Developing and Applying Strategic Foresight

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What is strategic foresight?

Strategic foresight (SF) is the ability to create and maintain a high-quality, coherent and functional forward view and to use the insights arising in organisationally useful ways; for example: to detect adverse conditions, guide policy, shape strategy; to explore new markets, products and services. It represents a fusion of futures methods with those of strategic management.

Most organisations operate primarily on the basis of priorities and principles laid down in the past, within a taken-for-granted worldview. They modify their underlying past-orientation with inputs from the current environment such as market information, economic signals and government regulations. But few attempt to bring these factors from the past and present into a coherent relationship with the forward view. Since the latter remains a collective blind spot this article concentrates on the construction, maintenance and uses of the forward view.

Why is strategic foresight needed?

Strategic foresight is needed for a number of reasons. At the broadest, or 'macro' level, SF provides a number of ways of coming to grips with what I have called the 'civilisational challenge'. That is, the exhaustion of aspects of the Western worldview and the industrial ideology that went with it. Though essentially superseded, this ideology remains strong. It is comprised of elements such as: the denial of limits, the single-minded pursuit of material (economic) growth, the commodification of human needs, the reduction of natural entities to the status of mere 'resources', exploitive trade practices and future-discounting. Such elements have contributed to what has been termed the industrial 'flatland' which, in essence, is an overly empirical, hence 'thin' and eventually self-defeating, view of the world. [1] My own reading of the forward view suggests that the continuation of 'flatland' leads inexorably to a world that no sane person would want to live in or pass on to their children. It is a world that is impoverished, mined-out, polluted, stripped of (non-human) life and overwhelmed by increasingly powerful technologies. [2] Strategic foresight provides a way out of this cultural trap. It does so by helping organisations to grasp some of the major 'big picture' concerns about human purposes, cultural evolution and sustainability. Since the wider implications of such concerns lie 'in the future', they have been glossed over by mainstream economists and de-focused by conventional empiricist, short-term, bottom-line thinking. But SF brings them directly into the decision-making arena.

Secondly, strategic foresight is of direct use to organisational policy and practice on a day-to-day basis. While organisations will have to face the long-term issues eventually, their first priority must be to remain viable in the short-, and medium-term, present. Here, SF brings into play a new range of factors and possibilities. For example, good environmental scanning (see below) can alert an organisation to 'signals' in its operating environment that herald challenges to its business, new opportunities and the identification of new products and services. More generally, the careful use of a range of futures methods can provide a range of high quality insights into the near-future environment. Armed with this 'foreknowledge' a variety of strategies can be explored under different assumptions and conditions. As a result, the organisation is not only alert to signals of

change, it can grasp opportunities to develop a range of possible responses. Hence, reaction time is reduced. Decisions can be made in a broader context and with greater confidence because the near-term future ceases to be an abstraction. It becomes a highly significant part of the immediate operating environment.

Finally, strategic foresight can be developed to the point where it opens out what Hamil and Prahalad have called 'future competitive space'. [3] This means that organisations do not have to wait for the promptings of competitors or the mythical call of 'market demand'. Instead they can decide what they want to do and then put in place the means to achieve it. This sounds unexceptional until it is realised that the forward view contains many novel and unconventional possibilities. It is only by giving that view due attention that the latter can be understood or recognised. Here are insights into new industries, new ways of solving old problems, new sources of impact-free wealth-creation, the grounds of new business and civil cultures. Clearly, the forward view is a significant resource that can contribute to management and strategy in a number of ways.

To sum up: the underlying rationale for strategic foresight is that the world is changing rapidly. The forward view is not an abstraction. Rather, it tells us that there are a number of very real dangers to avoid and an equally impressive number of opportunities to be taken up and developed. This pattern of dangers and opportunities is highly relevant to everything that an organisation attempts to do - even in the short-term present. Organisations that attempt to move into this turbulent, challenging, future without SF will find themselves overwhelmed by forces that were indeed visible for some time, but which were overlooked. On the other hand, while no futures method can imitate history and foresee all eventualities, organisations that routinely employ SF will find that they are better equipped to negotiate the turbulent conditions ahead. They will prosper and develop because they have understood the structure of the near-future context. In essence, a well-crafted forward view reduces uncertainty and reveals the grounds of otherwise-unavailable strategic options.

