

**Members' Report no. 3-1996**

# **Managing the Future**

**How to manage uncertainty -  
mission, vision and strategy**

**The Copenhagen Institute for Future Studies**

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Members' Report no. 3 - 1996**

## **Managing the Future**

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## Preface

The title on this Member's Report no. 3, 1996 is "Managing the Future". The title conceals an examination of the most important methods and examples of tools which futures studies can supply to companies and organisations, institutions and public authorities, when dealing with the future.

There are many methods which have a role to play: prognoses, trends, scenarios, strategy pictures, wild-cards and Delphi-examinations, just to mention a few of them. All of them ought to have their place in both the Institute's as well as the members' "tool boxes". In general, the higher speed of change has entailed a shift in the method selection from endeavouring to predict the future, to methods which work on reducing the uncertainty. The report begins with analyses of the development of the concept of the future, before, now and in the future, a development which forms the basis for the rest of the report.

In order to keep the metaphor with the "tool box", companies will in some cases be able to fend for themselves with DIY, whilst in other cases they will have to call tradesmen in.....

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## Summary and Conclusions

\* How do companies handle the future? This is the question which the report seeks to answer. Methods and approaches are constantly being modified and the outer conditions also change character. In addition, the speed of change in most companies and businesses appears to be accelerating. It is thus occasionally necessary to check the “tool box” in order to review the traditional tools and to discover the new ones. This report seeks to meet this requirement.

\* The limitation lies in the fact that the method and process always have their point of origin in the present requirements of a firm. No methods are good or bad in themselves - it depends on what they are to be used for. This report will be general with regard to this point and it will discuss methods and ideas without any connection to actual situations. CIFS has endeavoured to make this examination so broad that it could be relevant for all member companies. However, a number of examples are mentioned, namely scenario processes which have been developed in connection with strategy considerations.

\* The report also deals with the future and the development of our view of the future. It is often said that modern futures studies began in the 1960s. In a situation where predictions within most fields were reckoned to be possible. Futures studies began as an exact science, especially in the USA. This development has since led to the fact that a still greater part of the future is reckoned to be unpredictable. It is therefore not possible to predict with the methods of social science. New methods, such as scenarios, have been introduced into companies' considerations. Words such as mission and vision - which described goals - replaced the very detailed and concrete plan for the coming 5 - 10 years period. At the same time, emphasis was placed on the fact that the strategy was flexible.

\* The central conclusion of the report is that a still smaller part of future outer circumstances can be researched away. And that a still greater part of the “driving forces”, or outer circumstances under which the company must operate in the future, is uncertain. It is therefore a question of dealing with uncertainty. Here, scenarios are considered - by CIFS and an increasing number of companies - to be the central tool. They differentiate themselves method-wise from prediction and forecast. A space of feasibility is set up and this is delimited by the scenarios. The uncertainty is made manageable and suitable for discussion. Which of the scenarios for outer circumstances do we dare to ascribe so much probability that we dare to base our vision and strategy on it?

\* The next conclusion is that the present increasingly is being experienced as a space of feasibility - and not as something certain in advance. There are two reasons for this. First, the fact that the company's mission, vision and strategy occupy a greater number of interested parties than ever before. Where it was previously the management, leading staff members and shareholders, the circle is now enlarged to include customers (the political consumer), media and the state (the company's social responsibility). The company has to relate to this and possibly redefine its vision and strategy. Second, the post-material consumer places increasing emphasis on the manner in which a product is staged - the signals which it sends out. The utility value is of decreasing significance. In the short term the company can present its image differently.

\* With a space of feasibility both in the present and in the future, the situation is decisively different from that of the past, where it was normal to view the present as a point, (production of water proof clothes) and where the future was also a point, (greater market and better quality). Nowadays, the production of water proof clothes is a space of feasibility (leisurewear, sportswear, life style, nature, the environment) - the space of feasibility is huge. The same applies to the future. It is dependent on the consumers' changes of attitude, and several scenarios will be able to define the space of feasibility.

This situation is relevant for some companies and is on the way in other companies. The interesting perspective is that the future allows itself to be led back to the present. The visions and strategies which have been developed in the scenario process are now set into a perspective of the present. More often than previously, it will be possible for a future-inspired vision to be realised in the present. CIFS has thus carried out processes, where pictures of a future vision and strategy are projected back to the present as relevant for present vision and strategy proposals. Many of these proposals could be implemented without extensive re-investments.

\* It must be emphasised that the prognosis still is a part of the tool, when the future is to be managed. The typical example is demographic changes which in many cases are of great significance. If the prognosis indicates more certain developments, and the scenarios those that are more uncertain, then wild cards are a possibility, when one wants to get out of what is regarded as the space of feasibility or the probable. Wild cards are descriptions of occurrences which are considered to be improbable, but which would have serious consequences for the company if they occurred.

\* When uncertainty is the basic condition, and readiness to modify or change is the code word, occupying oneself with the future, one additionally becomes an instigator of innovative thinking

and creativity. Several of the well-known American gurus, for example John Naisbitt (Megatrends) and Faith Popcorn (The Popcorn Report) inspire respectively as an interpreter of time and a trend setter to regard both the future and the present from new points of view.

\* The report mentions a number of methods which, in different ways, present various ideas within the field of futures studies. This applies to attitude measurements, for example regarding change, and it also applies to group interviews, where it is easy to get behind the assertions, for example the attitude towards the future. The familiar Delphi method, where many experts evaluate their assertions anonymously in several rounds is time-consuming, but it has led to many good results. This method has been adapted to modern technology in the form of a computer-based, interactive system for the exchange of ideas.

\* The report gives a number of specific examples of actual scenario processes - in the space of feasibility and within a given field. Scenarios for the future of the Sound region between Sweden and Denmark (CIFS 1993), Scenarios of the outer conditions for Danish industrial companies (CIFS 1993, for the Confederation of Danish Industries), Pictures of Denmark in the year 2000 (CIFS 1987, for Forbruger-Kontakt (Consumer Contact)), The Futures Game (CIFS 1984 + for many companies).

\* A reflection in connection with the report is the consequences of the increasing speed of change thus entail that considerations regarding a company's future to an increasing degree are identical to those of the present. The future is becoming compact with many changes per unit of time, and the present contains a greater room of manoeuvre.

## **Comparison of the various Methods**

The diagram overleaf compares some of the methods which are mentioned in the report - their application, their advantages and their disadvantages. Some of the methods do not have an independent section in the report, but are mentioned in connection with other methods.



## Various methods for futures studies: application, advantages and disadvantages

	Application	Advantages	Disadvantages
Trend extension and Time series analysis	Projection of technical, economic conditions, etc.	No influence on human evaluation, inexpensive	Not flexible, does not take account of known future changes
Regression analysis-based projection	ditto	Relatively inexpensive, software easily accessible	Demands knowledge of causal variables
S-curve analysis	Penetration curve for tendencies, market segments, technological development	Has a "ceiling" built into its thought-process, inexpensive	Limited applications Data-problems
Matrix methodological analysis	Shows connections in systems, evaluates consequences of isolated changes	Process orientation, training effect Dynamics regarding evaluation of connections (on the contrary to Input-Output-Analysis)	Less precise than Input-Output-analysis
Simulation models, System Dynamics	As matrix methodological analysis as well as Complete scenario analysis	Evaluation of complicated feedback effects	Complex Time-consuming
Patent, literature or database analyses	Early Warning System Tendency evaluation for technology	Relatively inexpensive	The most exciting things are neither patented nor publicised in other ways
Experiment interviews	(inter alia ditto)	Can give qualitative insight Free from database, software	Takes time and costs money
Questionnaires	(inter alia ditto)	Cheaper than interviews Well-structured	More structured, gives less qualitative insight
Delphi	(inter alia ditto)	Gives consensus-forecast Suitable for electronic comm. i.e. over distance	Gives consensus-forecast Costs time and money
Group idea generation techniques (brainstorm, brain writing, structured group discussion etc.)	(inter alia ditto)	Quick and cheap compared to Delphi For some of the methods electronic comm. OK	Demands large "filtration work" Does not give a total picture
Relevance trees, technological trees and suchlike	Suitable for working towards connections, for illustrating them, etc.	Can give good process Pedagogically effective Can be used for planning (set time factor for necessary innovations)	Normally only for isolated problem formulations
Surrounding world scenarios (macro scenarios)	Inspiration Strategy evaluation Product development Preparedness planning	Can be process-orientated (and used in "company games" and suchlike Training effect	Difficult to keep the scenario idea (one demands probability) Difficult to work with more than 4-5 scenarios
Strategic visions (macro scenarios)	Inspiration Strategy evaluation Organisations development Product/process development	ditto	Integration with macro scenarios (which is necessary) can be difficult

# 1. Speed of Change, the Future and Research

## 1.1. Speed of Change

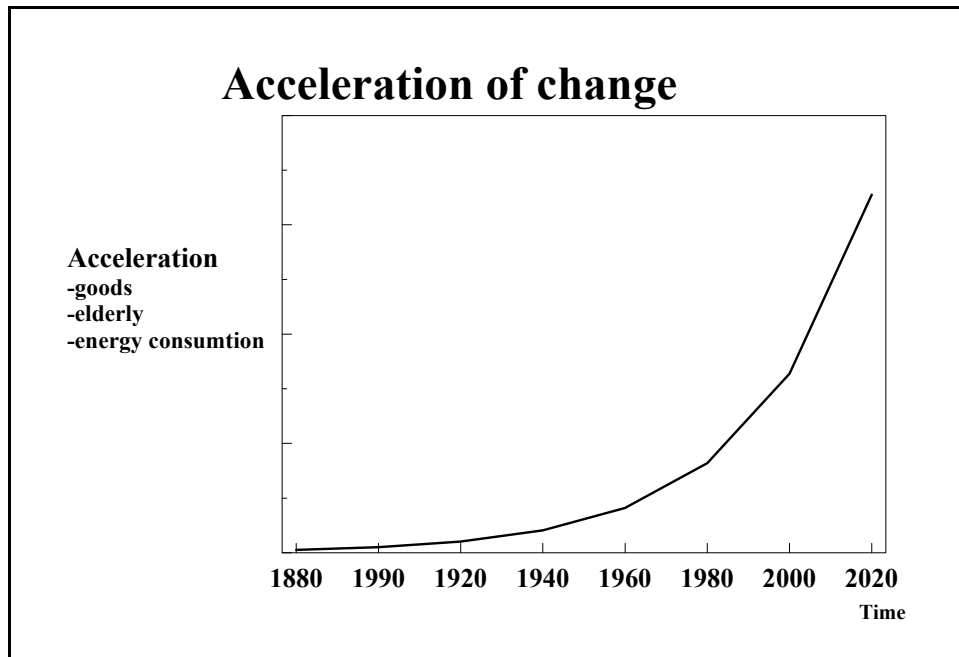
The speed of change is rising. Most of us both feel and say that this is the case. One could ask whether there is something which has not changed or will not change today? It is, meanwhile, impossible to answer if one is not told from when to when. The future has invaded the present at various speeds, and it is precisely the variation in this speed which roughly makes it possible to say something about the acceleration of these changes.

With time as a yardstick, one can compare things which take place at varying speed, in the same way as one can compare prices with the help of money.

The fact that the speed of change is rising means that nowadays we reach further in a shorter time. But we cannot say at how many kilometres per hour these changes take place. On the other hand, we can say that a generation less than a hundred years ago could live their whole life without experiencing any great upheavals in their everyday life. Generally, the economic, political and social changes took place so gradually that they were not noticed within *one* lifetime. This is no longer possible. Today, we are aware that in many areas we do not know what our future will be like. Meanwhile, this does not mean that we cannot take part in forming it - on the contrary.

Changes take place gradually, and it will always be easier at the end of a lifetime to look back and see the changes which have taken place than to see them here and now. In other words, it is more operational to see the speed of change over a longer period of time. The picture of development and change which is accelerating is becoming clearer. In fact things change so fast in many areas nowadays that we can hardly avoid noticing it. In any case, we feel that it is going quickly - both around us and with us.

As a starting point, we can understand time as intervals between things which happen. This makes it possible to compare unequal processes, i.e. things which take place at varying speed. These things can be understood as being indicators or reasons which seem to show that the speed of change is accelerating.



In other words, we are living in a time where changes take place more and more quickly. As is illustrated in the above figure, the speed of change is rising exponentially.

A size is said to develop exponentially if the relative or percentage alteration per time unit is constant. Contrary to a linear development where the growth per time unit is of a fixed size, e.g. a number of Danish crowns.

Back in the hunter and gatherer society and a large part of agricultural society one could, for example, have seen that the income per inhabitant was constant or perhaps increased a little, in linear form. However, from the middle of the 18th century and up to our time, private consumption has increased by 50% as a result of the change from linear to exponential growth. The condition for being able to experience such economic growth rates is the advance in productivity as a result of technological gains. Put in a popular manner, the automation of agriculture made the industrial society possible, and so on.

In a situation with exponential growth, one can use the stockbrokers' old 72-rule approximation. This says that 72 divided by the annual rate of growth is equal to the number of years which pass before a dimension is doubled.

If, for example, the growth in private consumption is 3% p.a., it will thus take approx. 24 years to double private consumption. Consequently, we can guess that a new-born Dane will come to

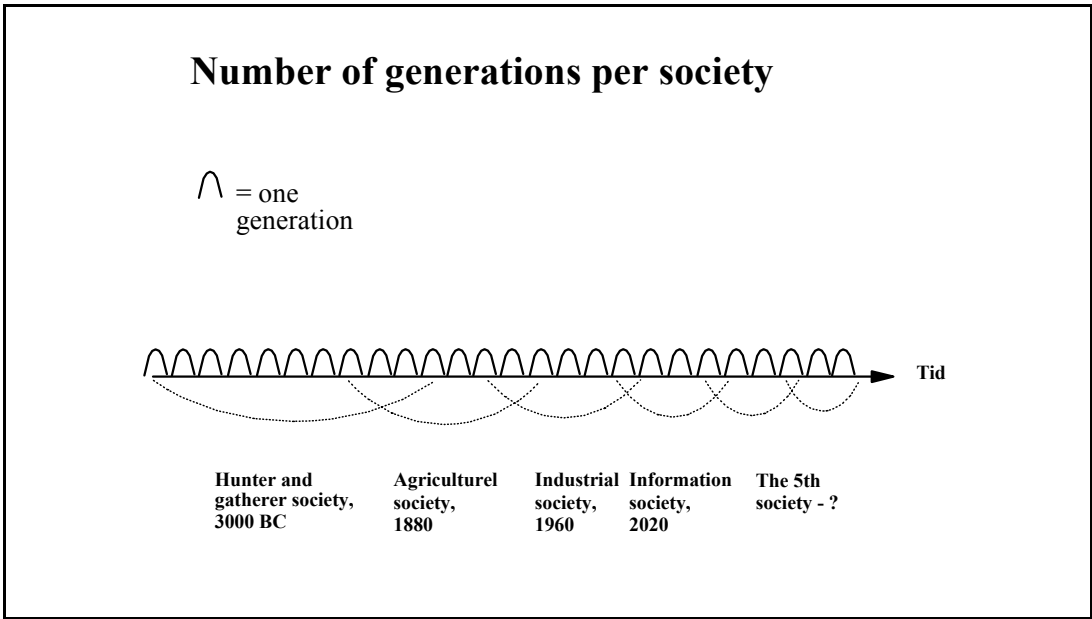
experience a consumption which is eight times as big as it was in our days.

