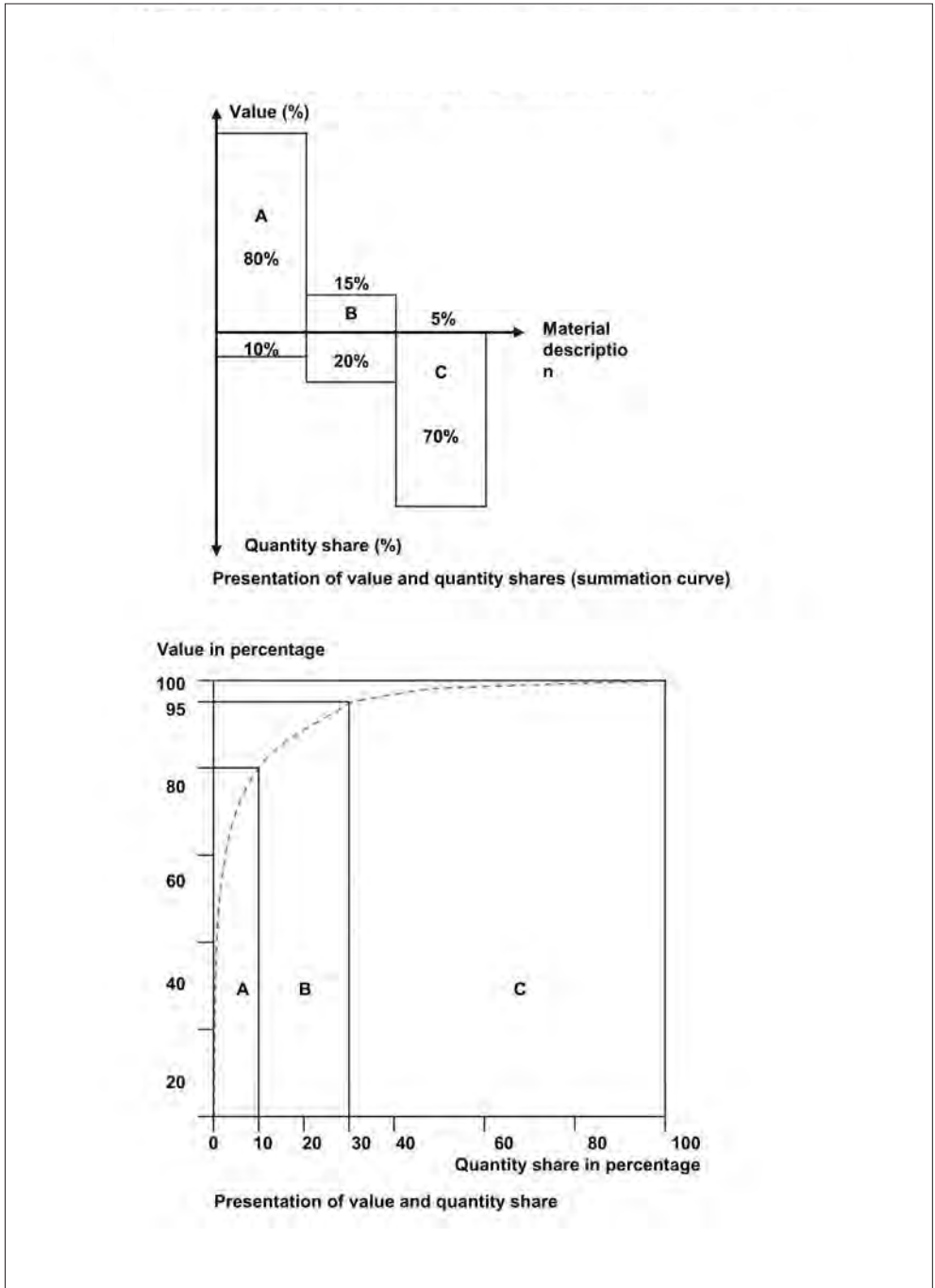
Example of a basic table for the ABC analysis

