

An Overview of Foresight Methodologies

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Introduction

Foresight is “a university human capacity which allows people to think ahead and consider, model, create and respond to, future eventualities” (Foresight International, 2006). Foresight is, however, usually an unconscious thinking process – we all think about the future, but often do not recognise that we are engaging in foresight. In an organisational context, foresight is not necessarily recognised or universal, and overt processes generally need to be put in place, supported by specific methodologies, in order to develop an organisational capacity for foresight.

Methodology is “an operational framework within which...data are placed so that their meaning may be seen more clearly” (Leedy, 1997: 204). Foresight methodologies then, may be viewed as frameworks for making sense of data generated by structured processes to think about the future. In organisations, foresight methodologies have a particular role in the strategy development process. Foresight informs the thinking that occurs before strategic decisions are made by expanding the perceptions of the strategic options or choices available to the organisation.

This paper outlines the strategy process in organisations, and the use of foresight methodologies in the strategic thinking stage of this process. It then provides a broad overview of the development of foresight methodologies over time, and briefly discusses different types of methodologies that can be used in organisations. The paper aims to provide a summary of foresight methodologies rather than a detailed analysis of the methodologies themselves.

Definitions

Like any field, the futures field has its own esoteric language. In this paper, foresight refers to the particular human capacity that individuals have to thinking about the future, while futures refers to both the field within futurists work, and the methods they use. Some futurists prefer to be called foresight practitioners, and the two terms are used interchangeably in this paper.

Organisational Strategy Processes

Strategy development and implementation in organisations is best understood as a series of three interdependent steps: strategic thinking; strategic decision making; and strategic implementation. As shown in Figure 1, strategic thinking focuses on futures options available to an organisation, before decision are made about which options to pursue. Action is then taken to implement the chosen options. Foresight is a strategic thinking capability, so the use of foresight methodologies occurs at this first stage of the strategy development process – that is, the use of foresight methodologies seeks to expand the perception of the range of strategic options available to an organisation.

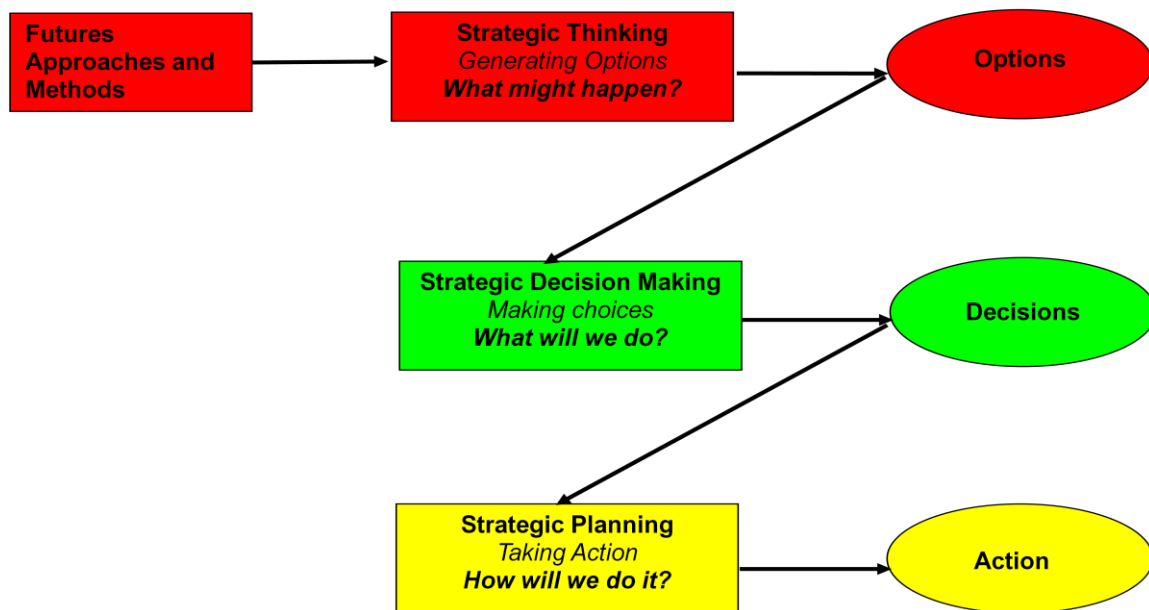


Figure 1: Three Levels of Strategy

For organisations and their staff to think about the future routinely in their strategy process, overt processes need to be put in place that surface individual thoughts about the future, and then allow a collective consideration of those views. As Voros (2003) indicates, organisational foresight requires thinking to move from implicit to explicit, from individual to collective, and from unconscious to conscious, before an organisation can begin to think systematically about its future, and use subsequent insights in its strategy development.