Even though we can say, approximately, that the grandparents of the new-born baby have perhaps experienced more or less the same percentage growth, they have in fact experienced must less growth, measured in Danish crowns. Therefore, it can be said that the number of changes or the speed of change is growing. If the private consumption today is DKK 60,000 per inhabitant, the new-born baby will come to experience an increase in consumption amounting to DKK 420,000, whilst the grandparents have only experienced an increased consumption of DKK 52,500.

A corresponding exponential development is seen, for example, within energy consumption, water consumptions, computer power, and in the number of research results and the relative number of senior citizens

**The structural level**

When we look back several thousand or just a few hundred years, it is easy to see that society itself has changed dramatically. The four society types - from the hunter and gatherer society, towards agricultural society, the industrial society and the information society, as we know it today, have all existed for shorter and shorter periods. The fifth society which can supersede the information society in the course of years to come will perhaps exist for an even shorter time, before it is superseded by yet a different sixth society.



It is apparent from the figure overleaf, it has lately been and probably will continue to be the case that there will be fewer generations who experience one particular type of society. Put in another way, there will be more and more people who will not live in the same way and under the same conditions as their parents did. This is to say that time will be compressed.

If time is understood as intervals between things which take place, these intervals have become shorter. There are simply more things taking place today than they did earlier, and nothing indicates that this will change in the future. Things will take place even faster, and the rising speed of change demands knowledge about the present impressions about the future. We can choose to lay back in our best armchairs and let things happen, or we can choose to participate in creating our own future. The Copenhagen Institute for Future Studies naturally adheres to the latter.

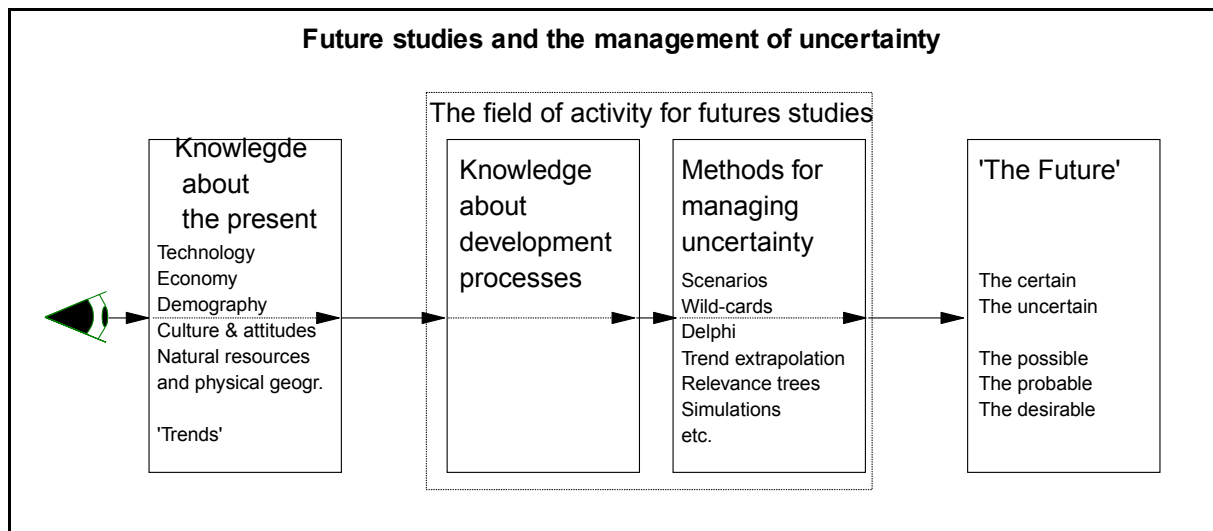
## 1.2. Futures Studies as a Strategic Tool

During the post-war years, society passed through at least three phases:

1. A world view with a fairly foreseeable development, characterised by continued economic growth (and with atomic war as the wild card, which society could not plan for anyway). The politicians had a significant role in controlling development but, nevertheless, they could talk about “the development”. On the overall level, there was *one* well-known direction. It was important to plan for continued growth - and thus to establish a solid planning basis, for example, in the form of prognoses.
2. A world picture with rising uncertainty due to oil crises, other resource crises and ignorance about the global, ecological space of feasibility. This acted in combination with significant structural changes in the global, economic system; changes which hurt in many ways. It was important to deal with the lack of knowledge with regard to work with sensitivity analyses, to have preparedness plans ready in the event of sudden changes, etc. Rising uncertainty about the basic value in society. Simultaneously, increasing emphasis on streamlining, both in one’s own organisation and in product efficiency.
3. A world picture with even greater uncertainty about the future development; radical structural changes in the world economy and the possibility of new solutions for problems in step with the technological development - not least information technology, but also the new possibilities of other, i.e. bio-technologies to enable radical changes in the world picture. The uncertainty about the basic value in society is extreme and also comprises the organisation itself. Both the world and the company are up for election both at the present and in the future.

The reason why the methods of futures studies are being used to an increasing degree is thus the rising uncertainty in the world.

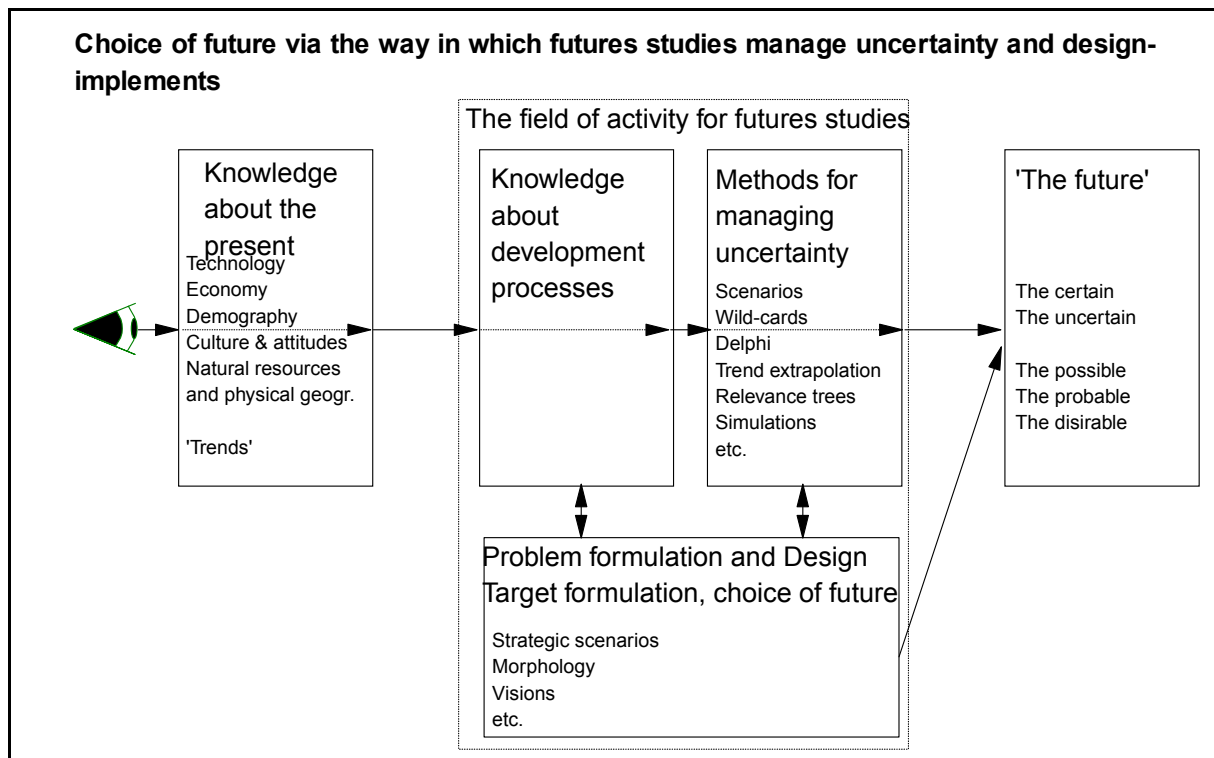
First and foremost there is the uncertainty of the evolution of society as a whole and also about selected aspects of the world, for example the general development within a certain trade, a technology, a consumer requirement, etc. Here the methods of futures studies are used to deal with uncertainty, cf the figure overleaf. Note that the sphere of futures studies operation is the work with development processes methods for managing uncertainty, in relation to a future which can be influenced by policy-decisions.



Second, there is the rising uncertainty which is caused by renewal of the organisational concept. There are many more models for structuring an organisation.

The significant change is the fact that the new forms involve very different forms of interaction with the surroundings. The concept of what is the organisation's surrounding world, becomes something else. Obvious examples in connection with splitting up an organisation, selling parts off, outsourcing, development cooperation, customer-specific production, virtual organisations or products, self-service models, etc., but also outside the commercial forum, are that one can build up loose organisations, which solve requirements by ordinary cooperation (e.g. telephone chains for senior citizens).

In this way it will still be more significant to work completely basically and unimpeded with the formulations of problems, so that it is possible to ascertain whether there are alternative, possible solutions. To design new forms of organisations, refer to the above figure. To work systematically with these in strategic company pictures and in scenarios for development of the surrounding world. To think "inter-disciplinarily" and to create support for the new forms, when the goal has been determined.



The schedule below gives a schematic picture of the development.

### Strategic requirements and strategic tools depending on the surrounding world

Concept of the surrounding world	Requirements	Strategic tools	Typical for period:
Stable, partially controlled	Foresee the future - create a planning basis <i>Methods for creation of security</i>	Extrapolations Prognoses	1950-73 (but up to about 1985 for energy, etc.)
Turbulent Uncertain Politically impressionable	To control with in a space of feasibility Evt. influence development <i>Methods for dealing with uncertainty</i>	Above-mentioned PLUS Macro scenarios (overall scenarios, orientated to surround world) Wild-cards Outside-in-analyses Design and idea generation	1973-
Uncertain by impressionable The organisation must: define itself - interface with regard to interface must be selected	To create the future To select interface for the surroundings <i>Methods for development of problem solutions</i>	Above-mentioned PLUS Strategic future pictures (micro scenarios) Inside-out-analyses (e.g sensitivity trees) Vision, mission	1990-

Note that the newer tools build on the former ones. One can in practice not make surrounding world scenarios without having clear pictures of the tendencies in some fields, i.e. prognoses. Global scenarios will thus often assume from prognoses on certain central fields, for example,



with regard to demographic development and technological development. Likewise, micro scenarios (strategic future pictures etc.) will often assume from both prognoses and macro scenarios.

**1.2.1. The Probable, the Possible and the Desirable Futures**

Futures studies have always worked within three problem fields: the probable, the possible and the desirable futures. They naturally demand somewhat different methods. Furthermore, it varies considerably as to who has worked with these angles on the future, which is illustrated in the schedule below. This originates from 1980, but has been slightly updated here.

**Synopsis of the field of futures studies**

	<b>Possible</b>	<b>Probable</b>	<b>Desirable</b>
Goal	Open up Wake Stimulate	Analyse Evaluate Systematise	Preparing preferences Winning support Supporting choice
Roles	Driven by pictures, Visions	Driven by analysis	Driven by values
Tools	Realisable	Structural	Participation-orientated
Agents	Visionaries Geniuses Writers <i>Futurists</i>	Analysts Methodologists Futurists	Charismatic leaders Social reformers Writers <i>Futurists</i>
Organisation form	None or one-person dominated <i>Think tank</i>	Think tank	Lobby group, Idea organisation <i>Businesses/ companies</i>

Source: Roy Amara: The Futures Field (IFTF, Menlo Park, 1980)

Note: The additions in italics have been made by the Copenhagen Institute for Future Studies, 1996.

To work with possible futures is not just a focussing on “creation of certainty”, but a practical limitation in connection with the work regarding handling uncertainty.

In connection with the opinion in 1980, however, a shift has taken place since “professional futurists” have enlarged and enhanced their field of activity. The work with possible futures still continues to fill most in connection with the requirement for new problem formulations and likewise, the work with desirable futures forms part of the strategic processes of the businesses and society: new ways of creating the future.

The world society is so complex that, despite the possibility of giving precise bids regarding the development within certain fields - e.g. technological or demographic processes - one must recognise that it is not possible to foresee the future.

The methods and tools of futures studies are thus to an increasing degree orientated towards the strategic process in companies and organisations, rather than just delivering background material.

In the following sections we will present a number of methods for dealing with uncertainty with the future as well as design of the business - for a choice of future.

## 2. Strategic Tools

### 2.1. Trend Spotting

Trend spotting is used by all of us, at all times. As single individuals, as a company and as consultants/futurists, we consciously or unconsciously filter a great number of impressions from the world around us, seen in relation to the problems which we grapple with in everyday life. Does the strategy of a company suit a development where personal computers move into private homes, and where the customer becomes more faithless.

One of the best known trend spotters is the leader of the American BrainReserve, Faith Popcorn. With her "Popcorn-report" and the subsequent "Clicking - 16 trends to future fit your life, your work and your business" she has positioned herself as one of the gurus of the 1990s.

If one seeks to describe Popcorn's method, it is a question of finding tracks, which leads into the future. This takes place by a constant reconnaissance of (primarily) the American culture. Or, as Popcorn herself calls it: scanning all the sources, which the American business community does not itself read and/or take seriously: 300 newspapers, 20 TV shows, films, books, music, trends in retailing, etc. are the background for Popcorn's trends. It is the culture of the present, which shows the direction in the future.

The result of this scanning forms the basis of a number of tendencies/trends, which together form a map of the coming decade. Focus is placed on the consumer, and what Popcorn calls psychographics

The trends which for the time being form the basis of Popcorn and BrainReserve's activities are:

- \* **Cocooning.** The tendency to build a nest in the home, as protection against a hard and unpredictable world outside.
- \* **Clanning.** The desire to find a group where one can be at home.
- \* **Fantasy Adventure.** The hunt for excitement in everyday life. The hunt for the risk-free adventure.

- \* **Pleasure revenge.** Consumers who are bound up in rules and statutory instruments and wish to break free.
- \* **Small indulgences.** The little daily luxury as a reward for a hard working day.
- \* **Anchoring.** To take security-creating elements of the past with oneself into the future.
- \* **Ergonomics.** In a sterile computer age the consumer desires a personal touch.
- \* **FemaleThink.** From goal-orientated, hierarchic models to "caring and sharing" and family-based models.
- \* **Mancipation.** As stated above, but for men. From business orientation to individual freedom.
- \* **99 Lives.** The busy consumer who must undertake 99 roles at the same time, in order to get everything together.
- \* **Cashing Out.** From the career-orientated race to new ways of realising oneself.
- \* **Being alive.** The hunt for good health.
- \* **Down-Aging.** Nostalgia about the problem-free childhood.
- \* **Vigilante Consumer.** The frustrated consumer who manipulates the market via protests, pressure and politics.
- \* **Icon Toppling.** The falling authorities on the markets and in politics.
- \* **S.O.S (Save Our Society).** The consumer must re-find the social responsibility, set ethics in the seat of honour with regard to the environment and society.

The trends are assumed to last for 10 years, which means that the business sector can use them as guidelines in their daily work. It can, perhaps, be from time to time a question of temporary throw-backs for the individual trend, but the impulses behind the trend cannot be altered.

In other words, trend spotting operates on the basis of a clear conception that it is possible to predict the future (at least the coming 10 years), and that the consumers will follow certain tracks

out into the future, which will be changed rather slowly, if at all.

Trend spotting is an important source of inspiration, and can in fact, as described below, be used as a tool in the future-secured business sector. However, as with all other methods of predicting the future, one ought to bear in mind the weaknesses of this method. For example, the majority of Popcorn's trends can be seen as solutions of problems. People cocoon because crime is experienced as being a problem, they want Ergonomics because the information society lacks personal touch, etc. But if the problems are solved, the trend will disappear. Should the crime level in the USA be reduced, the Cocooning tendency will disappear or at least turn into something else.