How can one embed strategic foresight in an organisation?

A valuable starting point is to understand what foresight is and how it can be built up through several 'layers of capability'. [4] This essential step is missed in most management texts and many futures ones also. Yet a grasp of these underlying processes makes it much easier to deal explicitly with the operational issues involved in successfully embedding foresight in organisations. Foresight is first and foremost a human capacity. But to be useful it must be developed and applied. There are five key 'layers' of capability.

1. We should recognise that every individual has the capacity for foresight. It is an emergent capacity of the human brain/mind system. The latter is of sufficient complexity to support 'higher-order consciousness'. This means, first, that human beings are reflexive (ie. they know that they know) and this gives them enormous symbolic and practical power. Second, the arena in which this mode of advanced consciousness operates is vast. It extends from the distant past to the distant future. Hence, humans are not locked into a fragmented 'creature present'. They are self-determining entities; they can select, choose, and also create future ends to guide them in the present. These understandings should be acknowledged and encouraged across the whole organisation.

2. The main catalyst for developing this in-built capacity is the use of futures concepts to create a futures discourse. The latter has been widely overlooked. But it is the web of distinctively futures-

oriented concepts and ideas that opens up the future as a symbolically-, and practically meaningful arena of human activity. It is perhaps best thought of as 'symbolic software'. While the brain/mind system should not be compared to that of computers, this human 'software' makes it possible to engage with 'the future' as a subject of great present-day significance. Without it, 'the future' remains a problematic abstraction of little present interest.

3. The mastery of such a discourse leads to the productive use of key futures methodologies. These support the extension of strategic foresight beyond the arena of symbols and ideas. Now quantitative data can be integrated with qualitative insight. I will have more to say about certain methodologies below.

4. For the concepts and methodologies to be able to deliver insights of the highest quality, strategic foresight must not be limited to annual planning exercises or temporary add-on units. It should be developed in permanent purpose-built niches. The nature of these niches varies from place to place. They range from modest foresight units or teams within a single organisation to full-blown and free standing institutions of foresight (IOFs) that may reasonably serve a number of organisations.

5. As an applied capacity for strategic foresight becomes established in a range of contexts it is legitimate to anticipate the emergence of foresight at the social level. Such a development is greatly to be desired since it will serve both to enhance the prospects for individual organisations and for the wider society and culture in which they are located.

With these 'layers of capability' firmly in mind, the task of creating and embedding a capacity for SF in organisations becomes much clearer. There are several options: upgrade an existing strategic analysis capacity; create a new team; buy in external expertise or a combination of these.

1. Upgrade an existing capacity

Strategic foresight is not merely an extension of conventional strategic planning. However, there may well be existing expertise in the areas of planning, strategic analysis or some form of information-gathering or statistical function. So a useful first step is to subject whatever capability presently exists to an information audit. That is, to ask what types and categories of information are currently gathered, what uses are made of these and what measurable outcomes can be demonstrated? With the results of such an audit in hand it is easier to see which areas and organisational functions are being covered and which are not.

Second, it is important to review the capabilities of available personnel. What skill levels are available? What competencies are covered well or badly? Which people are suitable for taking on new roles and tasks? Which people work most successfully together across organisational boundaries? Are there people for whom a shift to more demanding SF work would be too demanding? Clearly these are delicate questions and they should be handled diplomatically.

Third, it is necessary to decide what kind of SF capacity is appropriate to the organisation. Since the latter differ so greatly in their needs, functions, cultures and make-up, it is not possible to lay down hard and fast rules. Rather, each organisation should develop its own criteria in the light of its own self-understanding, culture, goals etc.

2. Create a new capacity

As above, it is useful to begin with an assessment of present information use and personnel within the organisation. From here those planning the new capacity need to move directly to the questions addressed above about purposes and needs. What role will the new team play in the organisation? What criteria and/or benchmarks will apply? What level of investment will be provided and how will the results be evaluated? These are all key questions.

