

Strategic Thinking With Scenarios

by Anthony Hodgson

1. Limits To Planning

Many years ago I asked an executive responsible for the future development of a very large corporation 'What do you worry about most on your job?' His answer was startling. 'I worry most about what my people don't know they don't know. What they know they don't know, they're able to work on and find the answer to. But they can't do that if they don't know that they don't know.' During the past few years, many people have come to feel like this executive."

Stanley Davis
"2001 Management"

Strategy for any coherent organisation is about the way the leaders of that organisation fulfil its mission in the environment in which they find themselves. This environment includes all the kinds of factors that need to be taken into account - technical, social, political and ecological - and it also includes the future, since missions have to be carried out over long periods of time.

The tendency is to assume that this wider environment is either unchanging or predictable. Based on forecasts, strategic thinking is converted into plans that get frozen into budgets and structures.

The plan assumes a future that validates the plan and this view of the future dominates our decision making: it is the future we bet on without any way of guaranteeing it will come to pass. We call this the default scenario. It is usually based on some form of extrapolation or prediction.

This would be fine if these forecasts held but we live in a world increasingly shaken by discontinuities and sudden changes. Uncertainty plagues the future so that our plans do not hold up to the stream of real events. This failure of strategic plans does not mean that strategy and planning are invalid. It means we have to create a new approach to strategy and planning that takes into account the uncertainties of the future. We have to give a new meaning to strategy.

2. Strategy as Learning

In a fluid and changing environment, default scenarios lead us into shocks and surprises. Instead we have to develop a very flexible idea of strategy. It is no longer the fixed five year plan, say, but a vision of a way ahead that is

capable of being modified at every twist and turn of events and still allow progress towards our goal. By analogy it is like making the step from a ballistic artillery shell to a guided heat seeking missile. The latter can deal with a moving target; the former cannot.

In a fluid environment there are many possible futures. It is somewhat like the weather. It may be fine; it may rain; what if it snows? Strategy must now embrace "what if?" questions that go outside the reach of our habitual mindset. This requires us to think with multiple futures. Each what if? question requires a different story of the future; a scenario. Each story will be equally plausible if we can entertain its assumptions. All will challenge the assumptions upon which our default scenario is based. Scenarios are distinctly structured views of the future that are self-consistent and plausible.

Each distinct future is something from which we can learn how to reconcile our mission with the environment. In the face of the unknown there cannot be predetermined answers. Thus strategy ceases to be a fixed plan but rather a learning process that leads to continuous improvement in the alignment of the organisation to its environment. In this way, scenarios are a powerful way of developing a learning organisation.

3. Constructing Futures

Constructing these different views of the future is not as easy as it first looks. This is because our view of the future is limited by our mindset. Mindset is the pattern of projected perception we lay on the outside world and sustain through our belief system; this pattern is very hard to change. Our mindset tends to hold us to a default scenario.

To construct scenarios we need a process that helps us to escape the dominant mindset. A wide variety of perspectives must be gathered from outside the confines of the organisation culture as well as from within it. From these perspectives, imagination and logic must be combined to write stories of the future. These stories not only portray images of the future but also a pathway of events through time that could lead us from where we are now to that future world. Underlying this must be an understanding of the driving forces that are likely to be shaping the future. Crucial to the chance that different futures might arise is the idea of "knife-edge criticality", the very small events that trigger vast changes. These turning points are like the switches that route us to one future rather than another. Underlying all this are certain deep structures of forces that determine varieties of behaviour. These deeper structures can be modelled with systems methods to help us see the dynamics of how different end states might come about.

4. Thinking Strategically

"Today we are living through one of those exclamation points in history where the entire structure of human knowledge is once again trembling with change as old barriers fall. We are not just accumulating more "facts" - whatever they may be. Just as we are now restructuring companies and whole economies, we are totally reorganising the production and distribution of knowledge and the symbols used to communicate it."

Alvin Toffler
"Power Shift"

Suppose now we have created several scenarios, how then do we use these to improve our strategic thinking? Firstly we have to convert our mission or intent into several parallel concerns. These might be policy options, they might be strategies, or they might be changes we believe are necessary. Essentially they are a set of concerns about outcome where we experience the pressure of uncertainty.