Popcorn's method relies on the 16 trends, the trend spotters employed in BrainReserve as well as on a large quantity of consumer interviews. The heart of BrainReserve's projects consists of discontinuity analyses. The idea in this is that, for example, a business concept is taken up and held up against the trends. Or one can be part of a process where new concepts are to be created.

The method is to hold up the concept (either the present one or the future one) up against each individual trend. The more trends which fit the concept (in Popcorn's terminology: "Clicks with") the more future-secured the concept is.

### **2.1.1. Megatrends**

"If one is seeking an inspiring and positive work about time up to the year 2000, and one is not all too critical, then John Naisbitt's "Megatrends" can warmly be recommended". This was how the American futurist, John Naisbitt's best-seller of 1990 was mentioned in the Danish journal "Future Orientation" number 6, 1990.

John Naisbitt is perhaps one of the best futurists in the whole world today. With his books and his lectures, which are mentioned everywhere in the media, he stands out of one of our time's oracles. His method is, for that matter, simple. By digesting large quantities of information, he and his co-authors reach a number of megatrends which they evaluate as being of decisive significance for the coming development, preferably with a 10 years' sight.

Naisbitt avoids coming up with a clear definition of what a megatrend is. One could, however, attempt with the following definition, which Naisbitt probably would agree upon: "It is changes which alone can influence the remaining conditions of society and the business sector's everyday

life in a wide understanding, and it must be a question of conditions which are undergoing considerable changes”.

It is a question of a definition with much built-in elasticity. One could, for example, imagine that certain megatrends could be in conflict with each other. All in all, there is thus no great difference between what one reads in Naisbitt’s books, and what the more clear-cut trend spotters, such as Faith Popcorn, present for their readers. It is a question of inspiration more than analyses, and about clear bids regarding the future more than scenarios.

Since Naisbitt wrote “Megatrends 2000”, six years have passed and nowadays one can thus form an impression of to what extent how sensible or unsensible it is to give ear to his prophecies about the present where we are today. Naisbitt’s 10 megatrends are:

1. The global economic boom of the 1990s.
2. Renaissance in the arts.
3. The emergence of free-market socialism.
4. Global life-styles and cultural nationalism.
5. The privatisation of the welfare state.
6. The rise of the Pacific Rim.
7. The 1990s: decade of women in leadership.
8. The Age of Biology.
9. Religious revival of the third millenium.
10. Triumph of the individual.

Naturally, it can be discussed to what extent this or that megatrend has been realised in course of the past six years. One can maintain that a one-sided emphasis on the Pacific Rim as the world’s dynamo could turn attention away from important markets and potential competitors in Latin America and Eastern Europe. It was thus pointed out in the 1995:4 Members’ Report that even with low growth in Russia and high growth in China, the Russian market will still be bigger than the Chinese market in the year 2005.

The main point must, however, still be the inspiration which lies in the individual megatrends.

If one is to point out an onward development of the concept behind megatrends, this could be the cleft between the sure things in the future (as postulated in the megatrends) and the unsure things in the future (as, basically seen, postulated in the scenario technique. Megatrends point at areas where, all other things being equal, the uncertainty is reduced. It is possible that the triumph of

the individual gives the whole world's marketing people grey hair, but this trend does, however, mean that - to the extent in which it is accepted as being valid - one has a more certain working base to take for granted that otherwise would be the case.

Interesting forms of megatrends are those where an area moves from a stable condition, development or acceleration into a condition of chaos or extreme uncertainty. Thus a kind of anti-megatrend.

Historically, this method has been used by CIFS in Members Report 1994:3 (Risks of the Future), and the method can likewise said to form the background which, among other things, has been expressed in connection with the concept called "Risikogesellschaft" (see, amongst others, the works of the German sociologist, Ulrich Bech).

In the Members Report from 1994, CIFS pointed out, amongst other things, the following examples of megatrends:

1. Unstable climate.
2. Product Cycle: Design-For-Disassembly.
3. The consumption unit: from family to chaos.
4. Reality - from experienced to presented.
5. Democracy's form of function until now.
6. The world market - from 20% who are sitting on 80% to a market where the middle class is globalised in earnest.

## **2.2. Interview Surveys**

It has been maintained that when one focuses on the future, it is in reality a treatment of a chaotic present which takes place. One is searching for the tendencies in the noise from chaos, and seeking to separate what is meaningful from that which is indifferent. The information society indeed over-exposes us all with pictures, sounds, texts and figures, so there is certainly enough information. The same is the case when one uses interview surveys in futures studies.

Can one get anything out of asking people about the future? Yes, one can! In any case, if it is done with consideration. Furthermore, interview surveys can be very useful, as they mirror popular thoughts. On an aggregated level, it can often be interesting to know the population's attitudes towards this or that. Just look at the media's treatment of various opinion polls. Simultaneously, the interview method is an economic possibility for getting answers, which all things considered, could not be achieved in any other way.

### **Quantitative or qualitative?**

Actually an absurd heading, as the two interviewing methods - the quantitative questionnaire and the qualitative conversation, in reality supplement each other. It is thus seldom a question of choosing one or the other method, but rather a question of resources, and the necessary economy - and the need to support the one with the other.

Quantitative interviews can be adapted with a long list of descriptive, statistical tools and be presented in easily understandable figures. On the other hand, quantitative interviews give only a superficial answer within an answer complex defined in advance. The variety and the differentiation in the attitudes and the possibility for elaboration of the answers disappear. Instead, one must use qualitative methods to catch them.

Qualitative methods: group conversations, focus groups and in-depth interviews extend the frames of the interview and allow a high degree of dialogue between the interviewer and the respondent. Qualitative data gives a more comprehensive and rich faceted description of the subject, which one is examining. On the other hand, the results which the method gives are slightly less robust than with the quantitative methods.

All in all, a combination of the two methods is recommended when bigger, complex subjects are



to be examined through interview surveys.

In January 1996, the report entitled: **Attitudes of the Danes towards information technology**, was drawn up by the Copenhagen Institute for Future Studies (CIFS), for Post Denmark and Datacentralen. The report is based on a comprehensive interview study, which was carried out in the autumn of 1995, The survey comprises 1500 telephone interviews with a representative sample, and the subsequent series of group interviews for elaboration of the bigger sample survey. The report thus stood on two legs: one quantitative and one qualitative. In addition to an analysis of what the Danes feel about information technology, the report also elucidates various types of attitudes towards the future and changes. However, the report first and foremost deal with attitudes towards computers, registration and advertisements.

## **Knowledge and Interest**

Probably the most important problem which any interview survey can be confronted by is the question about the respondents' knowledge of subject chosen. A luxury respondent is thus a "Delphist", i.e. someone who knows much about the subject, and who is simultaneously motivated to pass on his knowledge in an interview situation.

However, in reality most of the interview surveys are carried out in a more mixed circle of respondents. The question complex must therefore in most cases aim at a combination of the ignorant and disinterested respondent and the Delphist.

In many cases, there can be weighty reasons why an interview survey only comprises knowledgeable and interested respondents. In such cases, one must often relinquish the representativity, but the pros and cons must be weighed in comparison with the subject of the survey.

In this connection, it is worth noting that, whilst the population as a whole is perhaps not so knowledgeable as the analysts could desire, the general population does have a large portion of healthy common sense. This is a fact which often appears in many surveys which can have peripheral interest for ordinary citizens.

## **Objectivity and Question Formulation**

In principle, one can ask people about everything. One can, however, risk collecting “wrong”, irrelevant or even meaningless answers. Some people will feel that one should just pose objective questions, which in fact is rubbish. Objectivity does not exist, and to simulate objectivity is a false declaration of contents.

Solely the linguistic differences confuse even the most well meant attempts at objectivity. But also the control which lies in problem formulation, formulation of questions and possible answers, as well as the subsequent analysis and interpretation are contra-objective.

Instead, one must recognise the subjective interview process and thus focus on a balanced subjectivity.

In this connection, it must be mentioned that experiences show that respondents, as a rule, do not have anything against answering sensitive questions, as long as they are warned in advance and that they have the possibility of backing out.

During the winter and spring of 1996, CIFS and the daily newspaper Børsen carried out an analysis of a new tendency in political behaviour: **The Political Consumer**. The analysis was based on a comprehensive interview survey for which Børsen’s analysis unit, Greens, gathered 861 interviews.

On the basis of the interviews gathered, CIFS were able to identify the extent of the political consumption, i.e. to determine how widespread the political consumer is in the population. Likewise, the examination showed that political consumption should not solely be identified in negative terms: boycott etc., but in longer terms it should be viewed in positive terms: choice of attitude-wise reasons. CIFS could also give a social and cultural profile of the political consumer.

### **2.2.1. Eight Tips to Improve your Interview Surveys**

1. In interview studies, the quantitative and qualitative methods complement each other. They can be used separately, but they are even better when used together. The quantitative survey puts figures in place, but the qualitative puts words in place. The combination is not cheap, but it is the best foundation for understanding the attitudes.

2. To use representative surveys if expressing a total population is important. Otherwise a survey of an allocated quota is just as usable.
3. In questionnaire surveys: ask only *one* thing in a question. This might sound banal, but it is nevertheless one of the sources of interpretation problems which occurs most often. In qualitative interviews: have a clear idea about the subjects which are to be discussed during the interview and develop them one at a time.
4. Ask, so that all possible answers are what one can call “socially acceptable”. In the event of sensitive questions, the respondent’s voluntary participation is of decisive importance for the value of the answers. Anyway, one must often recognise that there is a certain “under-reporting” around sensitive subjects.
5. Consider carefully in advance what each possible answer can be interpreted as being. A possible answer which contains an ambiguous or uncertain interpretation ought to be reformulated, i.e. by dividing it up. This means that questions which contain one-sided tests should be avoided as far as possible.
6. In the case of explorative surveys, where the problem is not clear, qualitative methods ought to be used, and likewise, open, quantitative questions ought to be used. The most significant things in the problem are therefore best intercepted. Subsequently, the problem can well be formulated in ordinary, quantitative questions.
7. Let the respondents know what it is they are taking part in. This is only correct and reasonable as regards the (most often free) input which one requests from the respondents. Simultaneously, it is a motivational plus to inaugurate the respondents in the purpose of the survey, and conversely a (potentially) large minus to have a hidden agenda.
8. Go for quality in the interview. Both in the preparation phase, the interview phase and in the further work. The motto is that good quality can be recognised, poor quality is nondescript.

## 2.3. The Delphi-method

The *Delphi-method*, which was developed by RAND Corporation in the 1950s and named after the oracle, is one of several methods for gathering information - or in any case notions - about the future from a group of experts. This method is especially used within technological forecasting, but can also be used in other fields. An example could be to determine expectations regarding possible technological breakthroughs - i.e.: what will happen if, as well as: when will this happen.

The result of the method is typically a consensus-forecast, i.e. a form of prognosis. Moreover, there can be process-results, e.g. in the form of increased recognition from the participants.

Such expert knowledge can of course be obtained in many ways. Some of these contain a number of problems which the Delphi-method seeks to avoid.

The following points especially apply regarding assertions about the future development:

- \* Assertions given by persons of high status will often be given high status in themselves, regardless of their contents, as the status of the source rubs off on to the evaluation of the assertion itself.
- \* It is difficult to achieve full acceptance and thus a positive dialogue between persons from different professional areas.
- \* Mutual discussion of assertions in a group can lead to a compromise, but can also give increased recognition between the members and can give inspiration to new, more refined assertions

Delphi is thus an anonymous process, carried out over several rounds.

In all brevity, the method is as follows:

1. Determine the overall problem formulation (with group discussions etc, if necessary)
2. Appoint an expert panel, typically with a multi step process (since the first persons nominated, then nominate more participants). From a few hundred to several thousand participants. Parallel with this:
3. Draw up questionnaire concerning what will happen within each field or fields.

4. Test round for the questionnaire.
  5. The questionnaire is sent out and the feed-back is dealt with.
  6. A new questionnaire is drawn up, with more precise formulations, with points such as determination of points in time, etc.
  7. The questionnaire is sent out together with result of the earlier round.  
The results are presented both in the form of an overview of the actual assertions and in the form of a short summary of the individual arguments for the assertions. Data are indicated with both median value, 1st quarter and 3rd quarter, so that the individual participant can see where his or her assertion is placed in comparison with the other participants.
  8. Feedback from the panel is dealt with.
  9. It is determined which participants have extreme evaluations. They will be requested to give reasons for their evaluations in later rounds.
- Phases 7-9 are repeated several times (at least twice, sometimes more).*
10. Concluding report to participants and the client.

Regarding the expert panel, it is important to start at several places within society in order to achieve a suitable spread between the participants. It will be especially important if there is a homogenous concept among the dominating institution(s) within the field in question. Furthermore, it is also important to determine a comparatively broad expert definition. It can be “everyone who has something to contribute in the field”. The participants can choose to rate their expertise themselves within the individual questions which they answer.

Delphi has a number of the same potential problems as many other types of expert evaluations:

- \* Incomplete information.
- \* Over-pessimism in some fields (typically with regard to basis-breakthrough).
- \* Over-optimism in other fields (typically with regard to implementation).
- \* Lack of imagination to include the structural alterations which partly take place for other reasons, and partly are generated by modifications on the analysed field.
- \* Lack of synthesis of the forecast trends for an actual picture of the future.
- \* It is not clear who is actually qualified to the designation of “expert” regarding the long-term development (and there is typically a risk that the biggest, commonly recognised experts on a field are presumably conservative as far as long term possibilities are concerned).
- \* Delphi takes a long time from start to finish, and it demands considerable time for those involved. Leadership of the process can demand large resources, even though the level of ambition can partly be arranged according to the means available.
- \* The endeavour in the direction of consensus-forecasts is not always expedient. It can be more

stimulating to focus on the extremities. (However, the process with substantiating the extremities can have this result).

\* The role of the organisers can in fact exert strong control with regard to the contents. Practical control is required in order to create synthesis (it cannot be expected that the participants will each individually go through thousands of questionnaires) - but the risk is that the form of presentation of the synthesis and the questionnaire actually distorts the expert panel's attitude through the organisers' personal "filter"

Whilst the general problems mentioned above are implicit in the expert panel method, the three last mentioned, specific problems can be dealt with in various ways through other methods.

### **2.3.1. Examples of using the Delphi-method**

The method can in principle be used within a number of fields, but it has first and foremost been used within technological forecasting.

Amongst the examples in our forum is "Danish Agricultural Research up to the year 2000", issued by CIFS in 1979. However, the method has not been used very frequently in full scale within Denmark (whilst there are a number of examples of "mini-Delphis" and "Delphi-enquiries", etc.)

However, internationally there are a number of prominent examples. Amongst these is the Japanese technology forecasting programme, where the National Agency for Science and Technology has, from 1971, carried out such studies every five years. The method is also used for technology forecasts in Germany and the UK.

In the British Technology Foresight Programme, the goal has not just been the classical "raw" technology-forecast *a more policy-orientated process*, where emphasis is placed on selecting potential, future areas which require efforts. Delphi is therefore supplemented with regional workshops for expert groups (as well as "other consultations"), which have the purpose of creating contact between technological and market experts and thus are at once a broader and more integrated basis for evaluation. At the same time, this contributes towards a stronger process orientation and it is presumed that this will give a better network in society.