| Rang | Material Nr. | Value | | Quantity share | |
|------|--------------|-------|------------|----------------|------------|
| | | % | cumulative | % | cumulative |
| 1 | 9 | 47,0 | 47,0 | 1,0 | 1,0 |
| 2 | 3 | 20,0 | 67,0 | 4,0 | 5,0 |
| 3 | 7 | 13,0 | 80,0 | 5,0 | 10,0 |
| 4 | 1 | 8,0 | 88,0 | 6,0 | 16,0 |
| 5 | 4 | 5,0 | 93,0 | 6,0 | 22,0 |
| 6 | 5 | 2,0 | 95,0 | 8,0 | 30,0 |
| 7 | 10 | 2,0 | 97,0 | 10,0 | 40,0 |
| 8 | 8 | 1,9 | 98,9 | 28,0 | 68,0 |
| 9 | 6 | 0,6 | 99,5 | 12,0 | 80,0 |
| 10 | 2 | 0,5 | 100,0 | 20,01,0 | 100,0 |

Example for the classification of material-Nr. on basis of their value share

| Parts description | Material Nr. | Value (%) | Quantity share |
|-------------------|--------------|-----------|----------------|
| A-Parts | 9, 3, 7 | 80 | 10 |
| B-Parts | 1, 4, 5 | 15 | 20 |
| C-Parts | 10, 8, 6, 2 | 5 | 70 |
| | | 100 | 100 |

Example for formation of group in ABC analysis



4.2 PRACTICAL EXAMPLES OF SUPPLIER ANALYSIS

The following illustrations show the multifarious character of evaluation possibilities of suppliers. The illustration »2 Practical examples on the choice of suppliers« is taken from a company's documents, »Supplier analysis system of Maschinenbau GmbH«. It is taken from the scripts of lectures on Procurement Management given by Prof. Dr. Marcell Schweitzer.

At this stage, I will like to emphatically recommend the following methods of

1. utility analysis and
2. value comparison.

Both methods contribute to a differentiated evaluation of utility.

2 practical examples on the choice of suppliers

Example 1:

| | | Supplier A Weigh | | Supplier B Weigh | | Supplier C Weigh | |
|-----------------------|-----|---------------------|-------------|---------------------|-------------|---------------------|-------------|
| Quality | 30% | 70 | 21,0 | 90 | 27,0 | 80 | 24,0 |
| Technology | 20% | 80 | 16,0 | 90 | 18,0 | 70 | 14,0 |
| Management | 20% | 70 | 14,0 | 90 | 18,0 | 60 | 12,0 |
| Costs | 30% | 70 | 21,0 | 80 | 24,0 | 90 | 27,0 |
| Total-Weighing | | | 72,0 | | 87,0 | | 77,0 |

- Maximum number of points – 100
- Supplier with highest number of points is picked

Example 2:

| Supplier | A | B | C |
|-----------------------------|--------------|-------------|--------------|
| Quality | | | |
| Number of suppliers | 80 | 57 | 90 |
| amount accepted | 73 | 52 | 81 |
| Rejections | 7 | 5 | 9 |
| Accepted (%) | 91,25 | 91,23 | 90 |
| Weighting | 45 | 45 | 45 |
| | | | |
| Quality value | 41,06 | 41,05 | 40,0 |
| | | | |
| Price | | | |
| Tender net price, net €/pc. | 1,25 | 1,45 | 1,49 |
| Percentage of lowest tender | 100 | 86,21 | 83,89 |
| Weighting | 25 | 25 | 25 |
| | | | |
| Price ration | 25 | 21,55 | 20,97 |
| | | | |
| Reliability | | | |
| | | | |
| Acceptances adhered to in % | 75 | 86 | 84 |
| | | | |
| Weighting | 30 | 30 | 30 |
| | | | |
| Key figure | 22,5 | 25,8 | 25,2 |
| | | | |
| Total | 88,56 | 88,4 | 86,67 |