Foresight is an innate human capacity so, in organisational terms, all staff are capable of strategic thinking, not just the executive of an organisation. While, ultimately, a chief executive officer is likely to make the decision about which strategy options to pursue, foresight focuses the potential for all staff to have an input into the thinking that goes into that decision. This sometimes referred to as a strategic conversation (Van der Heijden, 1996), but an understanding of futures concepts needs to be developed before such a conversation can be generated within an organisation in any meaningful way. Only when such an understanding is present can explicit futures methodologies and approaches be introduced to strategy processes.

Foresight Methodologies

As the futures field has developed over time, so has the range of methodologies available to futurists. When foresight work emerged in organisations around the 1960s, quantitative methods such as forecasting were common, although scenario planning, a more qualitative approach, also emerged around this time. As critical futures developed, methodologies that took into account personal, cultural and social factors as well as the external world were developed, such as causal layered analysis. In more recent times, integral futures (Slaughter 2001), which is based on the four quadrant framework of Ken Wilber, is emerging as an alternative way forward for the field, and this has opened up possibilities for how methodologies can be configured and used in practice.

Foresight methodologies continue to be developed and refined through their use over time in different fields (Inayatullah, 2000), and Slaughter (2002) has discussed the changing methodological paradigms in the futures field. The development of the integral futures perspective, with its interior/exterior, individual/collective framework, allows the integration of inner individual and collective processes with an understanding of the external, outer world within the context of many traditions and ways of knowing. As Slaughter indicates, 'it sheds new light upon the role of human development and awareness. What is commonly seen as occurring 'out there' in the world is conditioned by what is going on 'in here' in our own inner world of reference...the invitation to consider integral futures work is an invitation to move and act in a deeper, richer and infinitely more subtly interconnected world' (Slaughter, 2004: 166). The four quadrant approach also incorporates different modes of enquiry in each quadrant, and considering methods from each helps to provide a both a deeper and more holistic understanding of phenomena and issues being explored.

Slaughter (2004; 165) also points out that an integral approach suggests that it is not only the depth of methodological approach that is important but also the depth within the practitioner, suggesting that foresight practitioners need to continue to be self-reflective in their own inner thoughts and consciousness and how that influences their use of methodology. In this way, methodology can be continually critiqued and adapted in use.

An Overview of Foresight Methodologies

The use of particular methodologies depends on two factors: the tradition in which a practitioner works, and the organisational context in which the work has to be carried out. Every practitioner will have preferred methodologies, but the choice of which to use must ultimately depend on what is appropriate for the organisation.

Foresight methodologies can be classified into four levels (Voros, 2003), each with its own guiding questions:

- Input:** what is going on?
- Analytical:** what seems to be happening?
- Interpretive:** what's really happening?
- Prospective:** what might happen?

The model developed by Voros (2003) is shown in Figure 2, and demonstrates clearly that foresight work comes before strategic decision making (what might we need to do?) and strategic planning (what will we do? and, how will we do it?).