Furthermore, there has been great preparation within the Delphi-process. Some 15 expert panels have been set up. These panels have worked up general scenarios for the development within

their field, identified key tendencies and key questions and have also elaborated contact with the relevant environments and organisations within each field. After this, Delphi-questionnaires were drawn up and the actual Delphi-process started. Again, it is true that the working method was selected in order to promote the process orientation. The panels could, for technical, timing and economic reasons only comprise limited groups and thus also generated limited engagement in the results. On the other hand, the subsequent Delphi-process reaches further out, since there are over 8000 panel participants in the database - with over 2500 real participants (the remainder failed to reply or did not do so in time). *Source: Futures, Vol. 28 no. 4, May 1996.*

This usage of Delphi in combination with other methods presumably points towards one of its futures. Over and above the consolation prize with (possible) network formation, the strong process orientation increases the creativity underway and thus reduces the inherent risk that questionnaire formation etc. will limit the creative level.

*Expert inquiries as a source of knowledge about the future Case: Wired*

Every month the Wired magazine carries out an inquiry, in which they ask experts about their anticipations regarding the development of a product category. The expert panel is composed of directors or chief researchers from recognised companies or institutes within the field in question.

The periodicals editors define a number of “future products”. These future products are commented by the experts, who likewise give a bid about whether, and in such case, when these products will break through.

In the October issue, future electricity in the USA was dealt with. Here, one had chosen to ask the experts for their bids regarding when: 1) 10% of the electricity consumption in the USA will be covered by wind turbines, 2) the use of small power plants for local areas in the USA will become widespread, 3) super conductors will be used in high voltage lines, and 4) price differentiation according to time, i.e. reduced price at night time, will take place.

The experts gave the following bids:

	Wind turbines	Small power stations	Super conductors	Price differentiation
Christopher Flavin	2020	2000	2020	2005
Amory Lovins	1999	1999	Improbable	2010
Gary Simon	2010	2010	2050	2005
Carl Weinberg	2025	2015	Improbable	2010
Conclusion	2026	2006	Improbable	2008

On the basis of the average of the answers obtained, Wired concluded when we could anticipate seeing the products on the market. Wired’s analyses are primarily entertainment orientated, and can be used to illustrate what the future will offer us. If one compares the group-orientated analyses, e.g. Delphi, it is clear that no attempt at learning, or just concept clarification takes place in the process.

When the answers regarding “use of small power plants for local areas in the USA become widespread” vary between 1999 and 2015, the explanation can very well be due to different evaluations of the speed of development, but it could just as well be different concept of what a small power plant is, or how usual it should be.

The lack of anonymity in Wired’s presentation is increasing the entertainment value, and this can also contribute towards the evaluation of the individual answers - if one regards one of the participants as being a fanatical supporter or opponent of something in particular, the answer must be evaluated in this light. On the other hand, the gain with anonymity disappears. This means that one can more easily permit oneself to say something other than the former expert opinion, and that one - if one has become wiser - need not take into consideration what one has said earlier. Such “open” enquiries thus put the expert panel in a situation where they say what they usually say, or what they feel is expected of them in the situation. They therefore hardly contribute anything significant to new thinking within this field, but they make good entertainment!



## 2.4. IT-support of Group-processes

Computer-based communication can play a significant role in connection with group-orientated processes. Amongst other things, the following are described below:

- discussions and decision-making processes in general at electronic meetings
- generation of ideas, brainstorming
- consensus forecasts with Delphi-like methods

The description is based on the fact that IT is only used as communication tool. In addition, there is naturally the possibility for actual computer support, for example in the form of continually generating associations by the look-and-say method, in order to set up flexible models, etc. which, however, fall outside the framework of this report.

### **Electronic meetings and electronic debates in general**

At electronic meetings, the participants can write to each other in such a way that they can finish a sentence (or a longer commentary), before it is sent off to the remaining participants and subsequently turns up on their screens. The screen is typically divided into an upper part where the others inputs scroll downwards, and a smaller part, where one writes one's own comments.

The method is known in different variations. Some are based on the fact that one is sitting in the same room, and can retain an overview of a large screen, and otherwise talk with each other during the process, whilst others do not have this possibility. However, on the contrary, they place emphasis on demanding very little equipment, so it runs easily and cheaply - for example, the freely accessible Internet Relay Chat method, where one is limited to pure text comments.

Electronic meetings generally have a number of potential advantages regarding the following:

- one can avoid the pattern where some talk a lot whilst others say very little;
- the discussion is based on the quality of input, without consideration of the source;
- by means of anonymity one can cross the hierarchic borders;
- persons without close links to the subject being discussed are not automatically rejected.
- one continually registers what is taking place;
- the written form makes it easier for the individual to think through and formulate his ideas;
- the problem with: "the rest of us have moved on to the next point on the agenda!" is avoided;
- it can ideally give ideas of a higher quality and with wider perspectives;

Several of the advantages of course disappear in the variations which allow the the possibility

of talking together.

Apart from the brainstorm-usages, it can also be seen as an advantage that one has a better possibility of jumping the agenda on the basis of the impulses which occur with the participants. On the other hand one can, however, lose too much structure and can risk forgetting something.

In the globally operational organisation, one can get a lot of pleasure from other properties at the electronic conference:

- Saving transport and time with regard to global participation.
- Non-simultaneousness is a real possibility. That is to say, a handicap connected to participants in different time zones. Contrary to Delphi or brainstorm there is, however, a certain requirement for simultaneousness in certain types of meetings, and thus those problems where the participants are spread over many time zones.

There is also the problem with electronic meetings that it is difficult to retain an overview and the quality of the material, when the problem formulations are complex. The risks are, amongst others:

- That the process becomes uncontrollable and the many participants lose track, for example due to the large quantities of information. These can be inserted into writing/thinking breaks in the process, but even the electronic meeting cannot contain an unlimited number of participants.
- That the process goes too quickly and does not give the participants enough time to process the ideas and think their thoughts through. This could be countered by letting the process run over several days.
- That the participants protect or promote their own ambitions and areas of interest without showing understanding for the overall goals of the company.
- That the participants lack basic scientific prerequisite for their contribution.
- That the leader of the meeting, in order to maintain an overview, sets up analytical models or boxes and thus locks the process into fixed settings.
- That the management will be exposed to criticism which they find difficult to tackle.
- That the final product, which should hopefully be a coherent picture of the total quantity of information, is anyway formulated by a small management group.

Furthermore, the following also apply:

- That the lack of verbal ping-pong and the play-aspect can mean that some associations simply do not arise, that is to say that some ideas can slip away. In reality, however, the opposite is also known from open discussion forums - that the debate drowns in horseplay or insults.
- That the screen media has real limitations. It is much worse than paper for presentation of large

quantities of information - but is despite everything else better than talking.

### **The experiences with electronic debates**

Electronic debates in a wider understanding are known from “computer conferencing” in closed forums, but also from open news groups and post lists on the Internet, Internet Relay Chat, discussions on public computer bulletin boards, discussions on the company’s own network, as well as discussions which are supplemented by ongoing discussion in the same room, etc.

It can, of course, make a great difference whether and how the individual debates are controlled. One way of structuralisation is to divide the debate into individual discussion groups, each with its own theme. A second way (which can often be combined with the first method), is to let the contributions relate directly to each other, so that there are several parallel chains of contribution in the same debate forum (these are often called “threads”). A third way is that there is a filter, in the form of a chairperson, who must approve the contributions before they are eventually sent on to the remaining participants.

The experiences with both (controlled) electronic meetings and more open electronic debates are generally positive, but naturally, there are a lot of aspects which do not come forward in this way. A meeting or a conference, where the participants are physically gathered together, partly has some ritual functions which naturally get lost at electronic meetings, but also some aspects regarding network formation and network maintenance are also easily lost in the electronic process.

### **Brainstorms and derived techniques - including electronic brainstorms**

Classic brainstorming can of course not be anonymous - the participants are sitting in the same room and shouting at each other! Even though one can say that the method’s basic idea - that all ideas are equally good, i.e. they could just as well be anonymous.

Brain writing is a related technique. Amongst other things, it covers a form of “personal brainstorm” - where one precisely because the ideas are written down, rather than being said, can make it a little easier to formulate more complicated ideas.

Furthermore, the written form gives the possibility for “electronic brainstorm” where, at one time, it is possible to obtain cross-pollination between different peoples’ ideas and to maintain the anonymity.

*Case: Electronic Delphi - saves both time and money*

Already 20 years ago, it was obvious that Delphi could be made cheaper and quicker with the help of electronic communication. In practice, however, it was only during recent years that the dissemination of the technology has been sufficient. Delphi (and similar methods) can run by means of e-mail-transmissions, or one can use the possibility of web technology for dealing with questionnaires. In both cases, it will be possible to shorten drastically the time sequence from start to finish.

It must, however, be noted that the rounds of problem formulation under all circumstances will demand significant time and working contributions. On the other hand, one can, without “raping” the system, schematise the feedback process so strongly that the greater part of the ongoing processing can be done mechanically (this is, of course, precisely promoted by the use of electronic communication). Especially as far as the first round is concerned, there will presumably be requirements for human editing. In the opposite case, one will presumably need to schematise so much that the creative contribution will be suppressed.

## 2.5. Futures Workshops

Futures workshops are an example of a very open process. The concept was invented by a German, Robert Jungk, who at the end of the 1950s began to conduct futures workshops in Vienna, where he was residing at that time. He has since then personally been a very strong, driving force in their dissemination. For many years he maintained that it should not be necessary to have written precepts for the process, which precisely should be open, and born by the might of the example and the oral communication which was not made narrow by precepts and rules. The starting point was a political objective, deemed at activating citizens who normally did not express themselves during the debates, even though it was precisely these people who were directly affected by the political decisions. Housing areas, political parties, training institutions and trade unions are typical examples of environments where futures workshops have been used. The idea is that, a long way ahead, “the silent majority” must have a chance to formulate their own desires and visions for the future. There is no doubt, that for some people, this will appear to be very barefoot-like. (Jungk’s close colleague, Norbert Müller, besides teaching the consequences of information technology for society, is also a yoga instructor...!)

But there can only be scant doubt that this can be a fruitful way of getting new ideas formulated, amongst other things by involving persons who would normally not be heard.

The futures workshop takes place in four phases: preparation, criticism, fantasy and realisation. But one can call it a form of structured brainstorm.

In the **criticism phase**, a “balance sheet” is made of the present situation. All forms of criticism are welcome. By this means, the participants can air their rightful frustrations, and at the same time, they become aware that the others also have criticisms. Precisely the articulated dissatisfaction is an important step out of a possible paralysation of action. It is important that the participants relinquish criticising each other’s criticism.

The **fantasy phase** has the purpose of formulating desires and aspirations - also those which appear to be completely impossible. Here, it is a matter of catchwords such as:

- to think the unthinkable,
- to meet the irrational and “mad” with an open mind,
- to be receptive for all possible interests and information and
- to risk errors and fiascos.

Established ways of thinking must be broken in this phase.

Thereafter, the purpose with the **realisation phase** is to confront the hopes with reality, with regard to creating an awareness about what can be done and how. It is a question of what forms of resistance and barriers must be overcome.

Jungk and Müller indicate that the size of the group should not exceed 15-25 persons, and that the futures workshops should ideally run over two to three days - even though one can achieve results by pressing it right down to just a single hour.

## 2.6. Projections

There is a long list of “mechanical” methods for evaluating the development on the basis of data regarding the historical sequence, for example: trend extrapolations, S-curve analyses, neural networks, etc. Some are extraordinarily primitive, others are based on complex statistical analyses - or, as with neural networks, based on complex mathematical structures. The various methods will not be more closely described here. However, one can say, very briefly that - like prognoses - they are very easy to criticise, but at the same time this group of tools is essential in the tool box for evaluations of the development of the future.

In comparison with the evaluation-based methods, these mechanical projections have a clear advantage: they are non-personal processes. This means that one has the possibility of testing whether the method has been used correctly, and one has the possibility of statistically evaluating its validity in a given surrounding world, within a given working area. Furthermore, mechanical projects have a central function by showing what will *not* be the future. If, for example, a mechanical projection of a known development tendency gives a form of logical opposition in the world picture, which perhaps in itself will force a structural modification, and which perhaps will lead to a policy attack, etc. A projection which can show what can take place if one does *not* do something can in itself be promotional in changing the world; yes, this can indeed be the whole reason for making this projection.

A banal example regarding policy-response: if a projection gives a coefficient of utilisation of over 100% for a machine, so that queue formation will take place, unless something is done about this. Another example regarding modified concept of the world: if the drop in the household size continues at the same speed and achieves an average of less than one person - which is illogical, but we should perhaps formulate it in another manner, for example, the number of dwellings per person (this can easily be over one).

The main problem is that they are suitable for handling the development in a relatively stable surrounding world. On the other hand, they very often fall through in the event of drastic changes. Furthermore, they are not as neutral as they appear to be. In practice, there will very often be the possibility of choosing between various projection methods, which gives somewhat different results on the basis of the same data. Furthermore, there can easily be problems with data basis.

These methods can be useful as long as the world does not change radically in relation to the working field, but they must be used carefully and ought not to stand alone as tools.

## 2.7. Prognoses

During the late 1960s there was still a belief that it was possible to do “research” in the future. This is where the Danish name of our institute originates from: The Copenhagen Institute for Future Studies.

Futures studies operated at that time especially with trend extensions, on the basis of which the future could be discussed.

Prognoses are assertions about how an aspect of the world will in fact come to appear at a given point of time: for example, the interest on 10 year 6% government bonds will be 5.32% on May 1st 1997. Or, slightly more broadly: the interest rate will drop in 1997.

Prognoses can be drawn up in many ways. There can be individual expert assertions, methods based on expert groups (for example, inquiries), assertions based on historical analogies, the possibility of actual model calculations, etc.

There is a certain tradition for criticising prognoses in futures studies circles. It is indeed often very easy to criticise any prognosis whatsoever. Nevertheless, prognoses are a valuable tool. We are working in the whole of our world picture with a number of - partially implicit assumptions - regarding future development; these assumptions have the character of prognoses when question marks are not placed on them. For example, we at CIFS assume that the possibilities of technology will develop further; that the demographic projects will give a reasonable bid regarding the future development; and that the monetary economy will not break down, etc.

Prognoses and similar evaluations of “relatively certain aspects” of the future are thus an integrated part of scenarios, strategic visions, etc.

The principal problem with prognoses is, perhaps, that some people accept them as a kind of truth about the future. Even the serious user’s concept of prognoses as an assertion of the prognosis maker’s evaluation of the most probable outcome are problematic. Uncertainty means that one cannot emphasise an individual future as the most probable.

Another problem with prognoses is that they typically only describe a very narrow aspect of the development. If we take the interest prognosis for May 1st 1997 from the start of this section, it is clearly difficult to adopt an attitude towards this. How does the rest of the world look? Has the inflation fallen or has it risen?



In addition, there is the fact that we well know that the prognosis must be based on a set of prerequisites (once again, possibly implicit). In order to use the prognosis as a link in one's own evaluation of the future, it will be necessary - or, in any case useful - to know these prerequisites, so that one has the opportunity of keeping an eye on whether the prerequisites hold. This partial aspect makes it really difficult to adopt an attitude towards many prognoses. They appear as detached assertions, which of course can prove to be true, but more probably they are not - and we have no possibility of evaluating them on their own terms.

### **2.7.1. Economic Prognoses**

Not even such one-dimensional sizes as the economic growth, the growth of GDP, can be forecast with especially great probability. The computer-based, economic models are relatively good as so-called consequence calculations. Based on their calculations, one evaluates the economic consequences of, for example, a modification of the rate of VAT. But these evaluations take place on the basis of "all other equal". The problem is that, even at very short sight "all other" does not remain equal. On the contrary, the basic conditions change all the time in virtually all fields.

The success of economic prognoses has indeed proved to be relatively limited, even at short sight. An analysis of the OECD's's short-term economic prognoses reveals that they are far from being precise. Firstly, the OECD often hits very wide of the mark despite the short forecasting period. Secondly, it is extraordinary how small the changes in OECD's expectations are. During 11 of the 14 years, the OECD anticipates a growth of between 2% and 3%, whilst growth only comes to lie within this level for six of the years. In other words, the prognoses seem to tell very little about the actual economy growth prospects.