Once these questions have good answers the task becomes one of finding the appropriate people, putting in place the appropriate information management systems and establishing the working procedures. Will the team communicate with the rest of the organisation on-line? Will there be weekly, monthly, briefings? Next is the question of what methodologies to employ. Will the new function include an in-house environmental scanning capability or will this be bought in? Will there be regular SF workshops, and if so, who should take part? [5]

As an organisation works through these and similar questions, it will begin to shape and develop its own unique SF capacity. This work is unavoidable since there is no satisfactory 'off the shelf' solution. It follows that SF will take on different shapes and forms in different organisations.

3. Buy in external expertise

Some organisations may be too small to create their own SF capability. Schools and small businesses would be good examples. In other cases, the culture of the organisation might mitigate against it. Charities, foundations and some academic organisations might fall into this category. In such cases external expertise may be appropriate. This falls into a number of forms.

Individual consultants. These are useful for bringing a fresh perspective into organisations. They can be hired to initiate SF work and to nurture it to the point where the organisation is self-sustaining. Indeed, semi-permanent relationships like this can be very successful where the competence of the consultant closely matches the needs of the organisation.

Environmental scanning publications and services. There are a growing number of on-line and hard copy publications that can help to bring up-to-date information to the attention of organisations. [6] However, the mere existence of such materials does not mean that they will be well used. So there is always a risk that such 'third party' materials may not be directly relevant to organisational needs.

Foresight organisations. These may be small units in larger organisations or free-standing units in their own right. There exists a growing number of futures-related research and/or public policy institutes such as the Foresight Project in the Business School and the University of Durham, UK and the Worldwatch Institute in Washington DC. [7]

4. A combination of the above

Perhaps the best basic strategy is a combination of the above. That is, an organisation might be best advised to make use of its existing employees, to bring in 'new blood' to take up new tasks and also to make appropriate use of consultants and information services. Where organisation are too small to even consider this, cooperative arrangements could be considered. For example, an SF interest group at a local tertiary institution, trade association or professional body. I refer below to sources that provide more detailed outlines of strategies and methods.

Selecting foresight methodologies

Once a decision has been made to invest in strategic foresight the question arises of which methodologies to employ. As noted, is no simple answer to this question; it depends on the needs of the organisation and the priorities of decision-makers. The single most common error is to assume that the path to successful foresight is simply a matter of applying the right methodologies. This is a remarkably persistent assumption. However, I have argued that it is incorrect. <u>I take the view that foresight work will be most productive when participants possess, and are actively immersed in, a high-quality, international, futures discourse.</u> Without this immersion there are likely to be many personal, cultural and organisational factors that go unnoticed and thus affect subsequent work in hidden ways. [8] It should also be noted that the boundaries between what are considered to be 'tools' and 'methodologies' are not entirely clear. I take the former to be fairly modest ways of carrying out small-scale tasks; elements of larger processes. Methodologies are more substantive, more demanding to use and should produce significant, high-quality results. However, not all observers agree on which procedures fall into which category. [9]

Table 1 (at the end of this document) provides summaries of a dozen futures methodologies grouped under the headings of input methods, analytic methods, paradigmatic methods and iterative and exploratory methods. Each group has different functions that are briefly outlined here.

1. Input methods

Input methods are ways of gathering material relevant to organisational needs. One of the simplest methods for constructing the near-future context is through the device of posing a number of high-quality questions, and then integrating the answers. [10] This method usefully sketches in aspects of the broad arena of the near-term future. It will also highlight emerging issues that may need to be followed up in due course. The strength of the method is that it enables a fairly rapid scan to take place. The main drawback is that unless the work is carried out skilfully it can become merely impressionistic. The selection of key questions to research is an important determinant of the outcome.

A more complex and widely-used method is the Delphi technique. This permits an organisation to investigate new or novel areas in some depth and breadth. It is a tried and tested approach to opinion polling which works best when those interviewed are genuinely knowledgeable about the field under study. However, the technique is difficult to administer well and concerns have been raised about the way it reduces diversity and can under-emphasise divergent views.

Environmental scanning is the single most effective data-input method available. For reasons discussed elsewhere it provides the basic raw material for the construction and maintenance of the forward view. It, too, requires careful handling both in terms of the frameworks of understanding brought to bear upon it and regarding the kinds of information management systems used to support it. When done well, research suggests that it is a very effective method that has measurable impacts on the organisation's 'bottom line' (see below).

