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## ***Strategic Foresight***

Foresight is a systematic, participatory, future-intelligence-gathering and medium-to-long-term vision building process aimed at present day decisions and mobilising joint actions. It arises from a convergence of trends and underlying recent developments in the fields of 'policy analysis' and 'strategic planning', as well as futures studies. Foresight brings together key agents of change and various sources of knowledge in order to develop strategic visions and anticipatory intelligence. In this way, there are said to be five essential elements of foresight – anticipation, participation, networking, vision and action. A particular manifestation of this has been the undertaking of what are known as technology foresight

exercises in a number of countries worldwide. Typically, the technology foresight process involves the identification of various principal sectors, the formation of consultative panels for each sector comprising leading figures from the field, and the use of either “Delphi” or “scenario planning” techniques, or both, to identify, explore and test future potential markets and prospective opportunities in a climate of risk and uncertainty. From this, robust and flexible strategic policy options are chosen, and a shared mindset among the various participants is fostered. The most important aspects of the Foresight process have been précised as being.

- Communication between parties concerned.
- Concentration on the longer term.
- Co-ordination of research and development.
- Consensus created on future directions and policies.
- Commitment generated among those responsible for implementation of policy.

A defining characteristic of foresight is that, in essence, it is a human capacity to think ahead and to forecast possible outcomes of present decision.

### ***Prospective***

The prospective, or more familiarly “la prospective”, has French origins, but is now being more popularly applied across Europe in a variety of strategic planning settings. In the francophone context, however, ‘prospective’ refers to a much wider approach and activity than other futures methodologies as it comprises not only the study of the future, and an evaluation of alternative outcomes against given policy decisions, but also the will to influence the future and to shape it according to society’s wishes. Furthermore, it is a very formalised, inclusive, comprehensive and rigorous methodology when compared to more generalised future studies. In many ways, it is similar to foresighting, but would be better understood as a specific means of applying the foresight approach. The two methodologies have been contrasted as: foresight would be the capacity to hear, but prospective would refer to the proficiency to listen to particular

things. Put another way, prospective covers the concepts of 'preactivity' (understanding) and 'proactivity' (influencing), whereas foresight concerns itself with 'preactivity', but the idea of 'proactivity' is missing. In any event, the term prospective and its application across a broad range of policy issues on a wider territorial basis than hitherto is likely to gain greater currency over the next few years.

### ***Environmental Scanning***

Environmental scanning is usually employed at the start of a futures project. It aims at a broad exploration of all major trends, issues, advancements, events and ideas across a wide range of activities. Information is collected from many different sources, such as newspapers, magazines, Internet, television, conferences, reports, including science-fiction books. It is used to build up the knowledge required to analyse various aspects of the project and to decide on the key issues to be examined. When using the method, it is important constantly to update the information, so that any of the weak signals cannot be overlooked. Four types of indicators can be examined in the process of environmental scanning: *lone signals* (individual factors that might indicate change); *landmark events* (in various areas of life); *forecasts of experts*; and *statistical descriptions* (to portray development of elements of the study).

### ***Scenario Planning***

Scenarios are one of the most popular and persuasive methods used in Futures Studies. Government planners, corporate strategists and military analysts use them in order to aid decision-making. Scenario is "a rich and detailed portrait of a plausible future world, one sufficiently vivid that a planner can clearly see and comprehend the problems, challenges and opportunities that such an environment would present." (The Futures Group 1994)

A scenario is not a specific forecast of the future, but a plausible description of what might happen. Scenarios are like stories built around carefully constructed plots based on trends and events. They assist in the selection of strategies, identification of possible futures, making people

aware of uncertainties and opening up their imagination and initiating learning processes.

The number of people applying the scenario technique is quite large. A range of various processes can be found under the 'scenario method' name. They vary from simplistic to complex, from quantitative to qualitative. These procedures have many similarities as well as they can have unique features and differences in terminology. The Futures Academy uses scenarios within its own methodology Prospective Through Scenarios approach [link to the section describing the methodology].