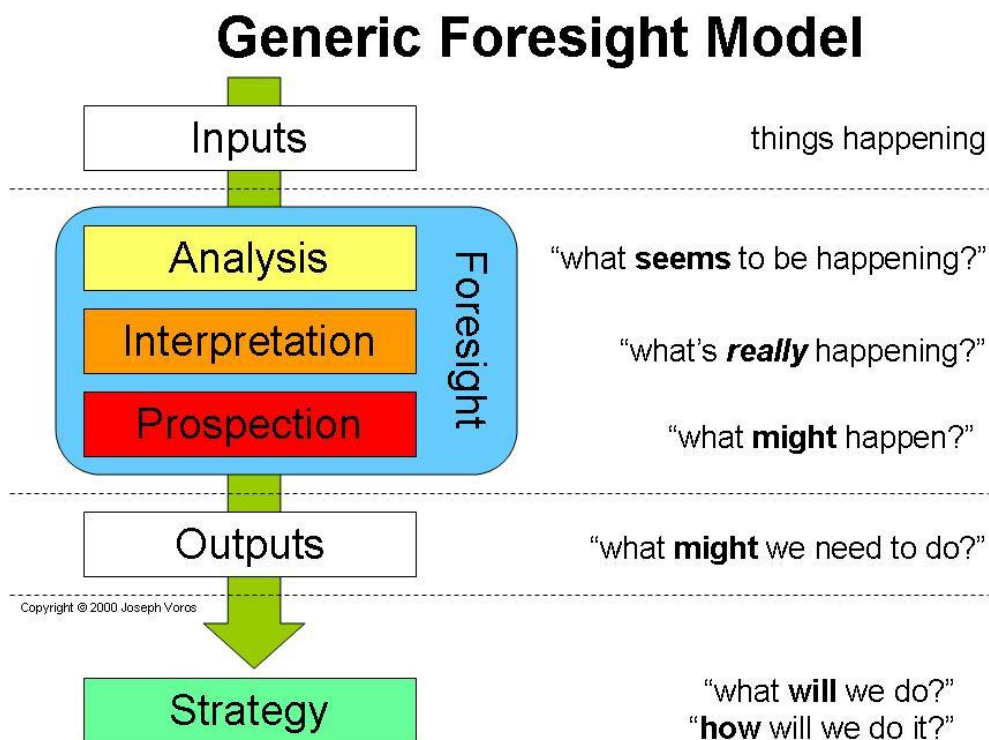


Figure 2: Generic Foresight Process

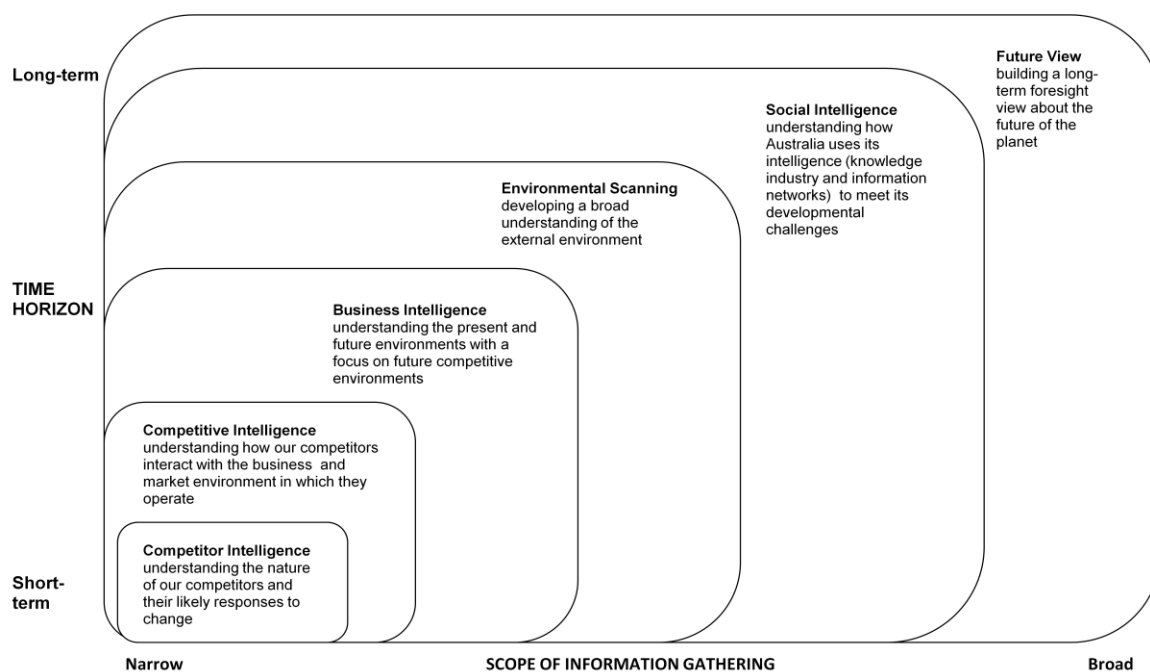
Traditional strategy processes in organisations already use methods to gather input, and to analyse and interpret that input, but work at the prospective stage is either not included or not done in enough depth. It is adding the prospection stage and maintaining it over time that will develop and embed a foresight capability in organisations.