2. Analytic methods

Analytic methods tend to be not so much free-standing methods in their own right so much as stages in a larger piece of work. For example, cross-impact analysis comes into its own when a series of factors at work in an environment have been identified and the interrelationships among them must be explored. Hence cross-impact is used in scenario building and in the futurescan

process. Forecasting and trend analysis are less popular than they once were. There are quantitative and qualitative approaches to both. The former attempts to fit time-series data to one of a number of possible curves and to use them to look at future possibilities. The latter looks for theories that account for the observed behaviour of the trend, tests assumptions and attempts to understand the nature of the system. In this way possible future states can be explored. Both approaches are obviously vulnerable to unforeseen changes, and this may help to explain why forecasting and trend analysis have slipped from favour.

Backcasting takes a very different approach in that it is explicitly normative. It works back from a description in words and/or images of a particular desired end state and attempts to determine what measures would be required to bring this about. In general, backcasting tends to focus on complex, long-term issues rather than simpler, more close-up ones. It provides a basis for dialogue about long-term policies and a framework for the exploration and design of appropriate strategies.

3. Paradigmatic methods

Paradigmatic methods are relative newcomers to the futures methodologies arena. This is partly because they do not spring from the still-dominant North American context and partly because there are all-too-few places where they can be taught and learned. Advanced practitioners in futures methods have been aware of the role and importance of paradigms per se for many years. But this awareness has not yet translated into a widely spread capability to employ paradigmatic methodologies or an understanding of their centrality in futures work generally. Hence, layered causal analysis probably sounds esoteric to most practitioners. In fact, it is quite straightforward. Phenomena can be understood in various ways. Conventionally, one finds simple empirical descriptions that capture surface features of, say, population, resources and environment issues. But a deeper look reveals a lot about the way such concerns are handled socially through eg: regulatory regimes, planning and governance. Deeper still is the level of critical discourse. This focuses upon frames of meaning, the emergence and extinction of discourses and the active influence of disciplinary paradigms not only on what is thought but also on what can be thought. Finally there is the level of civilisational myth and metaphor. Here one finds the deepest worldview commitments as expressed, eg, in notions of time, the role of religion (if any) and myths about the 'conquest of nature'.

Causal layered analysis therefore provides a richer account of what is being studied than the more common empiricist or predictive orientation which merely 'skims the surface'. But because mastery of the different layers calls for critical and hermeneutic skills that originate in the humanities, some futures practitioners may find the method challenging at first. One result is that neither it, nor the critical futures studies from which it emerged, are consistently covered in recent literature. [11] Critical futures study is itself an approach to futures questions that arises from a deep understanding of the dysfunctions of the Western worldview. This can seem threatening to those whose professional interests are bound up with the powerful groups whose interests are still framed within an industrial growth-oriented ideology. But, in fact, the analysis of dysfunctions at this deep level is only a ground-clearing exercise. Beyond this is the fascinating and much more demanding task of exploring new domains of cultural possibility and potential. [12]

In summary, empirical futures work has much to contribute about the empirical aspects of real-world trends, events and processes. But, taken alone, it tends to miss the shaping significance of the 'social construction of reality' as revealed by paradigmatic methods. However, where the latter can be included in a wider process, quite new options and whole new arenas of strategy can be

uncovered. For example, when expressed in conventional empirical terms, the 'problem of unemployment' may seem irresolvable. But when viewed at a deeper level it turns out that 'unemployment' is a social artefact created by industrial thinking and unquestioned economic orthodoxy. There are, in fact, many ways to reconceptualise it, view it differently. 'The future of work' has less to do with jobs and salaries than with shifting mental frameworks, exploiting the new information technologies to the full and providing the kinds of safety nets that would allow people to see risk-taking as a standard part of skill-development and enterprise learning.

