CABINET
OFFICE

Performance and Innovation Unit

A Futurist's Toolbox

Methodologies in Futures Work

Strategic Futures Team

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1. Introduction

1. People have always wanted to get a preview, an early glimpse, of what the future holds. All of us – individuals, organisations, corporations, authorities or ministries – make plans and anticipate the future in our daily lives. In that sense we are all 'futurists'. This report first looks briefly at the purpose, principles and approaches to futures work. It then turns to a summary of the key methodologies and their relative strengths and weaknesses.

1.1 Purpose of Futures Work

2. Put most broadly, the aim of Futures work is to strengthen awareness about the future among both ordinary people and within institutions and organisations. This is achieved by offering alternative images of the future and choices of action based on these images.

3. There are various reasons for carrying out futures work. Most simply, they can be summed up as *contemplation* and *action*. Futures work:

- broadens and deepens *contemplation* by
  - ✧ increasing the range of policy options,
  - ✧ expanding the time-scales, and
  - ✧ stimulating creativity.

- is a useful tool for decision-making and *action* because it can be used for evaluating plans.

- can alert decision-makers to opportunities and dangers and can help to examine where the organisation can influence the future and where it could adapt to it.

1.2 Principles of Futures Work

4. All Futures work is founded on a number of principles and assumptions.

5. These principles and assumptions:

- create the framework for the work,
- determine its usefulness, and
- enable others to observe and replicate the work process.

6. There are a number of general principles underlying mainstream Futures work. Futures work:

- is not about predicting the future,
- creates a choice of futures by outlining alternative possibilities,
- is a foundation for planning,
- is interdisciplinary,
- is often based on both imagination and historical knowledge,
- is often aimed at shaping present action.

1.3 Approaches of Futures Work

7. This report now turns to its main purpose – how to do futures work. There are several different methodologies, each of which has different aims, demands, methods and tools.

- Futures work has always worked within the 'three P's':
  - Possible future(s) ? What may happen?
  - Probable future(s) ? What is most likely to happen?
  - Preferable future(s) ? What we would prefer to happen?

- Finally, it is possible to divide futures work into quantitative or qualitative methods. Often, both approaches are necessary and in most cases they interact.

8. This report - 'A Futurist's Toolbox' - presents the key methods and approaches used in futures work and explores their strengths and weaknesses.

2. Futures Methodologies

9. This report summarises six key methodologies for futures work. These cover most of the commonly used tools by professional futurists.

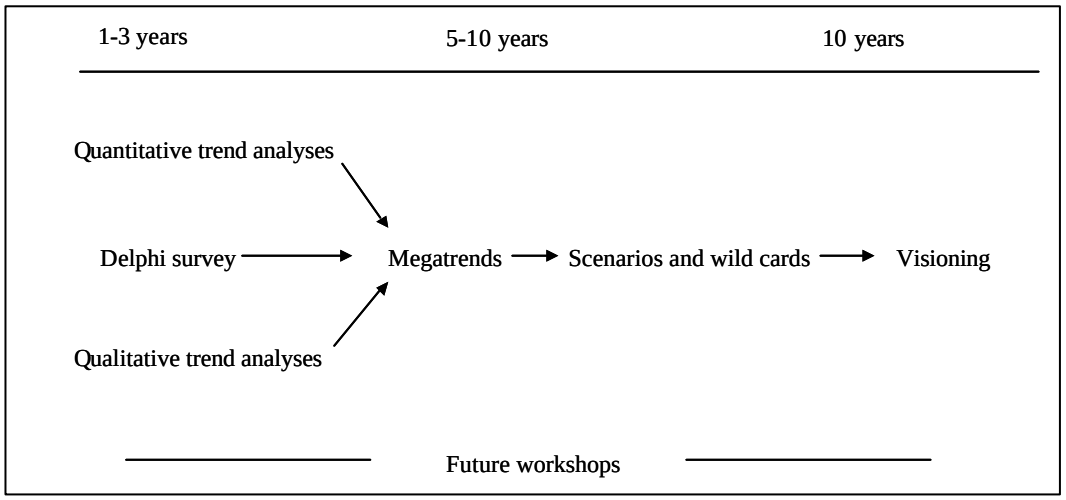
Multiple methods

10. While the methods are presented separately here, they co-exist. A good piece of futures work will usually contain more than one method. For example, scenarios (one method) are based on megatrends which rest heavily on trend analyses (another method). The illustration below shows how the methods are interrelated. (The workshop method, however, can stand alone.) The table below implies a linear process. However, futures work will usually go back and forth as much as forward. In some senses, therefore, it is an iterative process.