| The supplier analysis system of Maschinenbau GmbH | | | | | | | | |
|---|-------|----------------|----------------------|-----------|------------|------------|------------|------------|
| Year : Evaluation: 1 to maximum 5 points for the lowest feature | | | | | | | | |
| Evaluation criterion | B1 | Weighing digit | Selective Evaluation | | | | | |
| | | | Supplier A | | Supplier B | | Supplier C | |
| | | | Score | Weighted | Score | Weighted | Score | Weighted |
| 1. Quality sphere | | | | | | | | |
| Technological quality | Q | 3 | 5 | 15 | 4 | 12 | 3 | 9 |
| Waste quote | Q | 2 | 4 | 8 | 3 | 6 | 2 | 4 |
| Image of the part during customer | M | 1 | 5 | 5 | 2 | 2 | 2 | 2 |
| Service | P | 2 | 2 | 4 | 3 | 6 | 2 | 4 |
| Sum 1: | | | | 32 | | 26 | | 19 |
| 2. Financial sphere | | | | | | | | |
| Price | P | 3 | 1 | 3 | 3 | 9 | 5 | 15 |
| Granting discount | P | 2 | 1 | 2 | 4 | 8 | 2 | 4 |
| Supplier credits | P, F | 1 | 2 | 2 | 4 | 4 | 3 | 3 |
| Sum 2: | | | | 7 | | 21 | | 22 |
| 3. Delivery conditions | | | | | | | | |
| Delivery accuracy | Q | 2 | 3 | 6 | 4 | 8 | 3 | 6 |
| Reliable delivery | P | 3 | 2 | 6 | 5 | 15 | 3 | 9 |
| Attitude to complaints | Q, P | 2 | 3 | 6 | 3 | 6 | 2 | 4 |
| Sum 3: | | | | 18 | | 29 | | 19 |
| 4. General criteria | | | | | | | | |
| Previous supplier relationship and satisfaction | P, CM | 3 | 3 | 9 | 4 | 12 | 2 | 6 |
| Reputation of supplier | P, M | 1 | 5 | 5 | 3 | 3 | 2 | 2 |
| Capacity | P | 1 | 1 | 1 | 3 | 3 | 5 | 5 |
| Counter trade | CM | 1 | 2 | 2 | 2 | 2 | 5 | 5 |
| Willingness to cooperate | CM | 3 | 5 | 15 | 3 | 9 | 2 | 6 |
| Sum 4: | | | | 32 | | 29 | | 24 |
| Total sum (Scoring-Index) | | | | 89 | | 105 | | 84 |
| Ranking order | | | | II | | I | | III |

Jl = Judgemental
 Q = Quality control
 P = Production
 M = Marketing

P = Procurement
 CM = Company management
 F = Financial sphere

ACTIVITIES

TOPIC/INSTRUMENTS:

1 WHICH CONSIDERATIONS/INSTRUMENTS ARE VALUABLE TO ME?

2 WHICH AIDS DO I REQUIRE?

3 WHICH BARRIERS CAN I FORESEE?

4 HOW DO I GO ABOUT WITH THE IMPLEMENTATION?

G TASKS GENERAL MANAGEMENT

1 COMPANY ANALYSIS – GENERAL SUCCESS FACTORS

Analyze your company / your business area in regard to the general success factors and the following questions. These questions are only suggestions and can be added to as desired.

1.1 SUCCESS FACTORS »COMPANY OBJECTIVES« AND »STRATEGY«

- Have company objectives been defined?
- Are they explained in detail?
- Where can they be found?
- Is there an explicitly formulated company strategy?
- Where can this be found?
- Were you given an introduction to the company strategy / strategies?
- If not, why not?
- What are your project goals?
- Are these project goals justified; are they coupled to your company's objectives?
- Can you outline strategic considerations that will enable successful achievement of your project goals? How do you justify these project strategies?
- Is your project subject to a periodic goal and strategy evaluation?
- How is this done?