A further paradigmatic method is that of systems thinking which is based on a holistic worldview. It suggests that entities are more than the sum of their parts - that they have 'emergent properties' that cannot be reduced to the simpler components from which they are made. Thus, this is a perspective which stresses wholeness, connectivity and the ever-present likelihood of surprise. It draws attention to the wider contexts (space, time, culture, ecology etc) in which individuals and organisations are embedded. Systems thinking therefore provides tools, understandings and concepts that allow practitioners to be systemic in the way they go about their work. As such, it complements other paradigmatic methods.

4. Iterative and exploratory methods

Iterative and exploratory methods are those which permit a substantive definition or exploration of future states, future options or future strategies. The most well known, and certainly the most successful of these is the art and the practice of scenario building. This alone, of all futures methods, can create convincing future worlds at a variety of levels of aggregation. To make good scenarios a great deal of preparation and analysis is needed. Both the French method (sometimes referred to as the prospective approach) and the more widely used GBN/ABN method place a lot of emphasis on understanding the organisation and its environment. The internal culture of the former is seen as just as important as driving forces in the latter. After a painstaking process of enquiry, 'scenario logics' are defined and a basis for specific scenarios is derived. These make it possible to construct internally coherent accounts of divergent future states. In turn, the latter are used to consider a variety of possible organisational responses. Scenario building has therefore been seen as a 'keystone' methodology within futures studies and foresight work. For this reason it is sometimes taken to be the only one. But this is obviously not the case.

Visioning is a workshop process which may use simple scenarios or it may not. One approach begins with the identification of organisational problems, past successes and preferred future outcomes. The preferred future state is carefully explored to find out how it operates. Finally resources and steps are identified in the present that could lead the organisation in desired directions. Backcasting is a variant of this approach except that a lot more attention is paid to working back from the desired future to the present. Stages, steps, dynamics of change are all carefully considered. In short, visioning and backcasting are two ways of delineating normative futures and then locating the mechanisms by which they could be achieved.

Futurescan is a middle-level iterative and exploratory method. It can be carried out much more quickly than full-scale scenario building and its results are more provisional. It is based on two full-day workshops. The first carries out a standard analysis of the organisation, then derives a long list of trends and events that could affect its future. These are prioritised and the 'top ten' items are entered into a cross-impact matrix. The matrix is analysed to reveal driving forces and inhibiting factors in that environment. The output is embedded in 3 'scenario shells', ie, three simple and partly preconstructed pictures of the near-term macro future. Each 'picture of a future' is then examined and a number of strategic options are derived. The latter are tested for relevance and

effectiveness. In short, futurescan is a simple, 'front end' and middle range technique. It can be used with small organisations or with larger ones as an input to a larger strategic planning or foresight exercise. Its drawbacks are that it can be used as 'window dressing' if a commitment to the implementation of outputs is lacking. Alternatively, it is a very effective way of providing a new team with some of the tools of this kind of work.

How, then does an organisation select which methodologies to use? As noted above, there is no simple answer. It depends on many factors including: the type of organisation; whether or not personnel have prior experience of foresight work; the kinds of problem under study and the nature of the operating environment. One approach would be to carefully tailor together a number of methods to build up organisational capacity. For example, if an organisation wished to set up a permanent foresight capability, the following sequence is worth considering.

1. Carry out an audit of information management and available personnel.
2. Arrange for one or more briefing sessions from a strategic foresight or futures practitioner.
3. Select an input method and put it into operation.
4. Apply a paradigmatic method to the early products of (3).
5. As a number of high-quality and in-depth understandings become available, select an iterative or exploratory method appropriate to organisational needs.
6. Apply the outputs of steps 3, 4 and 5 within strategic management and evaluate the results.

If it can be said that a 'classic' sequence of futures methods exists, the following is a possible model.

1. Begin with a conceptual analysis of the near-term future.
2. Use this as a basis for setting up an in-house environmental scanning system.
3. Run significant emerging issues through a layered causal analysis.
4. Use the above as inputs to scenario building and strategy-formulation.

Clearly the way the methodologies are put into practice within organisations are as important as the selection of the methodologies themselves.