Time horizon

11. Each method has a preferred time horizon: some methods project further into the future than others (see table below). These timescales are generalisations, though, and there can be exceptions.

Figure 1: Interrelation of methods and time scale



2.1 Quantitative Trend Analyses

Presentation and Background

12. Quantitative trend analyses are probably the most common method of forecasting. There are various fairly mechanical methods for basing quantitative trend analyses on historical sequence data. Some of these methods are fairly primitive, while others are based on complex statistical analyses. Others still, for example neural networks, are based on complex mathematical structures. Quantitative analyses are often criticised for their lack of creativity and consideration of future developments (that is, there is a tendency to project from the past to the future in a straight line and not consider less predictable possibilities). Nevertheless, quantitative analysis is an essential part of the Futures toolbox. They ought, though, to be used carefully and should not stand alone.

13. There are many specific methods and tools based on quantitative trend analyses, such as:

- time-series forecasts,
- trend extrapolations,
- S-curve or envelope curve analyses,
- cycles analyses,
- long-waves analyses, and
- neural networks.

Application

14. Quantitative trend analyses are based on data. They are, therefore, often applied to areas where there are solid and preferably long historical data collections. They play an important role in areas such as demographics, economics and technology, but they can be applied to most areas and subjects.

15. Simple trend extrapolation ought to be used as a starting point for discussing alternative futures. It should also be used as a way to consider which forces may change the directions of the extrapolation.

Advantages

- These mechanical projections

How to: Quantitative trend analysis*

Step 1. Data collection

- At least twice the length of time to be forecast. Some futurists would even say 3 to 4 times the length i.e. projecting 5 years hence requires at least 10 years data.

Step 2. Plot the data

- Manual, using spreadsheets or other software.

Step 3. Identify the pattern

- By advanced statistical techniques or by simple observation. Either way, it is important to be explicit about the background of the pattern.

Step 4. Project the trend

- Clarity where the historical data ends and the projections start.
- Be aware of logical "ceilings" to the values.

Step 5. Evaluation and discussion

- What could change the direction of the analysis ; why could this not be the future?

*Although quantitative analysis is actually a collection of techniques, here a single generic approach is given.

Svendsen et al. (1996), Managing the Future, The Copenhagen Institute for Futures Studies, pp. 30-35

have one very clear advantage: they are impersonal and objective processes. This means it is possible to test whether the method has been used correctly. It is also possible to evaluate statistically its validity in an applied setting.

- Quantitative analyses perform an important function by showing what will *not* be the future. If, for example, an extrapolation of a defined trend shows a logical inconsistency in the world picture, this could force a structural change. A projection which shows the results of *inaction* can in itself promote a change of policies. Indeed, this may be the very reason for making this projection.

- The quantification itself makes these tools seem logical and also makes them easy to communicate.

- Quantitative trend analyses are relatively inexpensive and easy to handle.

Disadvantages

- The principal problem with quantitative analyses is a tendency for people to accept them unquestioningly as a kind of truth about the future – rather than simply a starting point for discussion.

- Quantitative trend analyses tend to work best for projecting forward in a relatively stable system. But an increasing number of dynamic and unpredictable forces may influence the field and therefore effect the forecast.

- This method is not as neutral as it may first appear. In practice, different projection techniques may produce different results using the same data. Moreover, it can be difficult to quantify 'soft' issues.

- Using this tool risks overlooking aspects which are less easy to quantify, but may nevertheless be significant for the subject.

- Quantitative trend analyses project historical trends out into the future. They are actually *extrapolations of the past*. Making decisions based solely on quantitative analysis, therefore, depends on a starting point in the past.