One of the key strengths of the scenario process is its influence on the way of thinking of its participants. A mindset, in which the focus is placed on one possible future, is altered towards the balanced thinking about a number of possible alternative futures. Although it is a very rewarding method it is also very demanding.

### ***Delphi Method***

The Delphi method is another very popular technique used in Futures Studies. It was developed by Gordon and Helmer in 1953 at RAND. It can be described as a method for facilitating a group communication process, so that the process is effective in enabling a group of individuals, as a whole, to deal with a complex problem. It uses a panel of experts to assess the timing, probability, significance and implications of factors, trends and events in the relation to the problem being considered.

Studies employing Delphi method are quite difficult to perform. Its application requires a great deal of attention being given to the selection of participating experts; the questionnaires have to be scrupulously prepared and tested in advance; and it is extremely time consuming. Delphi's primary strength is its ability to explore, in a detached manner and objectively, issues that require judgement. Its main weakness is that it can be easily substituted with other, more easily applicable techniques.

### ***Cross-impact Analysis***

The method was developed by Theodore Gordon and Olaf Helmer in 1966 in an attempt to answer the question of how perceptions of future events

may interact with each other can be used in forecasting. As it is well known, most events and trends are interdependent in some way. Cross-impact analysis provides an analytical approach to the probabilities of an element in a forecasted set, and it helps to assess probabilities in view of judgements about potential interactions between those elements.

The technique can be used by individuals and groups at an elementary qualitative level, and it can also be employed to perform more complicated and intensive quantitative analysis. One of its strengths is that it forces attention towards 'chains of causality:  $x$  affects  $y$ ;  $y$  affects  $z$ '. Conversely, it can be very fatiguing and monotonous.

### ***Trend Analysis***

Trend analysis is one of the most often used methods in forecasting. It aims to observe and register the past performance of a certain factor and project it into the future. It involves the analysis of two groups of trends: quantitative, mainly based on statistical data; and qualitative, these are largely concerned with social, institutional, organisational and political patterns.

In the quantitative trend analysis, data is plotted along a time axis, so that a simple curve can be established. Short-term forecasting seems quite simple; it becomes more complex when the trend is extrapolated further into the future, as the number of dynamic forces that can change the direction of the trend increases. This form of simple trend extrapolation helps to direct attention towards the forces, which can change the projected pattern. A more elaborate curve that uses times series analysis can often reveal surprising historical and current data patterns. Qualitative trend analysis is one of the most demanding and creative methods in Futures Studies. As trends are never self-explanatory, the identification and description of patterns is partly empirical and partly creative activity. The most challenging part of qualitative trends analysis is the identification of a tendency early, as recognition of a mature trend is 'relatively useless' in influencing behaviour.

### ***Simulation and Modelling***

Simulation and modelling are computer-based tools developed to represent reality. They are widely used to analyse behaviours and to understand processes. Models allow demonstration of past changes as well as the examination of various transformations and their impact on each other and on other considered factors. They facilitate the understanding of connections between factors and events and the examination of their dynamics. Simulation is a process that represents a structure and change of a system. In simulation, some aspects of reality are duplicated or reproduced, usually within the model. The main purpose of simulation is to discern what would happen in the real world if certain conditions, imitated by the model, developed.

### ***Visioning***

Visioning is a popular method in studies of desirable futures and the one that gives emphasis to values. The visioning process is based on the assumption that images of the future lead present behaviours, guide choices and influence decisions. Images of the future can be positive or negative and cause different responses according to the perceptions. A vision is usually seen as a positive, desirable image of the future and can be described as a compelling, inspiring statement of the desired future that the authors and those who subscribe to the vision want to create.

There are a number of issues that need to be addressed while using the visioning method. Vision comprises peoples values, wishes, fears and desires. In order to make the visioning process work, it is necessary to ensure that it is not a making of a idealistic wish-list; that vision is an image of the future shared by a whole community; and that the vision is translatable into reality.

### ***Futures Workshops***

Futures workshops were developed by Robert Jungk in order to allow anybody to become involved in creating their preferred future rather than being subjected to decisions made by experts. Typical futures workshops are very strongly action oriented. They aim, first to imagine the desired future, and then to plan it and implement it. Futures workshops have four

distinctive phases which include: preparation, critique, fantasy and implementation.