Indications from literature and research

It is prudent for those proposing to set up a strategic foresight program to consider the prior experience of practitioners and research already carried out into the effectiveness of various methods. For example, if one is thinking of using the Dephi technique, trend analysis, cross-impact and so on, practitioners such as Bell and Coates may be regarded as authoritative sources. [13] Occasionally a single book serves to gather and summarise a wide range of research about a futures methodology. One such is Choo's impressive work on environmental scanning. Here he presents research from corporations in a number of countries. After summarising many studies he concludes very succinctly that: 'environmental scanning improves organisational performance'. Later he adds that:

> The dynamics of competition and organisational growth will become increasingly based on the effective management of information and knowledge. Information is not just another factor of production (such as land, labour and capital), but the

enabling factor that determines how the other factors of production ought to be combined and utilised in order to maximise organisational performance. [14]

There is an extensive literature on scenarios. Godet and Schwartz are among those who provide contrasting accounts. [15] The paradigmatic methods are too new to have accumulated a lot of hard research evidence. However, indicative case studies are available in the work of Ogilvy, Inayatullah and Slaughter. [16]

Occasionally a piece of research is carried out that takes a broad, comparative approach. Such was the case with a study carried out by two researchers from the Battelle Institute of Seattle on Foresighting Around the World. They looked at ten what they termed 'best-in-kind' programs and came up with some generalisations to guide future practice. They concluded that successful foresight programs had the following features. They:

* began with a perceived need to prepare for future challenges;
* have 'program champions' during start up;
* prove responsive to client needs;
* involve the relevant participants in the process, and
* experience a legitimising process. [17]

Such practical guidelines usefully flag significant success criteria for those contemplating setting up similar programs.

Beyond the program level there is the issue of how to design, create and maintain what I call 'institutions of foresight', or IOFs. These will arguably become more common as the turbulence of the early 21st century wreaks havoc among more traditional, change-resistant, organisations. As that time draws nearer it will be helpful to have a set of guidelines to assist in the setting up and evaluation of such bodies. [18] The use of relevant guidelines will make it unnecessary to 'reinvent the wheel' and reduce the incidence of 'trial and error' learning.

From theory to practice

The practice of strategic foresight is more of an art than a science. It combines elements of analysis, judgment, intuition etc. with a range of methods to extend our collective view forward into the near-term future. The active influence of frameworks of ideas and theories that stand behind these efforts are powerful determinants of what is attempted in practice and should not be underestimated. There is an irreducible cognitive-intellectual aspect to strategic foresight that is not always understood or welcomed within pragmatic business cultures. However, the movement from theory to practice can be assisted by practical guidelines. Here are some suggestions for creating and maintaining the forward view for maximum organisational effectiveness.

1. Question paradigm assumptions

Strategic foresight work can go astray if the starting points are unexamined. So before engaging in strategic foresight, it is worth looking carefully at the influence of hidden assumptions and paradigm commitments that can deeply affect the framing of organisational tasks and priorities. For example, is the organisation unwittingly contributing to global problems? Does it have an out-dated notion of growth? How does it respond to questions of sustainability? What social and cultural values are involved? How do such questions affect current economic assumptions and practices?

2. Scan 'outside the envelope'

Conventional organisational thinking tends to reflect 'bounded rationality'; that is, it gives exclusive attention to 'here', 'us' and 'now' and 'us' but overlooks 'there', 'them' and 'the future'. Is the arena of thinking broad enough, inclusive enough, to touch on, for example, non-western cultures and the interests of future generations? 'Outside the envelope' thinking should be encouraged because it is often the source of the most innovative ideas. Cutting-edge literature, research and proposed social innovations are rich sources of this kind of thinking.

3. Balance in-house competence with external inputs

It is vital to build up in-house capabilities and thus to have direct access to high quality foresight work within the organisation. Yet inevitably analysts become imbued with the prevailing corporate culture and take on board standard assumptions that are all-but invisible. So it is very useful to expose the in-house view to a range of external views and to regard the resulting contrasts, conflicts and dissonances as rich sources of insight. Appropriate external consultants with a firm grasp of paradigmatic methods can therefore stimulate and enrich internal capabilities and personnel.