2.2 Qualitative Trend Analyses

Presentation and Background

16. This report now turns to the second key method – qualitative trend analysis. Consciously or unconsciously, all of us use qualitative trend analyses all the time in our daily lives. As single individuals or organisations, we constantly filter a great many impressions from the world around us. For example, questions we may ask ourselves in everyday life are forms of qualitative trend analysis:

- Does my education fit the future market demand and my wishes for the future?
- Is my daughter's school giving her the tools and values she needs in her life?
- Does the organisation's strategy suit the developments in its environment?

17. The future does not suddenly arrive without warning on any given day - traces of the future already exist. Those traces, however, are unequally distributed among people, organisations and countries. The art in qualitative trend analyses is to spot these trends, their consequences and how they effect the system being investigated. If quantitative trend analyses can be seen as technical exercises, qualitative trend analyses are more of an art form.

18. One of the most common forms of qualitative trend analysis is trend spotting or 'megatrend' identification.

19. Megatrends are major, broad developments which can change society in all areas e.g. politics, economics, technology, values and social relations.

Application

20. Qualitative trend analyses are typically concerned with social (value/moral), institutional, commercial and political themes. For example, qualitative trend analyses deal with issues such as:

- What is the future of trade unions?
- What is the future of political parties or NGO's?
- What is the future of the entertainment business?

21. Qualitative trend analyses can be applied to most areas (as with quantitative trend analyses).

How to: Trend analysis

Step 1

- Develop a conceptual framework of the forces at play.

Step 2

- Look for theoretical constructs that shed light on those forces.
- Identify what is known and unknown about them.

Step 3

- Seek out any relevant information.

Step 4

- Derive an alternative future implied by the examination of that system.

Coates (1996), An Overview of Futures Methods, in The Knowledge Base of Futures Studies, vol.2, DDM Media Group, Australia, pp.63-65

22. Qualitative trend analyses work best when they focus on real change. Quantitative trend analysis works best for more straightforward extrapolations.

23. Megatrends will apply to all areas (within the defined time and setting). It is important, though, to be aware that megatrends may themselves produce powerful counter-trends – and that they may interact with each other.

Advantages

- Qualitative trend analyses can be used as early warning tools to pose the question 'What's in it for me or my organisation?' in relation to possibilities and risks.

- Qualitative trend analyses are a starting point for formulating scenarios.

- Trend analyses give an overview of the system.

- Megatrends are relevant to all areas of futures work. A basic futures toolbox, therefore, will always include an understanding of megatrends.

Disadvantages

- Trend analyses rely heavily on the individual observer. To reduce socio-cultural bias, it is advisable to use a very diverse workgroup in trend spotting.

- It is not always possible to distinguish between short-term 'fads' and long-term trends.

- Megatrends are extremely broad and often more detail may be needed.

- Megatrends may cause important backlashes – trends can produce their own counter-trends. For example, globalism (a megatrend) may produce a reaction in the form of ethnic rivalry (another trend).

How to: Identify megatrends

Step 1: The setting

- Assumptions regarding time and space are defined.

Step 2: Defining societal spheres

- Society is categorized by defined and workable parts. The categories could be: authority, wealth, communication, production, technology and science, social relations, cultures and values.

Step 3: Trends in each sphere

- A set of trends in every category is created based on all possible kinds of information. It is a working process based on equal amounts of research, common sense and imagination.

Step 4: Pattern in each sphere

- The most general trend or pattern in each sphere is defined by content analysis e.g. Grounded Theory.

Step 5: Identifying megatrends

- The qualitative changes crossing all spheres are identified as megatrends.

Specific Megatrends

A set of megatrends focusing on qualitative changes in the knowledge producing countries over a 10 year horizon has been developed by The Copenhagen Institute for Futures Studies (CIFS). This work identifies the following trends:

- Globalism – one world, many cultures.
- Empowerment - individualism and the burden of freedom.
- The Era of Knowledge Technology (digitalisation, information processes, bio-technology, genetic engineering).
- Knowledge Capital (competence and networks).
- Immaterial Wealth.
- Ethos – authority of the future.

Svendsen (ed.)(2000), Fremtidens Fagbevæ-gelse (The Trade Union of the Future), The Danish Confederation of Trade Unions, Copenhagen, pp. 40-44.

Similar trends have been identified in work by the Cabinet Office.