An inclusive and in depth discussion of methodologies is beyond the scope of this paper, so the following sections describe some key approaches at each level.

Input Methods: what's going on?

Input methods gather information that is needed for organisations to understand the environments in which they operate. Delphi approaches, which seek opinions about the future from experts in the field, are one of the oldest input methods and most recently, have been used regularly in government science and technology foresight projects (Conway and Stewart, 2005).

Environmental scanning is perhaps the most commonly used input method in organisational strategy processes. Choo (1998) has identified several types of scanning ranging from scanning about competitors, industries, broader trends in the external environment (using, for example, a framework such as STEEP – social, technological, economic, environmental and political) through to social intelligence which is about how a society scans for its threats and opportunities. Figure 3 shows the interdependence of the different types of scanning.



Adapted from Choo, Information Management for the Intelligent Organization, 1998

Figure 3: Environmental Scanning Framework

The integral perspective provides an approach to further develop environmental scanning so that it incorporates understanding the internal perspective – that is, the thoughts, beliefs and feelings of staff and the cultural foundations of an organisation – to the same degree of depth and thoroughness that characterises externally focused scanning.¹

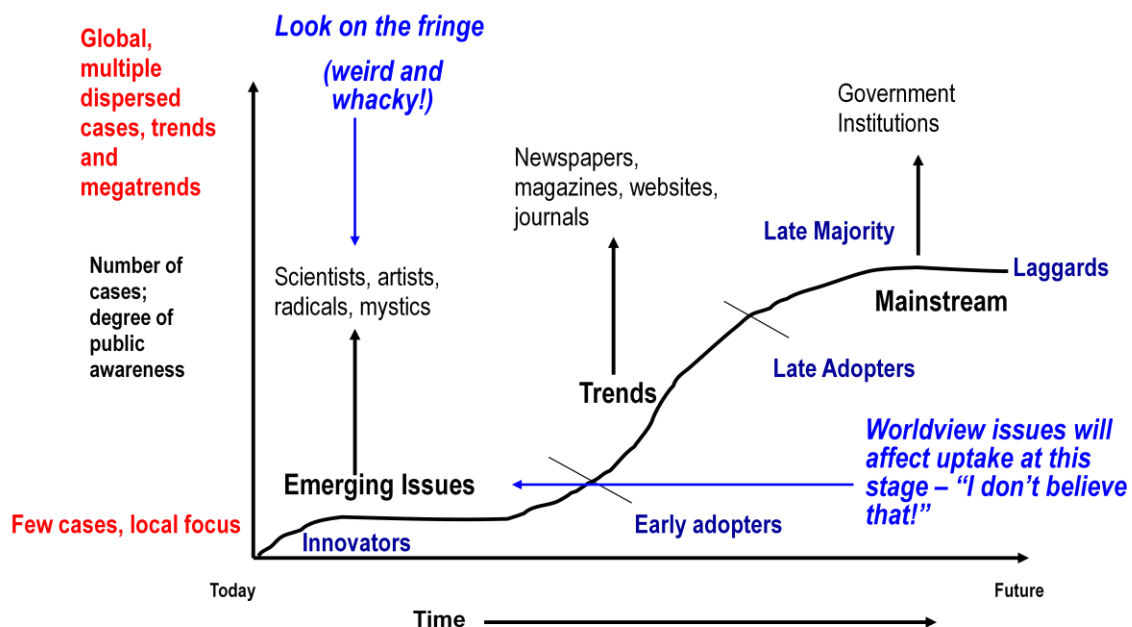
¹ This more inclusive approach is at the core of the scanning work of Thinking Futures. See <http://www.thinkingfutures.net> for more information.

Analytical Methods: what seems to be happening?