These intentions or options then need to be tested out in each future as if we were enacting them in that world; analagous to a wind tunnel. This generates new thinking which is stimulated by the factors in that future and the way these challenge our normal assumptions. The new thinking may be about how to make our strategy robust or "future-proof". On the other hand they may stimulate us to invent more options and expand our flexibility. They may also identify crucial new learning themes in areas of capability where we have not previously placed attention and resources.

These new views will also help alert us to developments in the present that are pointing to particular futures that we would otherwise have missed. There is a principle of cognitive priming that points out that we do not pick up information from the environment in areas where we have not previously entertained its relevance.

In all this our default scenario and hence our belief system about the future is challenged. We are less likely to be caught out by over simplistic views of the future.

5. Reaping the Benefits

There are several important benefits from taking this approach to strategy. Firstly it helps us to avoid the trap of rigid strategy which carries us too far down a given road to change easily and without great cost. Secondly it helps us get out of reactive decision making in which the environment has the upper hand over our mission. The daily grind can all too easily take our eye off the future and confine us to a vicious cycle. Thirdly, strategic thinking with scenarios is a good way to initiate the capability to be a learning organisation, especially if the scenario work is shared widely. Fourthly, it is a powerful way of developing deeper alignment (not necessarily consensus) in

management teams, even those that have worked together over long periods of time.

Although it is important not to view scenarios as any kind of forecasting of the future, never-the-less organisations that practice it do get better at spotting the advent of unusual futures and can get a few steps ahead of those who don't see it coming. This is especially true of discontinuities. In many situations the gaining of even a few months of extra lead time to meet eventualities represents serious competitive advantage. Finally, it offers a significant contribution to transforming an organisation into an alert mission-oriented one.

6. Resolving the Crucial Dilemma

In facing the dilemmas of the future it is important to take a strategic view and to plan for long term survival and success whilst at the same time acknowledging that the environment is unpredictable so that that almost any forecast or plan will rapidly be overtaken by events. Do we, therefore, abandon forecasting and live on a day to day basis? This leaves us vulnerable like a ship which simply runs before the wind and ignores where its destination is. Do we, instead, try to second guess the future in the hope our plans will work out given enough effort? This leaves us vulnerable like a ship which heads in the right direction but runs aground on an uncharted shoal.

The resolution of this dilemma in a practical way comes from a new understanding of the future itself and especially how human intelligence and even the structure of the brain, is set up to deal with future uncertainty. Our brain has a zone dedicated to dealing with the future; it forms a memory of the future. In a healthy individual, this part of the brain is rehearsing and storing many images of possible futures; "if this happens then I will do that". In an individual with certain mental difficulties, there is only one memory of the future and so when this future does not come to pass the person suffers a breakdown. The expectations are brittle and the capacity to respond to change is poor.

7. Getting Free of the Default Scenario

"Using scenarios is rehearsing the future. You run through the simulated events as if you were already living them. You train yourself to recognise which drama is unfolding. That helps you avoid unpleasant surprises, and know how to act."

Peter Schwarz
"The Art of the Long View"

Companies have a tendency in their planning to behave like individuals with mental impairment. They assume one future and plan to it. When that future does not happen, they are in shock or crisis. Their capacity to change and adapt is impaired. This single view of the future, whether it is a forecast or

an expectation of continuity of the present, is referred to as the default scenario. This is the trap that many company strategies and plans fall into. Since a lot of work already has to go into single scenario planning, the implications of the extra work for multi-scenario planning are seen as daunting.

Where the reason for getting out of single scenario planning is not appreciated, managers tend to treat the inevitable shocks and changes as "unexpected circumstances" and operate in a panic management-of-change mode. Change management is a very different process when you have anticipated and prepared for it.

Shell were able to rehearse a massive fall in the price of oil in the early 80's when everyone else thought it was going to go up even more. They found valuable lead time in realising that the default scenario could be wrong.

8. Increasing Healthy Memory of the Future

What are the practicalities of developing an approach that acknowledges the unpredictability of much of the future and yet allows us to run our businesses strategically? How can we share this approach sufficiently widely with the managers and, eventually, the employees of a company?

The important fact to realise in answering these questions is that people have a limited tolerance of uncertainty, and yet within that limit, learning can take place. When there is no perceived uncertainty, the status quo lives on with complacency. In scenario planning the focus is on raising awareness of external challenges and on triggering learning experiences. This then naturally feeds through into behaviour and decision making.