In the short term, economic progresses only have very limited value. But in the long term, the economy growth prospects will be evened out, so perhaps one can use the OECD's standard anticipation regarding 2-3% growth per year as an average expectation for 5-10 years?

The answer must be no. Firstly, there is a relatively large difference between whether the growth on average becomes 2% or 3%. During 10 years, a 2% growth gives a total growth of 22%, whilst an annual growth by 3% gives a total growth of 34%.

Secondly, it is absolutely possible that the growth rate in the long term will not come to lie within this interval. In the 1960s the economic growth in Denmark was on average 4.5% annually.

Whilst the growth during the decade after the first oil crisis lay at a modest 1.5% annually. Both of these average growth rates have occurred in a not so distant 10 year period and must therefore be regarded as being both possible and probable in future 10 year periods. This means that the Danish economy could in 10 years time be anticipated to have grown by 16% (1.5% annually). But that it could be anticipated to have grown by 55% (4.5% annually). Even though the latter is highly improbable, unless the working force is greatly enlarged.

All in all, we must say that when the decisions must be made, the prognosis can be a useful method. One must just adhere to the fact that *prognoses ought normally not to stand alone as a method*, since it strongly underplays the uncertainty about the future.

The prognoses extend tendencies and connections of the past out into the future. This means that most prognoses are not a description of the future, but just *a description of the past*. If one makes one's decisions about the future exclusively on the basis of prognoses, one is thus dealing with a starting point in the past. The art is to take a starting point in future by making allowance for the uncertainty.

## 2.8. Scenarios

Instead of working out *one* prognosis as a strategic basis, which can very easily come to work as an approximated truth about the future, one can take a starting point in the uncertainty itself.

As the future is uncertain, it follows naturally that we can imagine *several different, possible and probable futures*, which do not exclude each other. As we at the present point in time do not know the future, it will be *necessary for us to adopt an attitude to all the possible and probable futures*.

At the same time, the situation opens where one has to adopt an attitude towards a plurality of futures, for a discussion of what we want with the future.

By focusing on the uncertainty through descriptions of several different possible and probable futures, an opening is made for a *discussion of goals, desires and visions*.

A scenario is precisely a description of a possible and probable future. Even though a scenario can immediately remind one of a prognosis, the difference exists in the fact that the scenario does not discount the uncertainty. Other scenarios are also possible and probable simultaneously with the fact that their is considerable space for action.

The difference between prognoses and scenarios can be illustrated by the schedule below:

<b>PROGNOSES</b>	<b>SCENARIOS</b>
The future is certain	The future is uncertain
The probable development	Several different, possible and probable developments
The future cannot be influenced	The future can be developed
Consequences	Possibilities and risks
Passive adaptation	Proactive
Traditional planning	Strategic development

## **What is a Scenario?**

The scenario method is a well-tested technique within futures studies and was systematically used for the first time on a large scale for civil purposes by the Shell oil company, when it was faced by large uncertainty regarding the development in the energy supply prices and alternative energy sources. Shell has since used scenarios as a planning tool. The Brent Spar case thus shows that also the scenario technique has its limitations.

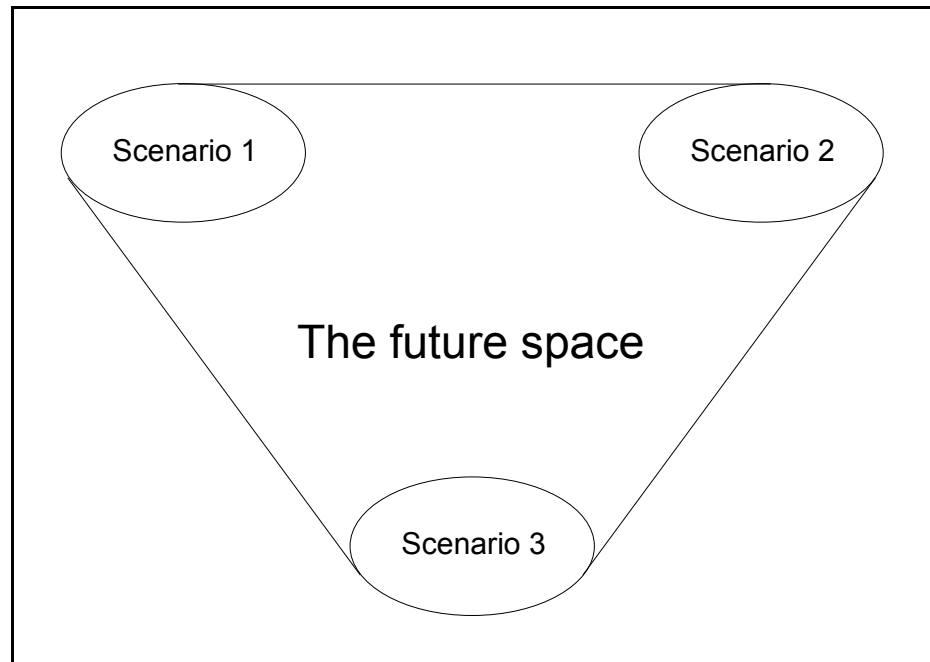
A scenario can be defined as a description of a possible and probable development, which meanwhile does not pretend to be the most probable development. By setting up several scenarios for the future development, one can say that one is stretching out a space, within which the future development will come to take place. By this means, the simplified, single dimension evaluations are thus avoided.

Scenarios are often written in the past tense - as if one were standing at a point in the future and looking back towards the historical development which has taken place within a certain period. In this manner, one creates a possible future to which one can adopt a concrete attitude. By setting up several scenarios or several historical accounts, one creates the possibility of adopting an attitude towards several specified future developments.

This will also mean that there is nothing specially advanced or mysterious in the scenario technique. It is rather a question of common sense.

## **The Space of the Future**

Scenarios will often come to describe futures which can be designated as the outer points of the possible and the probable. They stretch out a form of the future, cf the figure overleaf.



Within this space, there will be scenarios which - seen with present day glasses - seem to have a higher degree of probability than the selected scenarios. These will typically be futures which “lie in the middle of the space” - futures which contain elements from each of the chosen scenarios.

Even though scenarios must be possible and probable it is, meanwhile, not the scenarios which lie in the middle of the future space which are the most relevant. There are several reasons for this:

- \* Scenarios must be contemplated in comparison with each other. They stretch out a space of possible and probable futures. It is the space which is interesting, rather than the individual scenarios. This is illustrated in the figure.
- \* It is always difficult to imagine futures which are radically different from the present. Meanwhile, the experience shows us that major changes, surprises and trend breaks are central characteristics of the future. It can therefore be expedient to take starting point in futures which contain trend breaks that are bigger than what one immediately would expect.
- \* Scenarios can, amongst other things, be used as methods in order to adopt and active attitude towards the future. By describing unambiguous futures, which stand in clear contrast to each other, various possible selections are sketched out.

### **2.8.1. Use of Scenarios**

CIFS has used the scenario technique since the beginning of the 1980s and has, through concrete projects, experienced that there is not *one* correct scenario method. On the contrary, experience shows that scenarios can be used in different connections and for various purposes. It is, of course, a help to fully realise which purpose or purposes a given scenario process must serve. Below we will divide the scenario processes into types based on various purposes.

#### **Inspiration method: The Check-list**

An actor actually feels that he has control of the future. There is, in any case, no cause for big upheavals. But one is slightly worried. Is there something we might have forgotten? Have we become obsessed with the traditional competitors, whilst the danger in reality lies in quite a different place? Here, the scenario process functions like a check-list.

#### **Debate-creating element: The Catalyst**

An actor stands and hesitates about a process, which should readily lead to decisions regarding the future. But the actor does not really know how the process is set in motion. Scenarios can be used here as a catalyst to set the process in motion.

#### **Clarifying methods: The Common Frame of Reference**

An actor wants to start an internal discussion which possibly - but not necessarily - can lead to a formulation or reformulation of a strategy. By adopting an attitude towards several scenarios a common frame of reference is built up which makes it easier to discuss and select futures. If the members of staff have discussed the scenarios together, one will in future be able to be satisfied with a scenario title, and thereafter everyone will know which future one is talking about.

### **Strategic method: The Choice of Future**

An actor (a company, a ministry, a county or a municipality) is on the point of formulating a long term strategy. The scenario process can be used to describe various futures, from which it is possible to select *one*, which optimises the degree of desirability and the degree of probability. On the basis of such a “focus-scenario”, a more detailed plan is drawn up, and for the actor, a specific strategy. Such a usage of scenarios can, for example, be relevant in connection with major investments.

### **Consensus method: Are we in Agreement with the Strategy?**

An actor wishes to create clarity amongst the members of staff with regard to the strategy. Does everyone actually agree with the strategy? Are they all of the same opinion? It is unpleasant, but decisively necessary to expose such fundamental disagreement regarding the actor’s basis for existence and to keep in step.

### **"Early Warning" method: Are we still right?**

Later on, long after the scenarios have been drawn up, they can be used as an “early warning system”. In a modern, complex society, a good strategy is flexible. It must be able to adapt to new circumstances. It is a question of being able, as soon as possible, to recognise tendencies which point in new directions. If one has already discussed several new and probable futures, one will more quickly be in a position to see whether one is still right.

## **2.8.2. Demands on Good Scenarios**

In order that scenarios can function in practise, they must preferably fulfill the following requirements:

- 1.** Scenarios must be *unlike or different to the present*. An unconscious projection of the future is not probable and in any case not inspiring.
- 2.** Scenarios must be *probable*. If scenarios are understood as being pure science fiction, it can perhaps be entertaining, but it will not inspire sensible decisions.

3. Scenarios must be *argumentative* - they must contain an explanation of why development proceeds as it does. This is partly to render the scenario probable and partly to increase the possibility for noticing in good time whether one has made a mistake.

4. Scenarios must be internally *consistent*. A scenario must not contain elements which contradict each other. The probability will then be lost. One cannot, in the same scenario, maintain a country's membership of the EU and increase the subsidy state industry. Otherwise one must have a good explanation of why these two elements will be able to exist within the same reality.

5. Scenarios must preferably be *equally* probable. This is probably the most difficult condition, and something which one must strive for, well aware that it is not fully achievable in practice. When equally large probability is aimed at, this is due to the fact that it is difficult to think in the future and the human conscience has a tendency to take the line of least resistance. A scenario which is less probable than the others is therefore ignored. In a set of scenarios, where one of them is clearly more probable than the other is almost superfluous: one only notices the one scenario.

6. Scenarios should be relatively *concise*. This is a condition for being able to retain an overview and adopting an attitude towards all the scenarios at one time. Each of the scenarios must therefore have an individual or just a few driving forces which bare the development. And the scenarios must describe the consequences in a few selected areas, which are central for precisely that actor to whom the scenarios refer.

7. The more precisely the scenarios are *tailor made*, the better they will function. The more precisely it succeeds in bringing the elements to light in the development of the surrounding world, which are the most important things for the organisation or company, the better the scenarios will illuminate the space in which the development will take place inside.

8. Scenarios must be *profiled* - i.e. promote a profiled attitude towards the future. In other words, there must be a very obvious difference between the different scenarios. The scenarios must not be too close to each other, but this also means that some of the developments sometimes can appear to be improbable or (too) imaginative. This is, however, necessary from time to time so that the scenarios can be used as a point of departure for discussions or for strategy testing. It often proves that different people have vastly different opinions of what is improbable and what is not improbable.



### 2.8.3. Scenario Methods

Scenarios can be created in many ways. They can, for example, be created from advanced mathematical models - or from inspiration. Five methods are sketched below which can be placed on one axis with technical and mathematical weight from maximum to minimum.

*most mathematical*

1. Scenarios in a system-dynamic model
2. Scenarios in a matrix methodological analysis or suchlike
3. Scenarios generated by systematic variable-variation
4. Scenario group based on single ideas
5. The unique vision which is not necessarily connected to reality

*least mathematical*

#### 1. Scenarios in a system-dynamic model

For example, one can thoroughly calculate different scenarios for the Danish economy by means of the mathematical model, called ADAM. This is done by working with various values for selected exogenous variables (i.e. variables, where the development is not calculated by the model, but is presupposed to be supplied by the customer), and thus let the model calculate the consequences. In the case concerning Denmark and ADAM, it could be to calculate the various sequences with respectively high, moderate and low growth in the export to Germany.

The various scenarios are created by delivering various input (exogenous variables). The model then calculates precisely the consequences of various assumptions (naturally depending on how realistic the model is).

This form of work can give especially “solid” scenarios in the sense that in the best case it is a question of an ordinary, accepted model for the possibility for which scenarios are to be created. The scenarios can be very comprehensive, coherent pictures of possible futures. Furthermore, there is no doubt about the consistency in the scenarios. They are, in principle, achievable (provided that the model reflects reality correctly), and one can directly derive under which conditions these will be achieved.

For good reasons, the method has a tendency to reflect the historical relations in society, rather than the potential, future connections. If one uses a model such as ADAM, its connections are estimated on the basis of historical data. In principle, one can quite certainly ignore this, by

altering the model's relations. If one wishes to calculate the sequence in a scenario where a given relation differs from what it has been historically - one can just modify the model. In practice this is especially complex and there is thus a tendency that one, to a higher and higher extent holds tight on existing connections than in the opposite end of the scenario scale.

The method can easily and cheaply give a torrent of scenarios, as it is easy to vary the exogenous variables in different combinations. If scenarios are desired which are significantly different with regard to their internal connections, and thus demand actual model modifications, this is otherwise expensive and troublesome.

The method is especially relevant if such a model is already in existence. In the opposite case, it is typically expensive and time-consuming to develop. In the opposite case one would most often use:

## **2. Scenarios in Matrix Methodological Analysis or suchlike**

This method is based on developing more simple types of models than the system-dynamic ones - cross influence analysis model. A long list of this model type are to be found with slightly different mathematical formulations, but generally it holds good that one, on the basis of expert evaluations, creates a picture of the connections on which one believes.

The result is a model which reminds one of the system-dynamic model, but which is more simple in its construction, and thus easier to take in. The model type is thus well suited for being built in cooperation between a consultant company and its customers. The process with building the model demands quite a lot of resources, however, far less than the system-dynamic model. As a consolation prize, the demand regarding evaluating the future connections which are instrumental in making the client's work group aware. (This will perhaps in many cases be the most significant result of this form of work).

Likewise, in the system-dynamic model, the scenarios appear by letting various parameters run through a room of possibility - as in the example above, this could be high growth, medium growth or low growth in Danish export. The model is calculated again on the computer in the same way as the system-dynamic model and out come the results.

In comparison with the system-dynamic model type, there are advantages with regard to the necessary time sequence from start to finish and with regard to resource consumption. The increased staff-involvement is of course an expense, but also an advantage with regard to

engagement and communication of the results.

### **3. Scenarios Generated by Systematic Variable-variation**

Here, scenarios are developed by adding one or more key variables with high, respectively low values in the future. A combination of possibilities is thus achieved but not a total picture of the system; it is the task of the scenario-writer to fill in the picture.

It can be easy to make, for example, four essentially different scenarios by means of this method. One selects two completely central factors in the future picture on the relevant field - factors, where it gives a meaning to talk about “high” or “low” value, or where it is easy in another way to produce a diametric contrast - and draw them as the sides of a box diagram or as two axes crossing in a coordinate system. By this means, four clearly defined and different pictures are created - the four corners of the box, or the four quadrants in the coordinate system, of the section about the criss-cross scenario method.