1.2 SUCCESS FACTOR »ORGANIZATION«

- Are you acquainted with the structure and basic processes of your company / your area / your department / your team?
- Is there an organigram? If so, are you familiar with it?
- Do you know the most important protagonists in your company?
- In regard to how work processes are organized: are there routines for this, and are the processes clearly defined?
- Does the company have a project culture?
- Who is responsible for organizational development?

1.3 SUCCESS FACTOR »LEADERSHIP«

- What is the leadership system in your company like?
- Are there management principles?
- Are you acquainted with the specific corporate management methods and styles?
- Is there a 'management by objectives' system? If so, what is it like?
- What criteria are used to select management (trainees) in your company?
- How are managers familiarized with the company?
- Are there instruments for helping managers develop their skills? If so, which?

1.4 SUCCESS FACTOR »EMPLOYEE«

- Does the company have employee / personnel needs planning?
- If so, what form does this take? If not, why not?
- How are employees selected?
- How are employees familiarized with the company?
- What value do employees have in the company?
- Are employees familiar with company objectives and strategy? If not, why not?
- How is the qualification potential of employees determined?
- What instruments for advancement are there? What system of employee development is there?
- Are employees assessed? How does this process work and what consequences does it have?
- How high is employee fluctuation?

1.5 SUCCESS FACTOR »COMMUNICATION AND INFORMATION SYSTEMS«

- What kind of information systems does the company have?
- Are there (knowledge) databases?
- Are these information systems used effectively?
- How are managers and employees introduced to these information systems?
- How does communication function in the company?
- Who is responsible for communication in the company?
- Are there detailed rules for internal and external communication?

1.6 SUCCESS FACTOR »INNOVATION«

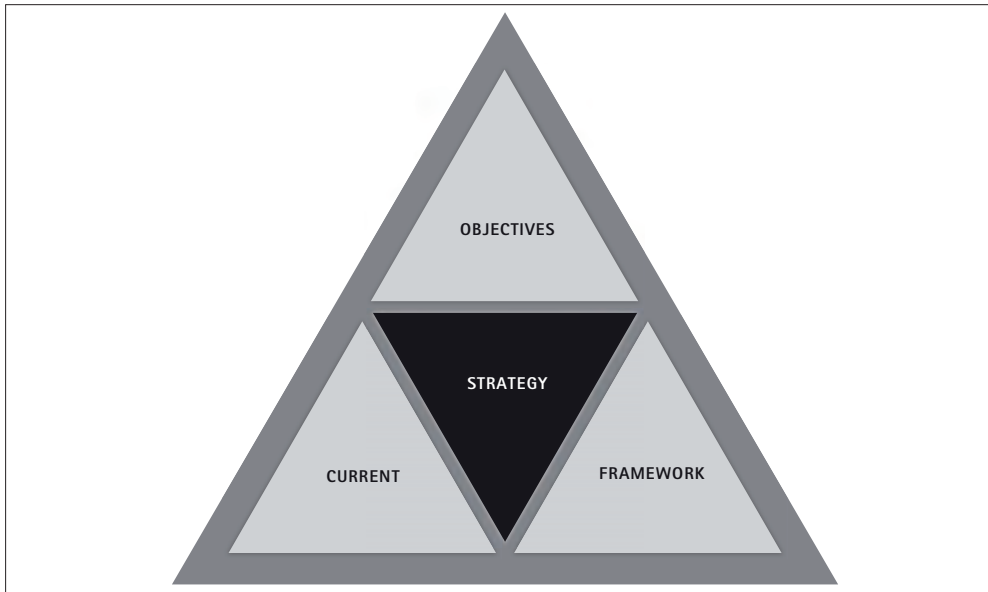
- What does the term "innovation" mean to your company?
- What is the management's position on innovation?
- Does your company have innovation management? If so, what is it like? If not, why not?
- Are customer wishes and needs coupled to innovations?
- What inhibits innovation in your company?