By challenging people with both alternative and wider views of the future environment, they can then engage in the crucial question: "What if?". When we go on a journey, say a hike in the mountains, we may be planning in fine weather. As we scope out the route and pack our provisions and equipment we also consider "What if a mist descends? What if it snows? What if someone sprains an ankle? What if we get delayed a day and have to bivouac?" These mental rehearsals may change the equipment we take, our thinking about alternative routes and the skills in the team for dealing with contingencies. Armed with these memories of the future we are much better able to cope with the eventualities along the route to our destination.

9. Strategic Robustness

Being able to cope with contingencies also gives us a sense of power and confidence. If we think about alternative business strategies and we are considering different possible futures, no one of which we are sure is the one that is going to happen, then we would obviously prefer to adopt a strategy which could lead to success whatever the future holds. This would be a

robust strategy. An attractive strategy might give a high pay off in Scenario A but it would fail in Scenario B. That is not robust if we attribute significant weight to the possibility that Scenario B could occur. However, we may need a contingent strategy prepared for just one future scenario in case things turn out to go that way.

10. Environmental Scanning

"In the years 1989 and 1990 history sped up its course; communist regimes in Eastern Europe collapsed, East and West Germany become a single nation again, the 1990 invasion of Kuwait by Iraq provoked a deadly crisis in the Gulf....Despite their geographic dispersal, they were interconnected: the end of the Cold War and of East West tension blew the lid off the world pressure-cooker and enabled latent conflicts to surface as open and long repressed aspirations found forceful expression. In the coming years, other events will probably come to the forefront in the world while today's will be pushed into the background."

Alexander King and Bertrand Schneider
"The First Global Revolution"

Supposing our time horizon for thinking about the future of our business is ten to fifteen years. If the future is so uncertain, isn't writing scenarios little different from science fiction and of about the same value? This is not the case if we understand that developing scenarios of the future begins from becoming more aware of what is going on right now. What any group of managers notice about the world is conditioned by their patterns of perception built up in a limited walk of life. Different experts, for example, see quite different things going on and value them quite differently. To build scenarios we need to take a range of perceptions much wider than our customary one.

There are always pockets of the future in the present. Some countries do things today that will take five or ten years to reach other countries. Some sectors of society are right now living in a way that is our future. Some people have ideas that will take twenty years to incubate and become generally accepted. Technologies exist that people have not yet heard of that will one day be commonplace.

A pre-condition of developing a scenario approach is to set up better ways of getting to know what is going on now and arriving at seeing this through very different eyes. One way this is done is to gain access to and interview exceptional people who have very special perceptions about what is happening. For example, consulting an expert on the history of the nation state as a way to get new angles on the future of international economics.

11. Structural Principles of Scenarios

By scanning the environment in this way we can begin to uncover layers in what is going on. There are dominant features that look as if they are going to persist under any future scenario. These we call predetermined elements - for example, certain population statistics - a metaphor here might be rocks in the sea bed. Another aspect we call driving forces. These can be likened to the major currents under the sea. An example would be increasing global competition. A further layer is current trends. These are like the surface currents that are often more viable and may increase or decrease in different cycle times. An example would be the trend of increasing and decreasing interest rates. These layers interact in complex ways and potentially can lead to very different outcomes.

We call the cross-roads at which Scenario A and Scenario B part company and we go one way or the other a turning point. This may be some years ahead and as yet we cannot tell what will come to pass. An example would be the two futures of Europe depending on the acceptance or rejection of the Maastricht Treaty. One crucial role of scenario thinking is to alert us to the weak signals that might give us early warning that one branch rather than another is likely to develop. A further component of scenarios is discontinuity. Not all unfolding changes are smooth curves. There are jumps after which the world can never be the same again. An example of this was the collapse of the Berlin Wall and all that it implied.

There is no mechanistic way to use these components to assemble scenarios. They are created through a combination of research, analysis, hard thinking and imagination. They involve the skills of the story teller as well as the strategist.

12. Methods of Constructing Scenarios

In the early stages of the development of scenario planning methods, the generation of scenarios was carried out by a small number of talented people supported by significant environmental scanning. As the methodology has become clearer, the methods of constructing scenarios have become more accessible to groups of managers. Providing the need for unexpected components is respected, it is possible to develop DIY (do it yourself) scenario building.

The broad stages of such a process tend to be:

- a) identify people who will contribute a wide range of perspectives
- b) either interview them or have a workshop (or both) to elicit their views on many dimensions of the future
- c) cluster or group these views into connected patterns
- d) map these on a time line leaving scope for turning points

- e) convert these time lines into coherent stories
- f) cross check for internal consistency and significant difference
- g) illustrate with enrichment material and data
- h) compose key diagrams that help to visualise interconnections.