Analytical methods are used to categorise the information obtained during the input stage. Perhaps the most well known methods here are trend analysis, although a distinction needs to be drawn between trend *spotting* and trend *analysis*. The identification of trends per se is now a big business, particularly identifying consumer trends to underpin marketing and new product development. This sort of work, however, does little to develop an organisational view of the future on its own, and risks a superficial approach to thinking about potential options.

Trend analysis looks for existing themes and patterns already evident in society. It can be a strongly quantitative approach, especially when the trends are forecasted into the future in a linear fashion. While alternative forecasts might be developed, it is usually a single forecast that is published or used in strategy work – that is, a statement of what *will* happen with this trend, rather than what *might* happen.

Trends tend to follow a predictable cycle as shown in Figure 4. An issue emerges at the fringes or periphery of society, and is of interest to an eclectic group of people. Those in mainstream society view these issues as weird and whacky; this is the stage where unchallenged worldviews result in the dismissing of the issue as irrelevant. Over time, a champion or champion emerges, and there is usually some sort of defining public event that turns the issue into a trend – data is collected about it, and it appears in newspapers, magazines and other media. Finally, the trend becomes mainstream, as manifested in government policy and take up by institutions. In 2008, climate change is the most readily understood example of an emerging issue a decade ago which was which is now mainstream.



Adapted from the work of Graham Molitor, Wendy Schultz and Everett Rogers

Figure 4: Trend Cycle

Most futures work involves trends, but as Data (1989) suggests, using emerging issues analysis allows for an exploration of issues before their impact is irreversible. Emerging issues analysis looks for signals that underpin the emergence of trends, on the periphery of mainstream trends. Dator (1980) defines emerging issues as having a low probability of occurring, but if they did, would have a dramatic impact on society.

Other analytical methods include cross impact analysis which seeks to explore the impact of trends on each other, and morphological analysis which seeks to explore how the various components of a system to look for new combinations of elements to inform strategy. The analytical stage therefore needs to include more than just trend analysis. Good analytical approaches use a combination of methods, and seek to use a range of scanning sources to add strength to the subsequent analysis.

Interpretive Methods: what's really happening?

Interpretive methods seek to make sense of the information that has been collected and categorised in the previous two steps, in a more in-depth way. Methods at this level also seek to challenge the categories used to analyse data, by trying to identify and surface the worldview underpinning those categories. A key concept in interpretive methods is that of layers, particularly layers of depth. Foresight methodologies at this level seek to move beyond categorisations of data to determine what system or structural interests are at work.

Inayatullah's Causal Layered Analysis (2004), as shown in Figure 5, is an example of a methodology designed to explore below surface events. With four layers – litany, social causes, worldview and myth/metaphor – this approach takes the litany, commonly held public views and statements about issues and events and interprets it using progressively deeper approaches. The second layer looks for social causes or factors underpinning the events and issues being discussed.