1.7 SUCCESS FACTOR »CUSTOMER CONTACT«

- Do you know your customers?
- Who are your company's external customers?
- Who are your company's profitable customers?
- Who are your internal customers?
- Are you familiar with the needs of your internal / external customers?
- How do you determine these customer needs?
- What role does customer benefit play in your company?
- Where do you get information on external / internal customers?
- Who offers this information and how expensive is it?
- How is customer satisfaction measured in your company?
- Is there customer contact management?
- Is there a system for managing customer complaints?
- Is customer satisfaction evaluated? If so, how?

1.8 SUCCESS FACTOR »GLOBALISATION«

- Is your company internationally active?
- Is your company globally active?
- If so, why is your company present on international markets? If not, why does your company restrict itself to regional / national markets?
- Are there globalisation / internationalization objectives? If so, what are these?



2 PROJECT STATUS REPORTS

After you have investigated your company or business area according to the general success factors, and have further analyzed your company or business area's project management culture, you can now actively begin designing a project within the framework of your project competence course. You will define your project together with your company and the Steinbeis University Berlin. During your course of study, you should have a current (max. 4 weeks old) presentation on the status of your project available at all times.

This project-status presentation should contain:

- 2.1 The project description / objective, its contractor / sponsor, and a statement concerning how the project can help the company achieve its corporate goals.
- 2.2 The current status of the project. The analytical tools used to define the project's current status should be defined, including the reason why they have been chosen.
- 2.3 The project's current CONCEPTUAL FRAMEWORK (endogenous as well as exogenous to the company if necessary). The tools used to describe the CONCEPTUAL FRAMEWORK should be defined, including the justification for their deployment.

- 2.4 Current project potential and risks as well as the tools used to evaluate these.
- 2.5 Project OBJECTIVES.
Clear definition of project OBJECTIVES. Is it necessary to adapt the project OBJECTIVES due to the current situation, the CONCEPTUAL FRAMEWORK and the current evaluation of chances and risks? If so, why?
What are the project's sub-objectives during coming periods of time (1 month, 3 months, 6 months)?
- 2.6 Project STRATEGY.
Present the STRATEGY you wish to achieve project OBJECTIVES with. Detail the current factors for project success. The overall project plan, its current status, the current project planning as well as the overall project financing plan and its current status should be shown. Justify why you use which strategy instruments, etc.
- 2.7 Perspectives for followup projects.
Presuming that your project is successful, what followup projects could be developed, and what impact on company objectives and strategy would they have?

3 PROJECT STUDY PAPERS

The PSPs should discuss why you have used the tools you have, and what purpose they have served.

Describe your company or project's initial position in regard to »Strategy«, »Sales and Marketing«, »Financing« and »Globalization« (PSP2 to PSP5). Building on this, explain the purpose of the current project step / sub-project and the purpose of the project study paper.

Conclude the paper by drawing practice-related recommendations and measures that demonstrate a knowledge of entrepreneurial benefit.

AUTHORS' BIOGRAPHIES

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Ardin Djalali was born in Ostfildern, Germany in 1972.

He studied political science, medieval and modern history as well as Iberian and Latin American history at the University of Cologne and then completed a trainee program at the Council of Europe's North-South Centre, a »Trans-mediterranean Programme« in Lisbon and an internship at the International Studies Journal in Teheran.

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Study of Chemical Engineering at the University of Applied Sciences in Aalen (Dipl.-Ing. (FH) 1973). Study of Chemistry and Biochemistry at the University of Ulm (Dipl.-Chem., 1978) and Ph.D. (Dr. rer. nat. (1981)) in the field of pure substances research / trace analysis in cooperation with the Max Planck Institute for metals research and the Karlsruhe Nuclear Research Center. Research associate at the University of Ulm and radiation protection officer (1978-1982). From 1982 to 1995, employee of IBM Germany, manager in various educational, personnel development and management development functions; ultimately director of the IBM Bildungsgesellschaft. Lecturer at the University of Stuttgart (1988-1996), the Freie Universität Berlin (1990-1992) and Heidelberg University (1995-1996); from 1996 to 1999 Deputy Director of the MBA Center at the Danube University Krems (Austria). Extensive publications and lectures in the areas of trace analysis, semiconductor technology, technology management, business management, foreign trade, management development, entrepreneurship and personnel development.