2.3 Delphi Survey

Presentation and background

24. The Delphi method was developed by the RAND Corporation in the 1950s. It is a method for gathering information or beliefs from a panel of experts about the timing, probability, importance, implications, trends, and events relating to the subject under consideration. Delphi surveys are an anonymous process and are carried out over several rounds.

25. The main result of the Delphi Survey is typically a consensus forecast, although other results must not be ignored as there may be diverse views. If a forecast appears highly contentious, the survey may have to be followed up by scenarios (see section 2.4). On the other hand, if all the experts agree about certain trends, it would be more productive to focus on other uncertainties.

26. Selecting the right panel of experts is crucial. One way of setting up the panel is to select from different parts of society in order to achieve a diverse group. This may be especially important if there tends to be a homogenous view in the dominant institution(s) of the field in question.

27. 'Experts' should be defined broadly as "everyone who has something to contribute in the field" or "stakeholders". Participants can be asked to rate their expertise themselves for the questions they answer.

Application

28. Though Delphi surveys can be used to look at any area, it is especially useful for technological forecasting. For example, in determining peoples' expectations about possible technological breakthroughs ('What will happen if?..' as well as 'When will this happen?'..).

29. Some futurists consider the Delphi survey as a technique of the last resort - only to be used where there is no other way to base a forecast.

> "….where there is insufficient data, no reliable time series or a high probability that existing patterns will change […] or in a field where external factors such as political decisions are likely to have a determining effect"[1].

30. It is possible to combine the Delphi survey with other futures methods into a comprehensive forecasting output.

[1] May, G. H. (1996), Foreseeing, Managing and Creating the Future, Adamantine, London, p. 180

Advantages

- Consulting a number of experts should produce more reliable forecasts than with a single expert.

- Delphi surveys can be run electronically. This is especially useful for handling questionnaires.

- The Delphi survey is often regarded as a scientific method: its use of experts gives it authority and legitimacy.

Disadvantages

- The use of experts can lead to problems:
  - over-pessimism in some fields (typically in relation to basic breakthroughs),
  - over-optimism in other fields (typically in relation to implementation),

- It can be difficult to define who may be deemed to be an "expert".

- It is not necessarily best to try to arrive at a consensus forecast. It is also important to take account of the extremes of view.

- The moderator of the survey can have a significant influence on the content. For example, the construction of the questionnaire itself may be influenced by the moderator and this may distort the results.

How to: Set up a Delphi survey

Step 1: Determine the overall problem formulation

- With group discussions etc, if necessary.

Step 2: Appoint an expert panel

- Typically based on a multi-step process. One way is to have the first person nominated nominating the next. Between 10 and 50 people are recommended.

Step 3: Outline the questionnaire

- Clarity of the process and purpose of the Delphi.

Step 4: The questionnaire is sent out

- The questionnaire is sent out and the feed-back is analysed.

Step 5: Rounds of questions and feed back

- The results are arranged and presented both in the form of an overview of the assertions and in the form of a short summary of the rationale for these assertions. Data are indicated with both median value, 1st quartile and 3rd quartile, so that the individual participant can see where his/her assertion is placed in comparison with the other participants. Finally, the respondents are asked to answer the original questions again. The phases are repeated several times.

Step 6: Concluding report to participants

Svendsen et al. (1996), Managing the Future, The Copenhagen Institute for Futures Studies, Copenhagen, pp.19-21

2.4 Scenario Methods

Presentation and background

31. Until 1970, futures work and planning were based mainly on traditional extrapolative methods i.e. extrapolating from the past into the future. But with the onset of significant social changes and the growing speed of change, futures methods have had to adapt. Given this greater uncertainty and the sheer pace of change, new futures techniques were developed. Scenario methods became one of these techniques. They were first used by the RAND Corporation and later by Royal Dutch Shell and other multinational companies. Scenario methods and processes are now one of the most frequently used futures methods.