The method is systematic but not mathematical. And it does not give “calculated” scenarios in the same way as model-based methods. In fact, it is a question of a quite different type of scenario. We are talking about condition-descriptions, rather than sequences - and there will be the question of whether one must “fatten it up” by further description of the various scenarios. One will possibly have to sort out certain scenarios because the combination in question does not appear to be realistic. As a consolation prize, there can, however, be an important point: perhaps that which at first appeared to be completely unrealistic, is nevertheless not so? This process can be used to bring other key factors to light, because it shows that what appeared to be an “impossible” situation, nevertheless is possible, when one implicates a third (or fourth or fifth) factor’s possibilities of variation.

### **4. Scenario Group Based on Single Ideas**

This method is based on the fact that one less formally, perhaps as the result of a brainstorm process, finds a number of different “driving forces”, which separately can give different, on-going development sequences, if they dominate. An obvious example of this to be found in CIFS’s by now classic Futures Game™, which is described elsewhere in this report. When it is established which driving forces are central in the individual scenarios, the world picture is generated in the individual scenario from this driving force and one gradually “fattens up” the description of the contemplated world.

The method for fattening up can, for example, be from relevance trees, arrow diagrams with reason-effect relations - the possibilities are legion.

Here it is ideal to work with scenario-schedules, as it is for method 3. Scenario schedules are a method for building up consistent, symmetrical scenarios. In the schedules, which are simple two-way tables, one sets up, for example, the scenarios in the columns, the individual factors or case areas in the rows, and then one fills in the individual fields what will take place within the individual factor/case area in the individual scenario.

It can be expedient to change between scenario schedules and verbal instructions of the scenarios. By this means, the best experience-wise “cross pollination” of the scenarios will be achieved.

**Example of simple scenario schedule**

	<b>Green scenario</b>	<b>Red scenario</b>	<b>Black scenario</b>
Main driving force:	Green wave	Equality	Egoism
Private consumption in general:	Ecological and a little bit which is eco-certified	Smooths out Quality and style differences disappear	Very large swings in solvency and quality demands
Car consumption	Declining fast	Declining	Mercedes rising, Skoda declining
...	...	...	...

The scenarios do, however, not have to be symmetrical. There can be grounds to wish for very strongly profiled scenarios, e.g. pedagogic reasons connected to limited time resources in a concrete project.

It also applies where it is a question of scenarios with very different world pictures - orthogonal scenarios, i.e. scenarios where the world pictures and the logic are essentially different and it therefore does not feel reasonable - or at all possible - to place them in the same formula. An example could be that one is working with a number of scenarios which all assume a modern world picture, e.g. that material values can be calculated relatively with a measurement (money), but also have a scenario where the driving power is purely ideological; a fanatic-ecological or extremely religious scenario.

**5. The Unique Vision which is not necessarily connected to the actual reality**

This is known, for example, from science fiction literature, but can also prominently appear as

a vision from a thinker, a business manager, from an idealist, from a politician, etc.

It can function as the “light spot”. It can be realistic. Or it can become realistic - compare, for example, with the story about the man who wanted to move the mountain, known from Mao’s “little red book”. It is, of course, otherwise difficult to discuss methods or usage.

Which methods are relevant depends, amongst other things, on what connection the scenarios are to be used in. It is, however, not so that one always from the usage can determine which scenario-generation method is best in the context. For example, over and above the form of usage, time limits and budget limits, there can in practice be many other grounds for choosing a particular working form in the relevant connection.

There is scarcely any doubt whether most mathematical methods can be well-suited to ensure symmetric scenarios, whilst it can be easier to create more varied, orthogonal scenarios using methods 3 and 4. It is quite certainly possible to create such scenarios also with the two model-based methods, and it will even be more specific how these scenarios differ from each other (since naturally everything must be made explicit in order to form part of a mathematical model calculation), but in practice this is used less, and likewise, one can be in doubt how far the results will correspond to the consumption of resources and this work form.

The choice between the various forms for scenario generation methods depends of course on a number of conditions. If there is, for example already a well-functioning formal model for the case area in existence or must something like that first be built up? And what is the purpose with the process - to calculate different consequences of policy decisions within a generally future environment, which is assumed to be more or less well-known, or is there uncertainty about the future environment?

Generally the most consistent, mathematised methods are presumably best suited for the consequence calculations, whilst the less formalised methods are better to consider thoroughly some of the radical material otherwise, possible futures which there might be for an organisation, and thus better to promote the visionary aspect.

## 2.9. The “Criss-Cross” Scenario Method

The following is a short presentation of what one could call the “criss-cross” scenario method. It is not possible to trace the origin of this method precisely, but we can at least mention that DTI (Danish Technological Institute, Centre for Industrial Analyses), the Batelle Institute and Ute von Reibnitz (the German futurist) use methods of this or similar types. These have been mentioned earlier in the report under the title: Scenarios generated by systematic variable variation.

The principle in this method is extremely simple. First, take two pairs of opposites, which are crucial for the subject, then draw them up as a *criss* or coordinate system, after which make a *cross*, and four scenarios will arise. In practice it is naturally not quite so easy, and the method otherwise has a number of limitations, which we will revert to later.

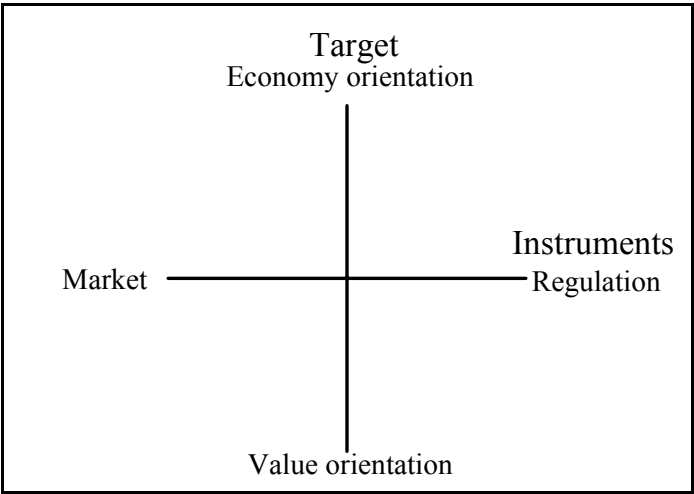
There are three important advantages of the “criss-cross” scenario method. Firstly, it is a reasonably quick method. Secondly, it is immediately understandable - normally it does not lead to major methodical discussions. Thirdly, it is good for analysing conditions which, on the face of it, appear to be paradoxical. The basis is thus some opposites, e.g. as shown in a schedule below.

High growth	Low growth
Market	Regulation
Tribal logic	Business logic
Material	Immaterial
Centralisation	Decentralisation
Frightened about the future	Enthusiastic with the future
Past-orientated	Future-orientated
Individualism	Collectivism
Experienced	Real
Rationality	Irrationality
Faith	Knowledge
Technological environmental solutions	Behavioural environmental solutions
Out-sourcing	In-sourcing
Hierarchy	Autonomy
Proactive	Reactive
Singles culture	Nuclear family
Equality	Inequality
Generalisation	Specialisation
Technology	The humanities

In some cases it is not suitable to work with opposites from one extreme to the other, but rather with scales. For example, if it were a question of scenarios for the economic development, one could have economic growth on one axis, simple measured in percent, and on the other axis an expression of the distribution of income, e.g. the gini-coefficient. The axes could cross in the 1996-situation, resulting in four different pictures of the size of the economic growth and distribution in the future.

In this section, an example will be used to explain the method, but here a less measurable example is used to show that the method can also be used for the softer variables. The example deals with the overall development of economic policy on the societal level.

On the vertical axis, we have the overall goals of society. The goals for development of society can be economic (employment, income, growth, materialism, etc.) or they can deal with values (ecology, ethics, immaterialism, feelings, etc). The difference is quite obvious, so the figure just shows, respectively, the economy orientation and the value orientation. Naturally, it would be possible to object that economy

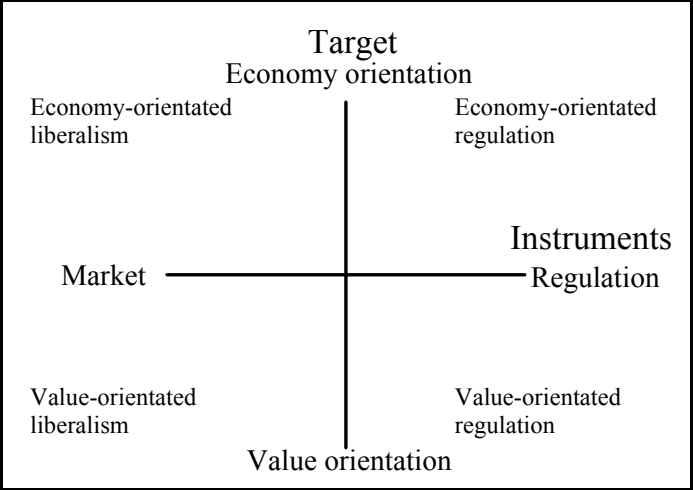


orientation and value orientation do not exclude each other - for example, one could imagine that the environmental wave would lead to greater economic growth in the long term. But let us just say that it is a question of the short term arguments - why one chooses either the one or the other.

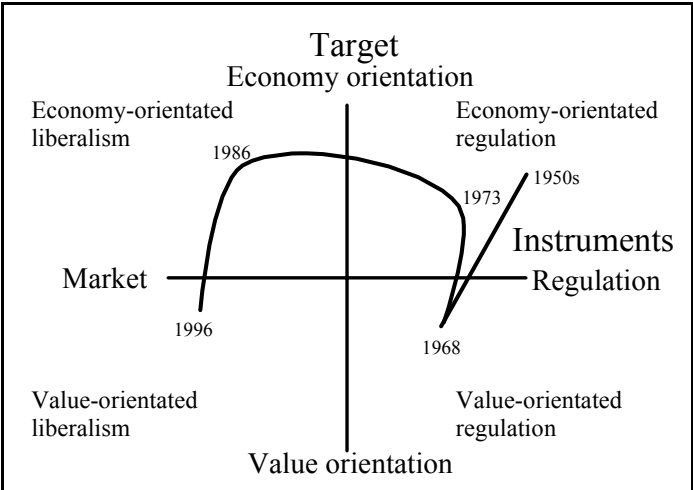
On the horizontal axis, we have the instruments, where the opposites in this example are the market and regulation. Market economy versus planned economy, according to which we can name four scenarios as follows:

1. Economy-orientated liberalism
2. Economy-orientated regulation
3. Value-orientated liberalism
4. Value-orientated regulation

Most people will admit that it is a question of four different societal orientations, which to a large extent exclude each other and where conditions for the business sector will be different. In fact, one can argue that, during the last 25-30 years, Denmark has wandered around between all these types of society, cf the next illustration.



Since the axes show conditions which cannot be measured exactly, one can of course discuss the ultra-short history of Denmark, which the figure expresses. It starts with the period around 1968, which succeeded a longish period with economy-orientated regulation. In 1968, focus was placed on values. This was a reaction against the economy orientation during the post-war period, especially the consumer race in the 1960s, combined with a reaction towards the out-dated norms at that time which characterised society. People were still positively-minded regarding the state's role. With the problems around the first oil crisis, it was natural that the economy would come into focus again, as it now had serious problems. Right up through the 1970s, which will perhaps one day be

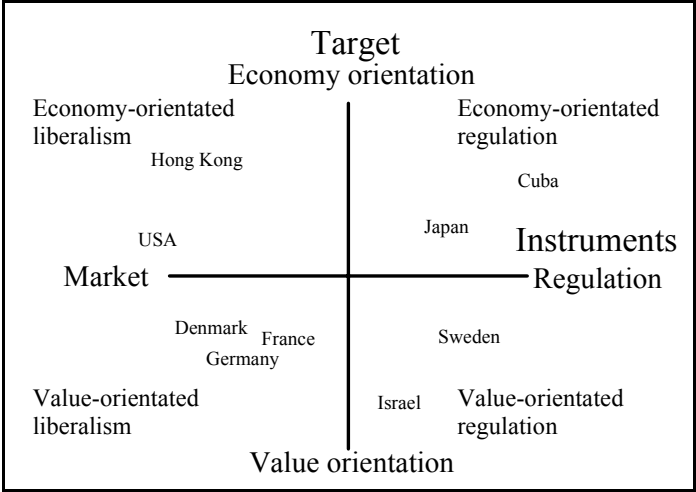


remembered as the “decade of political packages”, focus was placed on the economy, but in the course of time, the means switched in the direction of market instead of regulation - this was the period where Thatcher, Reagan and Schlüter came into power. After the yuppie-bubble burst in 1986, there were seven lean years in the Danish economy, where development in many fields had gone into stagnation, but since the economy seriously straightened itself up in 1994, there seems to be a clear movement in the direction of more value-orientation, but still with the market as a means. The political consumer is a good example of this phenomenon. The consumers want to promote some definite goals regarding the environment, animal ethics and human rights, but these take place with the market as an instrument.



Of course, this does not mean that the whole world is following one tendency, or that all companies, consumers or countries are present in the same scenario. This can be illustrated by the last figure.

In the figure, several countries have been inserted, which appear to be typical for the various scenarios. It is worth noting that, in all four scenarios, there are countries which, all things being equal, we would describe as being well-functioning and successful countries. Hong Kong and the USA are probably the best examples of countries which take advantage of economy-orientated liberalism, even though at least as far as the USA is concerned, there is also a considerable degree of value-orientation.



Most of the countries in our part of the world will presumably end up in value-orientated liberalism whilst we, slightly pushed to extremes, have placed Sweden in value-orientated regulation. As a special example, Israel has a comparatively regulated economy (albeit under liberalisation) and a special value-orientation (a home for the Jewish people). Finally, in the top right hand corner, there are a couple of plan economies left. Likewise Japan, with its relatively regulated economy and relatively limited interest in environmental problems ends up here.

Moreover, one of the reasons for the chronic problems between Denmark and the EU is thought to be that the rest of the EU is in a period of economy-orientated regulation, whilst Denmark is in a period of value-orientated liberalism. It is not certain that this is a fair description of either Denmark or the EU, but it is presumably a basic opinion held by many people.

**2.9.1. Limitations of the Criss-Cross Method**

It was mentioned earlier that the method has its limitations and the following is an account of the

most important limitations.

The first limitation is that it only has two axes - the method is two-dimensional. In principle there is nothing to prevent it from being multi-dimensional, but if it just becomes three-dimensional (eight pictures), its clarity is in some cases lost. One must therefore say that the method is most well-suited in situations which resemble the example, i.e. where it gives sufficient meaning to set up scenarios on the basis of two dimensions.

Another limitation is the fact that the axes are delimited by differences or expressions for a scale. In some situations not all relevant measurements and instruments are placed on an axis. In the example, one can see that one can certainly probe between economy-orientation and value-orientation, but the model was not roomy enough to differentiate these concepts further. For example, one could not include that the value-orientated liberalism in 1996 is equal to the political consumer.

If one, for example, is to set up scenarios for the economic politic, it would be insufficient to make use of the criss-cross method, cf split-up below between measurements and means, which is not at that exhaustive.

The goals and instruments of economic politics		Instruments			
		Financial pol.	Monetary pol.	Industrial pol.	Income pol.
Goal	Employment				
	Equality				
	Growth				
	Balance of payments				

There are no fundamental differences between how one uses the method on social level or on the business level. The crucial thing is to find the right differences or scales, regardless of what the subject is. A company which wanted to draw a picture of its customers could, for example, be imagined as having these two axes.

System solutions versus individual products  
 Price competition versus quality competition

In the “cross” the company could then partly evaluate what the main tendency would be, and

partly plot in the most important segments.