The use of visual support techniques such as hexagon mapping are recommended.

13. Relating Scenarios to Choice of Direction

"It is a matter of some concern that as a rule we do not give managers equally powerful means (to flight simulators) to learn their trade. The work of many managers has human consequences with potential for disaster equal to malfunctioning aeroplanes, chemical plants or dykes or dams. Nevertheless, we find it perfectly normal to send managers into positions of responsibility to learn by experience - by trial and error. We ask them to learn 'by experimenting with reality'. Being intelligent people, they will recognise and fear the consequences - and learn a lot less and slower than they would have done otherwise."

Arie de Geus
"Modelling for Learning"

Scenarios will only be engaged in by executives if they can see relevant connections with their own business. This also puts a demand on them to have some sense of alternative directions for their business, and to think about options within those directions. The advantage of some participation in scenario building by the executives is that they can express their concerns about the future and give the scenario builders more clues about the features most likely to have strategic impact.

However, the content of scenarios should not be restricted to what executives currently believe is relevant. This would not have sufficient challenge to shock them out of the default scenario. It would also lose the benefit of alerting them to weak signals pointing to significant events that might otherwise be missed.

In strategic thinking with scenarios it is important that the people in the executive team working with the scenarios have (a) already started exploring some real choices they face about the future of their business and (b) that they would like to test the robustness of the directions they might choose.

14. The Scenario Matrix Method

The scenario matrix method is a powerful way of bringing together the interaction of strategic directions with alternate scenarios. Each strategic direction is tested as to its implications in each scenario so that the memory of the future is exercised in connection with the strategic intent. This sets a

powerful mental activity going from which insights emerge very rapidly. It can also stimulate innovative options.

The matrix itself is a transitional object, a "management learning playground" if you will, which helps to structure the "thinking game". Crucially, it is a medium which helps to structure the sharing of mental models.

15. Rules of Engagement with the Process

In engaging with this process of interaction with scenarios we have found some interesting guide rules which help to get the learning out of the situation. These are:

Strategic Directions should :

- be grounded in current strategic thinking
- be equally attractive
- have some balance of radical and conservative
- be different enough to require choice
- be coherent and believable
- emphasise different competencies.

Scenarios should:

- each present an imaginable coherent future
- be structurally distinct
- definitely not be confused as predictions
- contain variables of interest and potential impact on directions
- refer to pockets of "future in the present"
- be challenging to customary assumptions and frameworks.

16. Designing Scenario Facilitation Processes

"The future is too important to be ignored, notwithstanding this difficulty [of predicting the future]. The Shell approach to strategic planning is, instead of forecasts, to use scenarios, a set of 'stories' about alternative possible futures. These stories promote a discussion of possibilities other than the 'most likely' one and encourage the consideration of 'what if' questions. Although scenarios deal with the future, they are essentially ways of structuring the present. One of the most important uses for this structure is to help us recognise more of what is going on around, including the early, weak signals of change."

Adam Kahane
"Long Range Planning Journal"

The concepts, principles and methods of working through scenario thinking are initially strange to most executive teams. Even people who believe that they already do scenario thinking have often overlooked some of the crucial cognitive requirements for their effective use.

Certainly in the early stages it is beneficial to use a facilitator as a help in both the design and the discussion of scenarios. A facilitator has a number of roles:

1. helping with scenario building, especially their principles of construction
2. helping to design how management teams interact with them, for example, in workshops
3. facilitating the live workshops to ensure proper engagement with the processes and effective sharing of mental models
4. debriefing and follow through planning to ensure the learning is linked into the planning and management processes.

17. Some Typical Misuses of Scenarios

In the absence of proper initial guidance and familiarisation with scenario methods, companies can typically fall into a number of traps which detract from the real value that this approach can bring:

- 1) they remain caught in the assumption that scenarios are forecasts
- 2) they construct scenarios based on too simplistic a difference, such as optimistic and pessimistic
- 3) they fail to make them global enough in scope
- 4) they fail to focus them in areas of potential impact on the business
- 5) they treat them as informational or instructional rather than for participative learning
- 6) they do not have an adequate process for engaging executive teams in the scenario thinking
- 7) they fail to put enough imaginative stimulus into the scenario design even if they avoid trap 1 above.