4. Network widely

A viable forward view cannot be fashioned from the insights of a few individuals. It is essentially a collective process. Thus, organisations should not rely too heavily on 'big name' gurus from any field. Rather, they should insist that their foresight teams communicate widely throughout the world and across standard academic and organisational boundaries. It is only by immersion in this wider picture that aspects of the near-term future can be encountered, understood and constantly checked and revised. The essence of the forward view is that it is dynamic, not static. This requires constant, high-quality, active networking.

5. Encourage and reward people

No single method will accurately and consistently represent the forward view. It can only be created and maintained within well-prepared human minds. So foresight teams become a major organisational resource. While they must not be indulged, they should be valued, protected and encouraged in every way possible. For every dollar productively spent in high-quality foresight, the organisation can expect returns many times greater. Hence foresight teams should be generously endowed and rigorously evaluated.

6. Balance calculation with judgement

A consistent and valuable overview of the next 20 years arises from high-quality insight and deep understanding of a wide range of structures and processes: past, present and future. While the best methodologies incorporate hard data that may require spreadsheets and extensive calculation, the big questions of the early 21st century are matters for higher-order human capacities. These include judgement and discrimination. Here is where the formation of organisational strategy is both a highly intellectual, as well as an intensely practical, exercise. The aim should be to productively fuse these two sets of capabilities in pursuit of deep understanding and ethical organisational behaviour.

Conclusion

The future cannot be predicted - other than in trivial ways. But it is no mystery either. The near-term future can be clearly understood by developing the right capacities, asking the right questions and nurturing the right people. The careful use of such resources provides organisational access to an evolving structural overview of the next couple of decades: the near-future landscape. [19] Organisations that participate effectively in this process will find a range of valuable outcomes. They will seldom be overtaken by change. They will not succumb to crisis management. They will find it easy to avoid problems and seize opportunities. They will develop long-term vision and a kind of forward-looking prescience.

No method can imitate history and predict the future. But strategic foresight can supply a coherent forward view that will be a cornerstone of organisational success in the 21st century.

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Futures Methodologies for Strategic Foresight

USES AND LIMITATIONS

INPUT METHODS

Constructing near-future context	Based on quality answers to key questions about near-term future; useful starting point; provides conceptual approach to forward view; non-systematic; can be used impressionistically.
Delphi	Taps broad arena of opinion; works best when participants know subject well; reduces diversity; difficult to administer.
Environmental scanning	Provides raw material for forward view; requires integration of high-level cognitive ability and sophisticated data-processing; enables a dynamic view; vulnerable to paradigm issues if latter not included.

ANALYTIC METHODS

Cross-impact	Assesses relative impacts of factors on each other; can reify issues, forces; best used as part of larger process; differences of view about uses and features of the method.
Forecasting and trend analysis	Qualitative and quantitative approaches; dependent upon quality of concepts, data, information; vulnerable to unforeseen factors; less used now than in the past.
Backcasting	Normative. Works back from desired state. Used to determine feasibility and measures required to achieve desired end. Best for complex, long-term issues. Provides basis for dialogue, policy. Fairly recent. Few evaluations available.

PARADIGMATIC METHODS

Layered causal analysis	Considers phenomena at progressively deeper levels; problematises language, power, framing of issues; can be challenging for those unused to this kind of paradigmatic work.
Critical futures studies	Approach to futures work that focuses on the influence of underlying assumptions, worldview commitments etc. and processes for re-negotiating these; challenging for the uninitiated but highly productive.
Systems thinking	Based on holistic worldview. Stresses emergent qualities that are more than sum of constituent parts. Places emphasis on wholeness, connectivity, context and surprise. Permits practitioners to be systemic.

ITERATIVE AND

**EXPLORATORY
METHODS**

Scenarios	Standard, high-quality, futures technique; future 'stories' based on carefully constructed 'scenario logics'; opens out a wide range of strategic options applicable to different conditions; demanding to carry out successfully, but also one of the most productive methods.
Visioning	Process for setting up desirable (normative) futures and then identifying resources and steps to goals; useful way of moving beyond present constraints and limitations; but susceptible to misuse; hence demands disciplined application; similar to backcasting.
Futurescan	Workshop method using cross-impact and 'scenario shells' to create 3 contrasting futures, each of which yield strategic options; an easy-to-use 'front end' method; can be misused if outputs not implemented.