## 2.10. Wild Cards

What are wild cards? A wild card is a description of an occurrence which is assumed to be improbable, but which would have large, immediate consequences for a company if it should - contrary to expectation - take place. Furthermore, it is part of the definition that if the occurrence took place so quickly and powerfully, a normal, planned conversion process could not make allowance for it.

Finally, it is clear that a wild card, as it does not give the company any possibility of reaction, is irrelevant. For example: the Earth is hit by a meteor - this is an occurrence to which one cannot rationally adopt an attitude.

An illustrative example of the difference between wild cards and scenarios: in 1990, it was a wild card that "Hong Kong will take over China in 1997", with the understanding that Hong Kong's market system would be introduced in China around 1997. The circumstance that it is Hong Kong which is becoming part of China is therefore only of interest for experts in constitutional law. Nowadays we must note that it is no longer a wild card. It is in fact not improbable that the whole of China will, in a short while, be an open market economy. The development must if anything be set up as *one* scenario amongst two or three others.

A wild card nowadays could be an energy revolution with cold fusion. Fossil fuels would become superfluous. Energy would be abundant and almost free. Within a planned horizon of 3-5 years this would be a wild card. On the other hand, within a period of 30 years, this would be a scenario.

The idea about the use of wild cards as tools in considerations about the future has arisen from the increasing uncertainty. When the exact sciences talk about chaos theories. When prognoses go wrong, can we at all trust our evaluations of what is probable? Scenarios cover an understood space of feasibility, wild cards lie outside this space - on the very outskirts of possibility. The paradox lies in the fact that we still talk about tendencies/occurrences which are evaluated as being very improbable. We will therefore **not** use wild cards as a basis for strategic considerations. Only tendencies which the company chooses to believe in - and which can be ascribed a degree of probability will form part of the basis. What then are the grounds for devoting one's time to them and using the method?

The answer can be specific for the company in question, but three general answers can be set up.

One answer can be that the company identifies one or several wild cards. One recognises that they are improbable, but one wishes to keep up to date and establish an "**early warning**" by, for example following the development in a certain area through expert contacts or publications (cf above regarding the possibility of cold fusion, which would create abundant, pollution-free fuel and virtually free energy). By this, one means that it will be possible for the company to react and thus mitigate the effects / harvest the advantages quickly.

Another answer is that the company identifies one or a few wild cards which can **threaten the survival of the whole company**. Notwithstanding that the perspective is deemed to be improbable it can therefore be desirable to offer it some attention. The consequences in themselves legitimate the fact that resources are set aside as a result of such a wild card. Again it is a pre-requisite that the company in fact can react on the wild card which - contrary to expectation - might become a reality.

A third answer is that a discussion of wild cards promote and enrich a brainstorming - and raise level of ideas above the traditional ones which have already been thought up. Wild cards are thereby ascribed a catalytic effect. They increase **creativity, inventiveness and new thinking**. They can perhaps lead to a decisive new business idea. The question could thus be formulated as follows: "What is the best and the worst which could take place regarding our company in the future - regardless how improbable the participants might evaluate the possibility or risk?!"

In the following, the headlines of a number of wild cards are listed. They have been drawn up by the Arlington Institute, Washington. They are partly based on an earlier publication drawn up jointly by BIPE Conceil Paris, the Institute for the Future, California and the Copenhagen Institute for Future Studies.

The list is illustrative and emphasis has been placed on the level of the ideas. This must not be evaluated according to probability, but according to consequences, cf the above.

Burning coal is internationally prohibited, but implementation causes big problems

Burning coal is internationally prohibited and forced through in reality

Africa collapses, regional wars and mass starvation

AIDS-virus (or a corresponding fatal disease) mutates so that it can infect via the atmosphere

Aging's conundrum(s) are solved

Atomic weapons used in terrorist attack on the USA and Europe

Bio-technological terrorism becomes normal

Civil war in the USA between supporters of modern and traditional values  
Use of atomic weapons between the previous Soviet states  
Fuel cells replace petrol and diesel motors; fuel cells in individual dwellings become the norm  
The global climate begins to change very quickly  
Extreme growth in terrorist activities  
Electromagnetic communication is made impossible, for example, due to changes in the atmosphere  
Yet another Chernobyl-type accident  
Energy revolution with abundant, cheap and pollution-free energy (inexpensive fusion or hyper effective photovoltaic cells)  
Epidemic kills large parts of the population of the world  
Functional analphabetism increases, the generation which in fact cannot read, write, think or work  
Gen-manipulation permits making people on the basis of desired specifications  
Global transition to electronic payments  
Global mass famines  
Global tax system, automatic tax payments in all transactions  
Golf stream turns and the temperature of Northern Europe falls 5-8 degrees  
Marine eco-systems break down and global fisheries disappear  
India collapses, regional wars and mass famines  
Intellectual right of ownership as concept (e.g. due to possibilities for electronic copies)  
Earthquake wipes out the regions around Tokyo and Los Angeles  
China collapses, regional wars and mass famines  
Contact with unearthly beings  
Cancer's conundrum(s) solved  
Giant asteroid hits the earth  
Hardware intelligence becomes self-referencing, can itself learn and develop itself and build up independent knowledge base  
Mass emigration from the third world towards Europe and the USA  
Human psyche obtains direct access to electronic networks (e.g. via in-operated electrodes)  
Environmental extremism becomes the dominating line of thought in the world (or just in the I-countries)  
Possibility of travelling faster than the speed of light  
Possibility of transferring information faster than the speed of light  
Nano-technology in everyday use  
Nano-technological weapon systems in countries which are against the West  
Extortion against a country or the world from a producer of computers, chips or control systems  
Public Key Encryption is broken (the method is in actual fact is the basis for, inter alia, secure trade on public networks)  
Solidarity with elderly fellow citizens  
Solidarity disappears generally throughout society  
Large accident related to research or technique changes attitudes towards modern technique  
Time travel made possible  
Total collapse of the international financial system  
Sterility increase - pregnancies can only begin in a test tube  
Selecting the sex of an embryo will become the norm  
Viruses become immune to all known forms of treatment

Virtual Reality and bit-moving replace journeys and other physical transport  
The turn of the century results in major growth of New Age movements, etc.

## 2.11. Strategy Pictures and Strategic Space of Action

There is much which indicates that, in addition to the traditional parameters, the actual basis of the company is more and more subject to debate. The company of the future is therefore not only facing an uncertain development of the surrounding world. Still more and more often the company has to give answers regarding the basis for its existence. The company's *raison d'être* or mission is on the agenda.

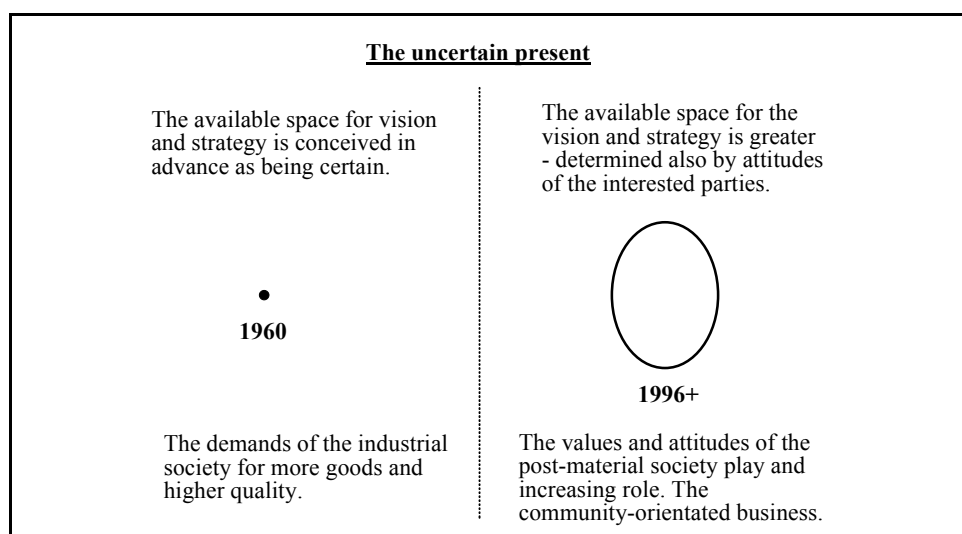
The company itself is thus to an increasing degree becoming an uncertain variable in line with the future and the external parameters. This is why it is increasingly necessary to develop strategic tools which can pin down and minimise this uncertainty.

The methods of futures studies have, from a traditional point of view, been used to hit a point in the future on a linear development or to encircle a future space of feasibility. The newest strategy tools from futures studies set the scene for an immediate encirclement of current and present uncertainties - emphasis is nowadays placed on building up a **contemporary space of feasibility**, delimited by the expectations and desires for future development.

In this section, a picture is drawn of the substantial conditions which it is anticipated will characterise the company's surrounding world in the years to come, and in extension of this, a set of strategic tools to counter these conditions is described.

### 2.11.1. The uncertain present

The company's surrounding world will, in the years to come, question fundamental conditions,



including the relationship between producer and consumer, between ethics and profit. The company will to an increasing degree be forced to answer these questions by consumers, employees, partners, the media and other interested parties. The company must create itself an image and structure which are favourable to public opinion: a legitimisation of its actions.

**With regard to its bottom line, the company must extend its mission space and adopt an attitude to its position on welfare orientation and case orientation.**

The above figure illustrates the extension of the company's present space of feasibility.

It is a matter of questions which are completely central for a company's continued well-being, but at the same time, questions which until now have only been put forward to an insignificant degree, because the need for these has not been obvious. The company's identity and function have been taken for granted. Some of these conditions are more closely analysed in the Institute's preceding members' report regarding the Community-Orientated Company<sup>1</sup>.

However, the extended space of feasibility does not only build upon the increased interest of the interested parties but also in a pronounced shift in values.

During the years to come, we will see a serious value shift away from industrial society's rational and scientific bias towards what the Institute has labelled the 5th society. This change means a shift away from traditional assumptions regarding business operation, products, utility value, trades, etc.

This development has, amongst other things, been driven forward by more affluent consumers - 2% annual growth seems to be built into the North Atlantic model of society - which to an increasing degree places emphasis on the immaterial aspects of consumption. The poor society is replaced, not by a paradise of cornucopia but by an affluent society where products are sold by their signal-value, feelings, etc., and where material poverty is replaced by symbol-poverty.

For the company, this has the consequence that one must consider what is produced. The basic product or underlying service contribution must in some form or other still be made or produced, but seen with the consumers' eyes - and thus in the final end also the producers' eyes - it is to an increasing degree the signal-value which defines the product and the trade. What does the company produce, in competition with whom, for whom? These are all questions which will be

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<sup>1</sup> Copenhagen Institute for Future Studies, Members' Report no. 2 1996.



broached by the arrival of the 5th society. The possibilities for staging products and service contributions have increased significantly. On the immaterial and feelings-saturated market the car manufacturer and the PC manufacturer will be direct competitors for the same feelings.

**The 5th Society requires company to define and redefine themselves: in comparison with trade, market, competitors, partners, etc. The consequence is thus - in line with the tendencies around the community-orientated company - that the company's present space of feasibility has changed from being a small space characterised by constants to a large space characterised by variables.**

### **Mission, Vision and Strategy**

The central concepts around the future of a company are often de-limited as follows:

#### **1. Mission** (exploring space)

Here, the following questions are posed: Why ought the company to exist? What would the surrounding world fail to obtain if it disappeared?

*Hewlett-Packard* : To increase mankind's welfare by contributing with technology.

*Nike* : To experience the feelings of competition, victory and destruction of competitors.

*Wal-Mart* : To try to give ordinary people a chance to buy the same things as rich people do.

*Walt Disney* : To try to make people happy.

#### **2. Vision** (a man on the moon before 1970)

What is the company to be in 5-10 years from now? What shall we strive for? The distant, but stimulating goal on the horizon.

*Watkins-Johnson* : To be just as respected in 20 years time as Hewlett-Packard are at present, (1996).

*Nike* : To destroy Adidas (1960s).

*Wal-Mart* : To become a \$125 billion business by the year 2000, (1990)

*Honda* : Yamaha wo Tsubusu! We will destroy Yamaha! (1970s)

#### **3. Strategy**

Which way must we choose in order to come closer to the vision? What means and what angle of attack shall we use?

Earlier, one operated with uncertainty in the evaluation of future outer conditions (customers, suppliers, legislation, economy, etc). Nowadays, the company is in a situation where the uncertainty has spread itself and now comprises the foundation of the business itself - its mission, vision and strategy.

### 2.11.2. The uncertain Future

Businesses have at all times - consciously or unconsciously - thrown themselves into studying the future. There has been a tendency to aim at hitting *one* fixed point on the basis of projections of previous experiences. During recent years, more and more companies have, however, gone over to visualise the future like a room of possibilities, demarcated by scenarios. This is a development which is described in detail in the preceding chapters of this report, and which is just emphasised here.

The development of the concept of the space of feasibility and future developments are set out in the overview below.

	1960	1970	1980	1990	2000
The present is certain and the space of feasibility is small	Yes	Yes	Yes	Yes	No
The future is predictable	Yes	Yes	No	No	No

The company has to (re-)define itself and the present has become an uncertain variable in line with the understanding of the future.

### 2.11.3. Strategy pictures and the strategic space of feasibility

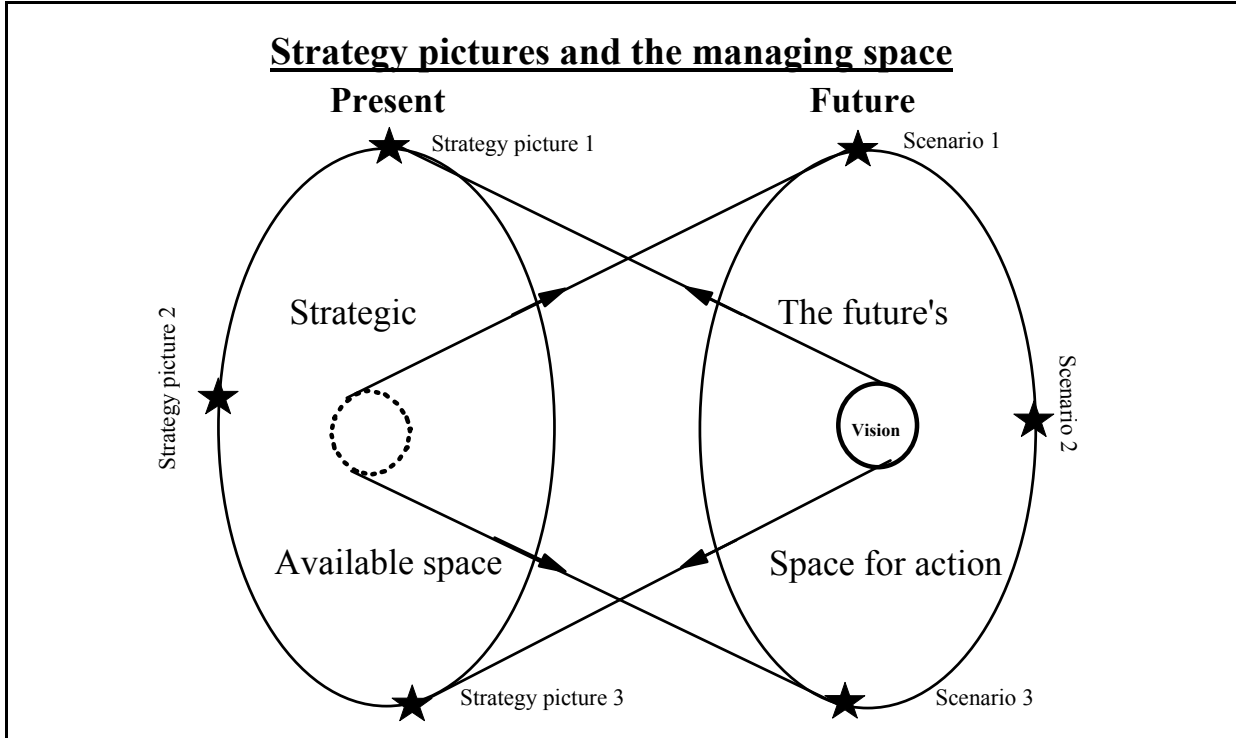
The company is confronted with a situation where its trade, its relationships with various partners, its identity and its actual *raison d'être* all are uncertain, as well as the future developments within these conditions.