32. Scenarios can be defined as:

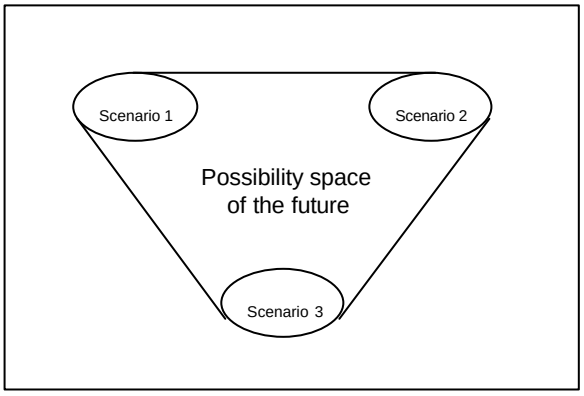
- "internal coherent descriptions of alternative images of the future"[2],
- "holistic, integrated images of how the future may evolve"[3],
- Or most simply, "histories of the future"[4].

33. There are two key elements of the scenario method. Firstly, they are not predictions of the future. The aim is not to foresee the future, but to show how different interpretations of the driving forces of change can lead to different possible futures. Secondly, scenarios are aimed to make better decisions in the present about issues that have long-term consequences for the future.

34. A variety of different scenarios are usually prepared in order to emphasise the possibility of different alternative futures. By setting up several scenarios, a "possibility space" is created. It is somewhere within this "possibility space" that the future is likely to unfold.

35. In the figure below, 3 scenarios make up the "possibility space" of the future.

Figure 2: Possibility Space of the Future



[2] Svendsen, S. (ed.) (2000), Fremtidens Fagbevægelse (The Trade Union of the Future), The Danish Confederation of Trade Unions, Copenhagen, pp. 4-5

[3] Coates, J. H. (1996), An Overview of Futures Methods, in The Knowledge Base of Futures Studies, vol.2, DDM Media Group, Australia, p. 67

[4] Hirschorn, L. (1980), "Scenario Writing: A Developmental Approach", Journal of the American Planners' Association, 46(2), pp. 172-183

Application

36. Scenario methods are best suited for a changing environment; for example, a society experiencing rapid change or shifts in values. Given the now common assumption that the future is uncertain and unpredictable, scenario methods are applied to an increasing number of areas.

37. The scenario method creates visions of different futures. It is often advisable to involve the users in the process from start to finish.

Advantages

38. Scenario methods and processes can be used as a:

- Strategy evaluation or checklist against general planning. Is there something we might have forgotten?

- Way of sparking debate – internal or external to the organisation. It is important to clarify the purposes and assumptions behind the scenarios.

Different scenario methods

Normative scenarios - backcasting – inside out scenarios

- Defining a vision or a set of goals in the future and outlining different pathways from the goal to the present.
  Normative, choice driven, from the future to the present.
  (Outlined further under Future Workshops)

Explorative scenarios - outside in scenarios

- Defining drivers, assessing the importance and the uncertainty of the drivers, selecting the scenario logics, and outlining the scenarios. Routine in planning and strategy.
- Early warning of risk and possibilities, deterministic, from the present into the future.
  (Outlined further at the end of this section)

Strategy scenarios - cross-scenarios

- Synthesis of determinism and choice; strategy and structures, creating pathways, problem solutions.
  (Outlined further in the case study)

- A tool to create a general consensus. This may be useful when an organisation wants to start an internal discussion which could lead to a reformulation of strategy.

- A 'backcasting' tool which starts with a preferred future and outlines scenarios from the future back to the present. Combining the two, it is possible to choose an optimal scenario in terms of its desirability and probability. On the basis of such a "focus scenario", a more detailed strategy can be drawn up.

39. The explorative scenario method is the most commonly used method. It is typically used as an "early warning" tool aimed at pinpointing *if* and *when* specific policies or overall strategies need to be changed.

Disadvantages

- It can be difficult to translate the outcome of a scenario process into concrete decisions.

- The method is based, for the most part, on qualitative information which, by its very nature, is imprecise.

- The method draws up a "possibility space" giving the decision-maker a choice of futures. Decision-makers who are used to a solid piece of advice or direction will not always appreciate this.

The good scenario is:

Creative
- Unlike or different from the present.

Consistent
- Probable.

Concise
- Logical and profiled.

Anchored
- Relevant, very clear on purpose and assumptions.

How to: An explorative scenario process

Step 1: The setting
- What are the central concerns, the key issues, of the users of the scenarios?

