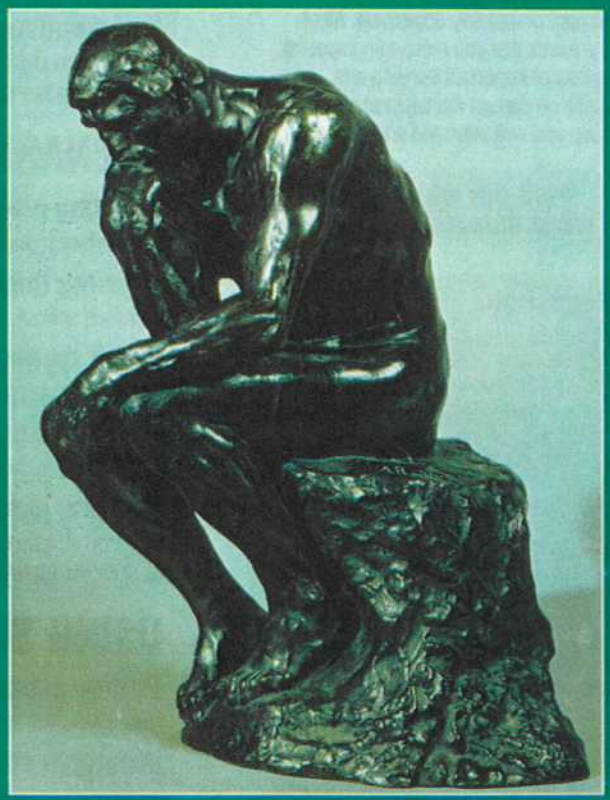
THE Antidote
The independent guide to issues currently on the management agenda

Issue: 22

Scenarios: The search for foresight



Nobody can foretell the future. But it is vital for managers to think hard about it and evaluate alternative possibilities. Scenarios can help you do this.

- What are 'scenarios'?
- What is the thinking behind them?
- In what ways can they help?
- How do you set about creating them?
- What alternative methods are there?
- Which technique might suit you best?
- How do they fit into the strategy process?
- What are the pitfalls?
- To what uses can they be put?
- Who has used them and how?

A concise guide to grappling with the future

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THE Antidote

Each edition of *The Antidote takes* as its theme one of the Issues currently on the management agenda. First, we carefully trawl through ail the available material we can find on the chosen subject from around the world. We then select those aspects that we think are of most practical benefit to senior managers.

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Issue 22

Scenarios: The Search for Foresight

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Cover illustration: *The Thinker (Le Penseur) (bronze) by Auguste Rodin (1840-1917) Private Collection/Bridgeman Art Library.*

Editorial

No doubt in the period immediately running up to, and just after, the turn of the millennium, much of the world's media will indulge in an orgy of rétrospective reviews and future predictions. It's bad enough at the end of a decade, so what it will be like at the end of a century, let alone a millennium, is difficult to imagine. No doubt by the end of it we'll all be sick and tired of being told where we've been and where we're heading.

Whatever the solemn prognostications or wild 'sci-fi' projections, business will go on (Y2K permitting, of course). It will, as always, be up to individual managers in individual organisations to develop their own views of the changing nature of business and the technological, economie and socio-political environment in which it will be conducted. Indeed this Issue of *The Antidote* looks at a wide variety of tools and methodologies designed for just that purpose.

However, if asked what area will have the biggest impact on the way business is conducted in the future, and also where the greatest uncertainty about the nature of that impact lies, it would be difficult to avoid mention of what has become known as e-commerce and e-business. Despite, rather than because of, all the hype and froth around the subject, most of us have a sense that many familiar business models are going to be challenged over the next ten years. While e-commerce is generally couched in terms of a retail battle between 'bytes' and 'bricks and mortar', the much less widely popularised world of e-business has far more potential to disrupt current thinking about how *all* businesses can and should be run.

So, before we enter the brave world of the new millennium, and get used to writing strange dates like 3/1/00 (or 1/3/00 in the US), *The Antidote* will be devoting its next two Issues to exploring equally unfamiliar territory. This is a different world of web-oriented marketing, procurement through extranets, video-conferencing via virtual private networks and even cyber strategy! As usual, we will seek out the best or most distinctive current thinking and, cutting through the buzzwords as best we can, provide you with a guide to managing in a digital economy. These issues should also provide a useful antidote to some of the more fantastical forecasts we are likely to hear over the coming months.

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Thinking about the future

In their 1994 bestseller, *Competing for the Future,* management gurus Gary Hamel and C.K. Prahalad describe asking senior managers three simple questions. Firstly, what percentage of their time is spent on external, rather than internai issues? The usual answer is about 40%. Secondly, how much of this time is spent actually looking some years ahead, as opposed to worrying about competitors' current tactics? The answer is around 30%. Finally, how much of that thinking-ahead time involves developing a consensus view of the organisation's future? The answer is about 20%. Hence what Hamel and *Prahalad* call their "40/30/20 rule", the consequence of which is that senior management actually devotes less than 3% (40% x 30% x 20% = 2.4%) of its time to building a *"corporate* perspective on the future". Thus many organisations are forced to rely on personally held, often idiosyncratic, views about what the future might be.

Personal views, of course, can prove to be dangerously wrong. Ken Olsen, founder of Digital Equipment Corporation (DEC) and regarded as a model entrepreneur in his time, provides a good example. In 1977 he stated that, "There is no reason for any individual to have a computer in their home", and many would have agreed with him (though as a projection of the future it was clearly wrong). But this view became such a fixation that by the early 1980s, when the world was already changing rapidly, he imposed a blanket ban on the words "personal computer" and any discussion of them within his company. Olsen's refusal to accept a future for the IT industry in which PCs would play a large part cost DEC dear. From being a leading market contender with IBM at the start of the 1980s, in 1998 the company suffered the ignominy of being absorbed by Compaq - an upstart that rode to the top on the PC wave.