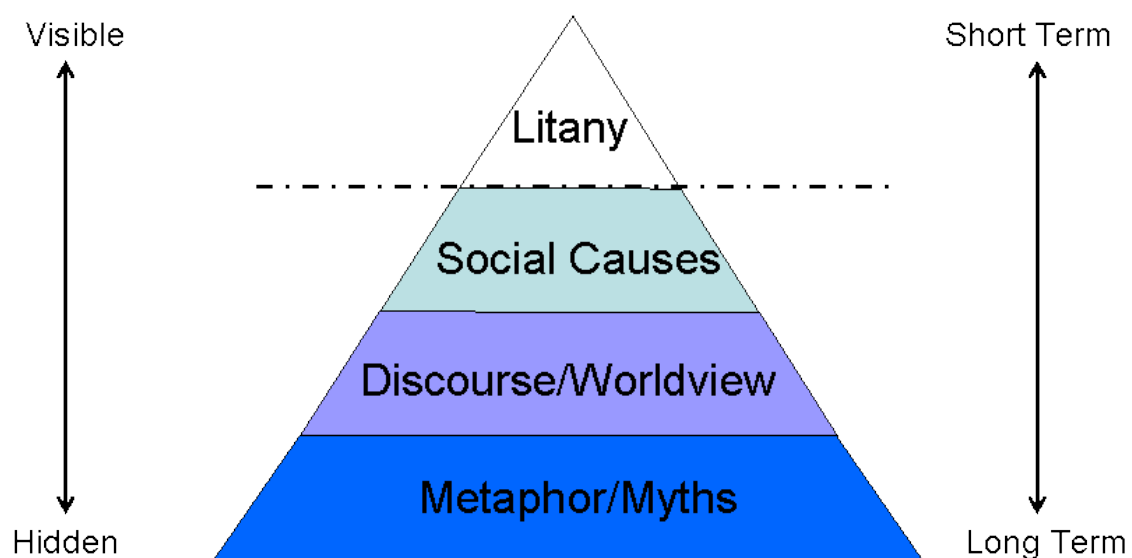


Figure 5: The layers of Causal Layered Analysis

Analysis at the third, worldview level explores structures and worldviews, seeking to understand assumptions at work, including understanding how the worldview of participants helps to frame understanding of the issue. The fourth layer of analysis explores metaphor and myth to identify intuitive beliefs about the future, and to deconstruct those beliefs to identify what Inayatullah (2003: 8) calls the 'civilisational level of identity'.

Prospective Methods: what might happen?

Methods at this level are seeking to develop a view of alternative futures for an organisation. Scenario planning is a well know prospective method, which is collaborative rather than an individual activity, described by Ogilvy (2000) as 'a practice in search of a theory'. This may explain scepticism about scenario planning but, if done well, this method has two significant strengths: it can integrate information about the external environment, both qualitative and quantitative, with information about the internal environment of an organisation; and it is people focused – it requires knowledge, expertise and input from staff to generate the scenarios. From an integral perspective scenarios could be strengthened by focusing more on the feelings and beliefs of staff as well as external trends, but it is a method used extensively by business organisations and national governments and related groups.

Like all prospective methods though, scenario planning runs the risk of being deemed irrelevant unless processes are clearly integrated with existing planning processes. Both the expansion of thinking that goes into the development of scenarios, and the identification of new strategic options available to organisations are equally important outcomes that must be recorded, communicated and discussed more broadly beyond the scenario development process to generate strategic conversations (Van der Heijden, 1996) that change the way people think about future strategic options.

Other prospective methods include visioning, where a group focuses on identifying and scoping out a preferred future. This method is often used by community groups and local government. Backcasting is another method that is used to identify how potential futures worlds might emerged. Starting in a future world, people work backwards in time, exploring events and decision points until they reach the present. The thinking that emerges during this process strengthens the concept that there are many plausible futures, and that an organisation is not set on a linear path.

A key focus of prospective work is to shift what is often termed the mental model of participants – to open up their thinking to what might be possible, as opposed to business-as-usual thinking around what they believe is possible, and will occur. It is about shifting the focus and thinking from short term to long term.

Concluding Comments

Foresight methodologies seek to gather data and make sense of it so that people can think in different and new ways about the future. That data might be collected from humans or from the analysis of documents and artefacts, or both. The data might be analysed using qualitative or quantitative techniques, or both. To be used in strategy processes, however, data needs to be analysed, interpreted and used in ways that make sense to the organisation. Information emerging from this analysis and interpretation allows an organisation to better understand its past and present, which provides the basis for using foresight methods to explore potential futures.

Foresight methods are used to inform the thinking processes of staff in an organisation so that better and wiser decisions can be made about future strategy. They seek to develop a longer term framework, outside the business-as-usual constraints of the present, within which thinking about potential strategic options can occur. They provide a way of making sense of an uncertain and complex future environment, using as wide a frame as possible, so that meaning might emerge to inform decision making. According to Slaughter (2004), the output of 'good futures work' is doing things differently, doing new things or social innovation. In strategy, it is about expanding the perceptions of the options available to an organisation so that new and sustainable options can be discovered and considered.

As such, foresight in organisations is about expanding the mindsets of people, by questioning long held assumptions and beliefs that underpin present strategy. Careful choice of methodologies is required so that people understand the process that they are experiencing, what outcomes are expected, and how those outcomes will be used. The difficulties with implementing outcomes arising from the use of foresight methodologies are no different from any traditional strategy process. It is possible, though, that the more the foresight methodology has taken into account the organisational context in its broadest, most integral sense, the more chance there might be of successful implementation of subsequent strategy decisions.

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