Step 2: Identify the drivers
- Identify the driving forces that are likely to have the most important influences on these central concerns of the future.

Step 3: Analyse the drivers
- Where can the drivers be reasonably predicted, what is known and unknown, the trends and the trend breaks?

Step 4: Assessment of the importance and the uncertainty of the drivers
- Identification of two or three critical factors of the central themes of the scenarios.

Step 5: Select the scenario logics
- Construct the main themes or assumptions around which the scenarios are to be built. It is important to end up with a few scenarios whose differences make a difference to decision-makers.

Step 6: Develop the scenarios
- Often done in the form of narratives that present a plausible sequence of events.

Step 7: Impact analyses
- Analyse the impact of the scenarios on the key concerns with which the process began.

Step 8: Policy implications
- Analyse the implications for policy and identify indicators that will help monitor changes as they occur.

Huss, Honton and Schwarts quoted from Graham H. May (1996), p.165

2.5 Wild Cards

Presentation and Background

40. Scenarios work within an agreed space of probability. Wild card exercises, though, lie on the edge of, or even outside, this space. Wild cards are events which, while they have a low probability of occurring, would have a big impact if they did.

41. In the late 1980s, the statement "Hong Kong will take over China in 1997" was a wild card. It was based on the understanding that Hong Kong's market system would be introduced in China around 1997. Nowadays, that statement is no longer a wild card - it is possible that the whole of China could become an open market economy.

42. Increasing uncertainty about the world has encouraged the use of wild cards in futures work. Wild cards are an attempt to adapt to an increasing pace of change.

How to: Identify wild cards

- Extraordinary events require extraordinary approaches
- Accessing and understanding information is key
- A sophisticated, effective information gathering and analysis process is needed. Input from experts in systems behaviour, "new Sciences" as well as from many traditional disciplines. Access to a robust network of resources and constant outreach is a must.

Petersen, J. Director of The Arlington Institute quoted from www.arlinatoninstitute.ora.

43. The German sociologist Ulrich Beck has pointed out that wildcards are more likely to be man-made nowadays – acts of terrorism, technological disaster etc – rather than acts of god. He describes our society as the 'risk society'. The 'risk society' suggests the growing importance of wild cards. Recent events in the UK confirm the significance of wild cards or unpredictable risks e.g. BSE, foot and mouth disease, increased flooding.

Application

44. Wild cards can be applied to all areas and all settings.

Advantages

- Wild card exercises can produce an "early warning" and are useful for general inspiration.

- Wild card exercises can enrich brainstorming and stimulate unconventional ideas. They increase creativity, inventiveness and fresh thinking. Wild card exercises can lead to new ideas, products or policies.

Disadvantages

- The identification of wild cards depends significantly on the observer. This means it is difficult to validate the process.

2.6 Future Workshops

Presentation and Background

45. This report now turns to the final method for Futures work – Futures Workshops. Future workshops are a very open process. Robert Jungk invented the concept when he conducted workshops in Vienna at the end of the 1950s. Since then, he has been a vocal advocate of their use[5].

Application

46. Future workshops were first intended to mobilise citizens who did not normally express themselves during debates. "The silent majority" would be given the opportunity to formulate their own desires and visions for the future. Future workshops have been used in political parties, grass root movements and training institutions.

47. In recent years, the method has been applied to a much wider range of environments including companies, government departments and trade unions. An experienced moderator of future workshops points out:

> "They (*the traditional institutions*) are no longer as influential, respected, or popular as they once were. They are uncertain about their current role and future mission. They wish to rethink what they are and where they are going. Many of the organisations we work with are internally divided, in turmoil, and uncertain of what to do"[6].

Advantages

- This method can engage a wider range of people in envisioning "future states" than other methods.

- Workshops are founded on participation, which is an important ingredient of futures work.

- Workshops try to deal with the *preferred* future – in contrast to the many methods focusing on the *probable* futures.

Disadvantages

- The method can be regarded as "soft" or unscientific. This may make 'buy in' to the process difficult.

[5] Jungk, R., and Mullert, N. (1987), Future Workshops: How to Create Desirable Futures, Institute for Social Inventions, London

[6] Dator, J. (1996), From Future Workshops to Envisioning alternative Futures in The Knowledge Base of Futures Studies, vol.2, DDM Media Group, p.162

- It can be a negative experience to participate in a future workshop if it is not followed-up by concrete implementation or change in line with the conclusions.