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Annette L. Horne studied Protestant Theology at the Universities of Heidelberg, Muenster and Wuppertal. Adding further education in Human Resource and Personnel Development she continued her carrier in the field of International Professional Management Education. Her initial experience focused on international recruitment, admissions, program administration and placement. Later leading these areas, she expanded her responsibilities to encompass The School of International Business and Entrepreneurship's (SIBE) International MBA Programs. Here she established and developed collaborations in China, India, Brazil, Russia, Eastern Europe and the USA with renowned schools such as Tsinghua University in Beijing, The University of California (UCSD) in San Diego and Symbiosis Institute of Business Management (SIBM) in Pune. Concurrently responsible for SIBE's Corporate Programs, she developed the German market, organizing programs for companies such as Siemens and IBM.

She co-authored various publications in the field of International Business Development and Management.

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DR. GERHARD KECK

Dr. Gerhard Keck, born in 1963, studied economics and sociology at the University of Stuttgart, graduating with an MA. He continued his studies in the economic and social sciences and subsequently got his doctorate (Dr. rer. pol.). Since 1994, Dr. Keck has been a project manager at the Steinbeis Foundation for Economic Promotion. From 1995 to 2001 he was a research assistant at the Center of Technology Assessment. Since 2002 he has headed the »Strategic Coaching« Steinbeis Transfer Center; since 2004 he has been a Director of the Steinbeis University Berlin. He was a guest docent at the University of Applied Sciences at Pforzheim until 1998, at the Danube University Krems in Austria until 2001 and at the University of Stuttgart.

Since 1999 he has been a lecturer and Academic Program Director for MBA programs (General Management) at the Steinbeis University Berlin. Dr. Keck has carried out numerous consulting projects in mid-sized enterprises in such areas as project management, team development and management development.

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Stefanie Kisgen, born in 1979, studied Modern China Studies at the University of Cologne and Nanjing Normal University/China. After an additional qualification in business administration and management and an internship at the Bavarian Ministry of Economic Affairs, she completed her Master of Business Administration at Steinbeis University Berlin.

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Among her publications are various articles on Chinese and international law, international management, management of competencies as well as the »Praxishandbuch Außenwirtschaft«.

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Born in 1939, Prof. Dr. Dr. habil. Kurt Nagel studied business and was IBM's chief consultant for many years as well as an Honorary Professor at the University of Wuerzburg. Today, he is an independent entrepreneur.

Prof. Dr. Dr. habil. Kurt Nagel has both practical and scientific experience. He has provided consulting services to business owners and decision-makers at various management levels for some 35 years and has also developed a series of systems and methods for practical business management and successfully applied these. His techniques are highly valued by companies, managers, employees and consultants.

Nagel has published numerous series of texts and written many recognized monographs as well (he has authored or co-authored circa 50 books on business management). He is the owner of the consulting and continuing education company »Systeme für Erfolg« in Sindelfingen, Germany. Nagel taught for circa 30 years at the University of Wuerzburg.

Prof. Dr. Dr. habil. Kurt Nagel holds seats on the advisory or supervisory boards of a number of successful companies. He has developed benchmarking systems that show how both hard and soft factors can be decisively improved. His lectures, seminars, consulting and coaching sessions inspire participants and lead to concrete success.



DR. JOACHIM SAILER



Dr. Joachim Sailer, born in 1963, first studied journalism and subsequently worked in various print media (1982 to 1992). He then returned to school to study professional and economic pedagogy and political science at the University of Stuttgart and completed his doctorate there in 2002, writing his dissertation on company training programs and learning transfer.

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He has participated in numerous consulting projects for corporations and SMEs in such areas as qualification and company training, organization development, manager and employee development, business start-ups and follow-up management, transfer and implementation management. His publications are primarily in the area of company training programs and learning transfer. He is a member of various research and economic bodies.