This is the point of departure for CIFS' considerations regarding new strategic tools. Where one previously focussed on the encirclement of future developments and the demarcation of the future possible space for action, this goal is nowadays combined with a demarcation of the company's present space for action.

The new strategic tools derive from former ones but, as it were, place emphasis on leading the future back to the present - to build up a contemporary space of feasibility around the company.

**These tools or methods are called strategy pictures and the strategic space of feasibility. The strategic space of feasibility and the strategy pictures demarcate the company’s present available space on the background of expectations regarding the future development and the company’s visions.**

The model of the process is illustrated in the figure below.



The circles in both the present as well as the future illustrate that both conditions are variable.

The model starts in the present and constructs a picture and a fixation of the company at present with its background in the company’s immediate understanding of its own available space for action and competence. With its point of departure in this picture of the present, a number of scenarios of the outside world are formulated, which delimit the company’s future space for action. This part of the process corresponds to a traditional scenario process.

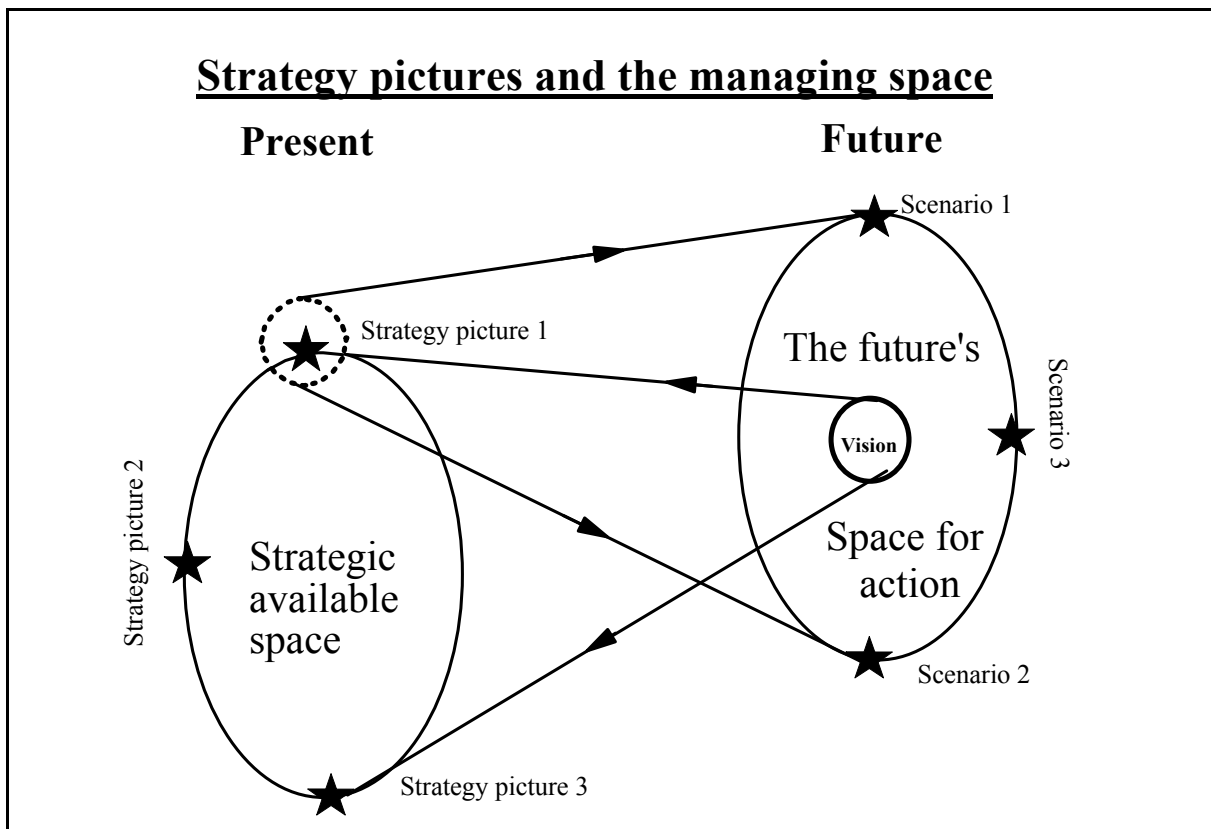
Within the company’s future space for action - delimited by the scenarios - one or more visions for the present are selected. It is possible to work on several visions which each lead towards a contemporary space for action. In the illustration above, the company has decided to have just

one vision.

The vision creates a fixed point and concrete goal for the company in future. With their point of origin in this vision, a number of strategy pictures are formulated, which together demarcate the company's present space for action and strategic space of feasibility. This corresponds, as it were, to the following question: what available space do we have at present, when we are to fulfil our vision in the future?

This sets the scene for the final question regarding which strategy the business wishes to pursue in order to fulfil its vision. In the first figure the company's immediate understanding is lying nicely in the middle of the strategic space of feasibility. The process is, however, first concluded when the company has moved close to its selected strategy picture.

At the same time, it could well be envisaged that the vision which the company has decided on, would draw a strategic available space which would lay beside their original understanding of the available space. This is the situation which we have sought to illustrate in the figure below.



A decision is demanded regarding which strategy one will select, whether the company's immediate concept of its space of feasibility lies within the strategic space for action or not.

However, in the last example, modifications will be more pronounced than in the first example.

Briefly, the methods/tools have the following results:

- The company achieves a conscious picture of its future space for action.
- The company formulates and selects one or more visions within the future space for action.
- The company achieves a conscious picture of its present space for action and strategic space of feasibility.
- The company consciously selects a strategy regarding other possibilities and thus consciously decides what is not to be selected.
- The company's future space for action and vision become part of the present which can now be directly implemented.

#### **Example of 3 scenarios for the European convenience goods trade in the year 2006**

- Large scale: Quantity discount, supplier preferences, one stop shopping is the future.
- Experience shopping: Immaterial consumption, shopping must be fun.
- The political supermarket: The concept of voting with one's shopping list is spreading.

#### **Example of a fictive company's vision**

The Bruno discount chain store, which in this fictitious example has 36% of the Danes' convenience goods trade has, within the above-mentioned space for action and demarcated by the scenarios, selected the following vision:

*50% of the Danes' convenience shopping is to take place in Brutto*

#### **4 Strategy pictures for Brutto's vision**

- One stop shopping: An assortment which covers all actual requirements
- Always Brutto: Narrow assortment with maximum turnover speed
- Differentiation of Brutto's shop profile: pure discount combined with high product profile shops
- Home shopping: Brutto joins up with IBM and creates a nation-wide home shopping concept.

#### **Implementation**

Brutto's board of directors compares the four strategy pictures which have been set up with its immediate concept of Brutto's strengths and weaknesses. One-stop shopping and the differentiated shop profile are considered to lie too far away in comparison with Brutto's present position of strength. The board of directors then decides to choose a strategy based on Always Brutto, and simultaneously to introduce a pilot project with IBM as part of Brutto's long-term strategy.



### 3.0. Processes

How does one get the future under one's skin?

It is essential for organisations or companies to adopt consciously an attitude to the future, and there are many tools and methods which can be used in this connection, as mentioned elsewhere in this report. It is also becoming increasingly necessary to select the correct methods in a given situation, amongst the many already lying in the tool box. But, with that, the task is not resolved with regard to how one is to arm oneself in a strategic respect. Answers must be given to two very significant questions: *Who* in the business is involved, and *how* they are involved?

In the classic, hierarchical organisation, the answers were straight forward: The managing director, and when things got really hot, the whole of the top management would be involved in the strategy planning. The planning took place on the basis of experiences gained by the managing director and the top management, possibly with the support of staff to undertake information collection and analysis. The guidelines were thus laid, without involving the remainder of the organisation. It just had to carry out the instructions which came from above. In practice, there are probably very few organisations which have functioned exactly like this. Feed-back mechanisms have always been necessary within the organisation, but the model has been that it was up to the leader (or the leadership) to adopt a decisive attitude towards the outside world.

During the past 10-15 years this model has been changed. New management theories have been introduced, both in periodicals and by the increasingly sought after management consultants. Company leaders have "torn pyramids down" under great attention, or they have introduced network organisations or at least important elements of these. All this has, rather than resulting in a new blue-print for how an organisation functions, given rise to a constant search for more types of models. Common for them all is the fact that competence has been delegated to lower levels within the organisation (or those which previously were regarded as being "lower"). The reason is the ever increasing demand on the organisations' ability to react quickly and intelligently towards signals from the market.

If this development has liberated the top management from some of the concrete decisions in connection with the operation of the business, it has on the other hand given them new, important tasks. One of these is to get the organisations' many decision-making staff members to accept and to work in accordance with strategic guidelines.

This is further made topical by the tendency towards the fact that the company's *raison d'être*, its basis for existence or identity is to an increasing degree becoming a relevant subject.

The answer to the question about who is to be involved in the strategic planning in such an organisation is: the same as in the old, hierarchical system - just in the opposite order: in principle, everyone should be involved. First, this is due to the fact that everyone has knowledge on hand about the market, customers, technologies and/or internal processes which ought to be comprised in the decision-making basis. Second, it is due to the fact that all staff members must be very conscious about the strategic guidelines for their work as a basis and support for the decisions which have to be taken every day. This is best achieved if one has been involved in the process with the strategic planning.

This means that the focus to a high degree will be placed on the question about *how* such a strategic process should be arranged. How does the whole organisation acquire the necessary knowledge both about the outside world as well as about its own identity and objectives? In the fewest cases, it will be sufficient to put it in writing in internal memorandums or staff magazines.

### **Methods/processes**

There are a number of different methods in existence for introducing future-thinking into companies. Which method is the most suitable depends partly on the business in question, and partly on what way the problem under discussion is presented. In very small companies, one will in some cases be able to involve all the staff in a process in unformalised manner. However, in very large companies it is impossible to involve everyone. It will be necessary to consider carefully how many and which people are to be involved, and likewise one must think thoroughly about how the whole organisation subsequently can implement the new guidelines.

If the task is an analysis of the outside world, which is to be used as a basis to position oneself, a relatively structured process will be necessary. If, on the other hand, it is a case where the company must find its own identity and/or develop new products and concepts, a more open and less structured process is better.

In this section, some models for future-processes will be briefly examined.

## **3.1. Kotter's Theory about Processes of Change**

John P. Kotter is a management-thinker who focusses on the actual process of changing



organisations, both actively and consciously. As well as being a professor in *Leadership* (!) at Harvard Business School, he has been involved in over 100 vastly different companies' attempts to restructure, including Ford, General Motors and British Airways. It is not a matter of evaluating different leadership models such as *Total Quality Management*, etc., which can be regarded as a goal in itself.

What actually interests Kotter is the *process* of change, which he sees as a constant fight against strong powers opposed to change.; this is the whole point of departure. Contrary to Jungk's workshop of the future, which aims at breaking the resistance of the "power brokers" towards thinking otherwise, Kotter's theory is meant to be a method for the top management to conquer resistance towards change at all levels in the organisation. Meanwhile, he takes it for granted that there is already in the organisation a strong vision of the changes which are necessary, and that centrally placed decision makers engage themselves with this vision. Kotter says that one must reckon with 5-10 years in a slightly larger organisation, before the change of process can be thoroughly carried out, i.e. before the new ways of doing things have taken root in the form of social norms and mutual values. It is therefore crucial to be able to deal with long-term process.

In a successful process of change, Kotter identifies eight phases:

1. To establish a **feeling or sensation that change is necessary**. This is easier in a crisis situation, but it can also be new marketing possibilities that make the change necessary. It is essential that the top management understand the need; Kotter discerns between *managers and leaders*, where the former will be very reluctant towards changing anything, since they will focus on the short-term, negative consequences. A rule of thumb is that the sensation of speed is sufficiently strong when 75% of the company's management are completely convinced that business-as-usual is completely unacceptable. This first phase is very difficult; Kotter has experienced that half of the companies do not succeed. Furthermore, he even knows examples where the leader has led the company out into a crisis in order to promote the understanding of the need for change.

2. To create a **powerful change-coalition**. The organisation's change-orientated top leaders must enter into a cooperation with people from elsewhere within the organisation, typically *across* the formal hierarchy. If there is a strong sensation that things need to be going at high speed, then things are underway. However, in addition to this, one will often need help from outside in order to bring the coalition together.

3. To create a **vision**. A vision makes it clear in what direction the organisation should be

moving. A golden rule is that it must be possible to communicate the vision within five minutes and still induce both understanding and interest. Directives and plans can always be obtained, but if one is lacking a vision, these often just create frustrations.

4. To **communicate** the vision out. The change will be impossible if the organisation's employees will not help to get it realised. Communicating the vision at all times is always applicable, rather than just mentioning it at the annual staff meeting. All channels must be used and first and foremost, everything one does in the organisation must be evaluated according to whether it promotes the vision or not. Actions speak louder than words

5. To **remove hindrances for the new vision**. Communication in itself is not enough, people must be aware that they are in fact in a position to act in accordance with the vision. There can be mental barriers, often it is a question of the framework. An especially difficult problem can be obstructive managers, who on paper support the project, but their actions undermine the project, so that their subordinates come to understand the whole process of change as unreliable or untrustworthy.

6. To aim towards **success in the short term**. It works well if visible successes are created sufficiently quickly, i.e.. within one to two years after the process has been introduced. There can be quality indicators which can be improved, succesful product introductions, productivity improvements, or measurements of customer satisfaction. The important thing is that the success is there, and that its presence is beyond dispute.

7. To **maintain preparedness**. It can ruin the whole process if one declares that it has succeeded, and and thus prematurely concluded, for example after the first, short-term successes. It can be tempting, also because the organisation's reluctant parties will welcome this. When the war has been won, the soldiers must go home, and everyone can relax - i.e. turn back to the old way of doing things.

8. To **institutionalise the changes**. This must be done to the last detail, but Kotter puts special emphasis on the recruiting policy. If a change-orientated manager retires or resigns, it is not enough to replace him with a leader who is not an opponent of the changes. He must himself be a *leader*. The organisation can return to the old bad habits, even after a long process of change.

## **3.2. Role Playing**

In this process, the participants are assigned a role in the form of a title and a set of “characteristics” - an actor-profile. The purpose is to play out imaginary situations in order to identify where possible areas of conflict are lying, and to get ideas about how to avoid them. This can, depending on the situation, also be an effective means for giving the participants new insights into the other actors’ lines of action and to prepare them for personal challenges. One disadvantage with role playing is that it can contradict many people’s notions about what one can and ought to do - it can appear to be skittish or frivolous. In that case, it will probably lose some its effect, but a capable “instructor” with pedagogic insight can often overcome the resistance.

Role playing demands thorough preparation, good time and tight control by an instructor. There are also limits to the number of participants in a group. More than 10 is too many, as the participants must not be passive too long.

In practice it will therefore frequently be an instrument for personal development, rather than business or organisational development. However, successful role playing can give a very strong impulse towards behavioural changes for the people involved. This can in itself be a significant ingredient in a process of change on a more superior level.

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