- It has been said that (in relation to the 'fantasy phase');

> "It is important that each person's initial ideas about their preferred future be challenged, broadened, deepened, and strengthened. Otherwise, these initial ideas are almost certainly only going to be projected fears or hopes of the past or present i.e. they may not have much relevance to the future *per se"*[7].

How to: Future workshops

In the **criticism phase**, a "balance sheet" is made of the present situation. All forms of criticism are welcome. This means the participants can air their frustrations, and at the same time, they become aware that the others also have criticisms. The articulated dissatisfaction is an important step out of a possible paralysis of action.

The purpose of the **fantasy phase** is to formulate desires and aspirations including those which appear to be completely impossible. Here, it is a matter of catchwords such as:
- to think the unthinkable,
- to meet the irrational 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 challenged in this phase.

Thereafter, the purpose of the **realisation phase** is to confront the hopes with reality, thereby 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 Mullert indicate that the size of the group should not exceed 15-25 people, and that the future workshops should ideally run over two to three days.

Jungk and Mullert (1987), Future Workshops: How to Create Desirable Futures, Institute for Social Inventions, London

[7] Dator, J. (1996), From Future Workshops to Envisioning alternative Futures in The Knowledge Base of Futures Studies, vol.2, DDM Media Group, p.165

2.7 Summary of methods

48. The table below summarises the application, advantages and disadvantages of the six methods that this report has outlined.

Application, advantages and disadvantages of methods in Futures work

Method	Application	Advantages	Disadvantages
Quantitative Trend analyses Time-series, extra-polations, S-curve, envelope curve, cycles and long-waves analyses, neural networks	Typically used in areas such as demographics, economics, and technology, i.e. areas where solid and long data series exist. Ought not to stand alone.	- Objective method - Valid and logical - Easy to communicate - Economical and easy to handle.	- Not as neutral as may appear - Accepted as a kind of truth about the future - Narrow and isolated - Extrapolation of the past.
Qualitative Trend analyses Trend spotting, megatrend analyses, cross-impact, scanning, environmental scanning, relevance trees	All areas. Though typically social, institutional, commercial and political topics. Often focusing on change and areas in change. By definition, megatrends are relevant to all areas.	- Early warning tool - Outlining possibilities and risks - Starting point for formulating scenarios - Gives an overview of the system and inspiration.	- Relies strongly on the observer - Difficult to distinguish fads from long-term trends, trends from counter trends - Megatrends can often be too general.
Delphi survey Multi-round anonymous expert evaluation techniques	Any subject, but especially within technological fore-casting and often combined with other methods.	- Produces more reliable forecasts than those of an individual expert - Quite fast and economical with the use of IT - Is often considered "scientific".	- To some it is considered a "method of last resort" – when there is no other way to base a forecast - Difficult to define who is qualified as an "expert" - Is often considered "scientific".
Scenario Methods Normative scenarios, Explorative scenarios, Strategy scenarios	Unstable systems or changing environments can also be used for exploring possibilities of change. In line with the assumption that the future is uncertain the method is becoming widely used.	- Scenarios can be used as: • a checklist/early warning • a debate creating tool • a tool for creating a common frame of reference • a strategic tool • an evaluation tool • a training tool - Gives the decision-maker a choice of futures.	- Difficult to transform into decisions and actions - A qualitative method applied to a world used to quantification - Gives the decision-makers a choice of futures.

Wild Cards Shocks	All areas and settings.	- Works with the possible futures - As early warning exercise.	- No explicit method - Rests heavily on the observer.
Future workshops Visioning, backcasting, brainstorming, brainwriting, group idea generation techniques	Originally a method for mobilising the "silent majority". Today used by wide range of institutions e.g. companies, ministries, political parties, trade unions.	- Founded on participation and potentially leading to empowerment - Defining the preferred future as an alternative to the many methods working with probable futures.	- Can be seen as too "soft" or emotional - A negative experience if it's not followed by implementation in line with the conclusions - The risk of projecting people's fears and hopes of the past.