Another type of futures workshop is the Prospective workshop proposed by Michel Godet as a first step for Prospective studies. Godet believed that through immersion, the futures workshop seeks to harness the collective thought process and apply it to strategic action. Workshops allow participants to think about the future as a group and collectively identify and prioritise the aims of the organisation or region. Each Prospective workshop has to be adapted to the needs of the study. It usually has two phases: exploratory (anticipating change) and normative (mastering change).

### ***Causal Layered Analysis (CLA)***

This method, developed by Sohail Inayatullah, is one of the newest developments in Futures Studies. Causal Layered Analysis focuses on ‘opening up’ the present and past to create alternative futures rather than on developing a picture of a particular future. It is concerned with the vertical dimension of futures studies, and the layers of analysis. CLA is based on the assumption that the way in which a problem is formulated changes the policy solutions and the actors in charge of initiating transformations. The key principle of this method is using and integrating different ways of knowing.

The application of Causal Layered Analysis has a number of benefits:

- increases the range and richness of scenarios;
- leads to inclusion of different ways of knowing among participants in workshops;
- appeals to a wider range of individuals through incorporation of non-textual and artistic elements;
- extends the discussion beyond the obvious to the deeper and more marginal; and
- leads to policy actions that can be informed by alternative layers of analysis.

### ***Back-view mirror Analysis***

This method builds upon the assumption that any future-oriented group process has to manage peoples' difficulties in thinking into the future. These difficulties can arise from the fears as well as from the lack of experience in futures thinking. Back-view mirror analysis allows for dealing with the fears related to the future by creating a new perspective that looks to the past instead of starting the process in the present. The method is used to perform qualitative analysis of the past using both quantitative and qualitative data.

### ***Futures Biographies***

This method, also called futures imagining, aims to create individual visions, to gather peoples' views on the future and to examine them in the study of collective future. Peoples' expectations and opinions are considered as an important indication of possible goals and possible directions that can influence their actions and in result steer the future.

### ***Monitoring***

This is a process that aims at the evaluation of events, as they occur or during the immediate aftermath. It involves activities like scanning, detecting, projecting, assessing, responding and tracking. Monitoring is one of the fundamental activities performed by Futures Studies.

### ***Content Analysis***

This technique is used for the systematic and objective study of particular aspects of various 'messages'. Such 'messages' can be found in books, journals, newspapers, private letters, publications of political parties, reports, surveys, interviews, television, Internet and so on. This method, in order to be reliable and valid, needs to be performed with a high level of competency

### ***Backcasting***

Backcasting is a technique that often is defined as an opposite to forecasting. It involves the identification of a particular scenario and

tracing its origins and lines of development back to the present.

### ***Relevance Tree***

It is an analytical technique that subdivides a large subject into increasingly smaller subtopics. The relevance tree has a form of a hierarchical structure that begins with a high level of abstraction and moves down with greater degree of detail in the subsequent levels of the tree. It is a powerful technique that helps to ensure that a given problem or issue is broken into comprehensive detail and that important connections among the elements considered are presented in both current and potential situations.

### ***Morphological Analysis***

This method is often used in conjunction with the relevance tree. It is mainly employed for the identification of new product opportunities. The technique involves mapping options in order to attain an overall perspective of possible solutions. It comprises of the two main activities: a *systematic analysis* of a current and future structure of the area including the gaps in that structure, stimulation for *creation of a new alternative*, which could fill the gaps and meet any needs.

### ***Futures Wheel***

This method is a form of structured brainstorming that aims at identifying and packaging secondary and tertiary consequences of trends and events. A trend or event is placed in the middle of a piece of paper and then small spokes are drawn wheel-like from the centre. Primary impacts and consequences are written in circles of the first ring. Then secondary consequences of each primary impact are derived forming the second ring. This ripple effect continues in sequential fashion until there is a clear picture of the implications that the event or trend can effect. The futures wheel is a very simple but powerful technique for drawing out opinions and ideas, but is sensitive to underlying assumptions.