Living off the past

But Ken Olsen and DEC are not alone. The recession-ridden early 1990s saw many well-known role models, such as IBM, Disney and General Motors, stumble badly. What Peter Drucker calls their "Theory of the Business" had passed its sell-by date: "the assumptions on which the organisation has been built and is being run no longer fit reality." These assumptions - about markets, customers, competitors, necessary competences, technology and society - shape corporate behaviour, values and decision-taking. But managers forget that such assumptions are not tablets of stone, that they simply form a hypothesis, a view taken at a particular time. They therefore forget to refresh and re-think them. (For more on Peter Drucker's "Theory of the Business", see *The Antidote* Issue 4 pages 9-11 or www.theantidote. co.uk/articles/ druckertob.html)

Holding fast to certainties and previously successful formulae, while the world is changing around you, is a dangerous pastime in good times as well as bad. Highly regarded UK retailers such as Marks & Spencer and J. Sainsbury have recently been finding that out, as indeed have US companies like Motorola - challenged by Finland's Nokia in mobile phones - and even Compaq, hit by Dell's direct selling operation.

A classic case

Writing in the Spring 1999 *Sloan Management Review,* Professor Peter Williamson of INSEAD cites the Woolworth Corporation, founded by Frank Winfield Woolworth in 1879, as a classic case of a company that became a victim of its own success. By the time of the founder's death in 1919, Woolworth's "five and dime" stores already numbered over a thousand and the company's headquarters were in what was then the world's tallest building. Up to and immediately after the Second World War the company thrived both at home and abroad, becoming a household name through its winning formula of selling inexpensive, non-perishable general merchandise through "no-frills" self-service.

However, by the 1970s the Woolworth's formula was no longer performing, particularly in the US. By the early 1980s, it was clear that the business was in trouble with sustained attacks coming from two quarters - Wal-Mart's discounted general merchandise superstores and speciality retailers like Toys 'R' Us. A process of closure and retrenchment in the face of declining sales followed, beginning in 1982 with the sale of its UK stores - 73 years after the first one was opened in Liverpool - to the company now known as Kingfisher plc.

In the US and elsewhere Woolworth tried to respond by opening both discount and speciality stores but found that it lacked critical capabilities. It no longer understood its customers, who flocked to the competing

More than one prediction about the future has been proved wrong. As the following real (or attributed) quotes iliustrate:

"Everything that can be invented has been invented."

CHARLES H. DUELL
COMMISSIONER
US PATENT OFFICE 1899

"Atomic energy might be as good as our present day explosives, but it is unlikely to produce anything very much more dangerous."

WINSTON CHURCHILL 1939

retail formats, nor did it have the new retail skills, such as Wal-Mart's fabled logistics expertise, that had become necessary to compete. The consequence was that Woolworth's options for the future were running out: "The company had become a prisoner of its past". Eventually, in 1997, Woolworth's last general merchandise store in the US - the company's original bedrock - was shut. As Williamson puts it, the company "had refined and polished its economic engine and deepened its narrow range of competences into almost perfect extinction."

A changed view

In Williamson's view, the company simply failed to invest in the essential knowledge and capabilities needed to succeed. This in turn brings us to an important part of the current strategy debate. As Henrick Duus of Copenhagen Business School has recently pointed out, attitudes toward companies and the business environment have changed a lot over the last 30 years. During the 1970s, and into the 1980s, companies were seen as highly flexible units, able and expected to adapt readily to the shifting needs and wants of customers, in a relatively predictable environment. Now, however, the focus of strategic thinking has shifted *to* one that views companies as bundles of distinctive resources, knowledge and capabilities built up over time.

From this *new* perspective - what has become known as the 'resource-based view' of strategy - the company is much less flexible, simply because it takes a good deal of time and effort to develop new capabilities and knowledge. For this reason companies may indeed become 'prisoners' of their past, dependent on outdated and increasingly less applicable skills and abilities - as in the case of Woolworth. Simultaneously, as Duus points out, there is widespread acknowledgement that the business environment has become increasingly unpredictable. (See *The Antidote* Issue 17 pages 6-11 or www.theantidote.co.uk/articles/rbvstrategy.html for an explanation of current thinking on resource-based strategy.)

Bad news

For managers, of course, this represents the worst of all worlds. If this theory holds, they are in charge of inflexible organisations in an ever more volatile world. Furthermore, it is a world in which past decisions, strategic choices and subsequent management actions will all have determined the inherent capabilities and resources that a company has. These in turn will tend to restrict the ways in which *new* resources and capabilities can be most easily developed. Conceptually, therefore, companies are already stuck with a portfolio of current strategic options largely pre-determined by earlier choices.

Thus, it is the task of senior management to adjust and renew resources and capabilities as time, competition and change erode their value - creating, in the process, *new* future options. Simply living off current resources and capabilities will, in the long run, lead to weakening competitive performance, increasingly restricted profitability and inevitable decline - as with Woolworth. So the strategic problem is to decide upon, and then develop, those resources and capabilities that provide a platform for the products and services that will be needed in the competitive markets of the future. These choices, about how and where to invest, are critical because they form long term commitments that are difficult to reverse. Making such decisions and commitments, in the face of real uncertainties about the future, tests strategic management ability to the full.

The remaining problem

While managers are trying to resolve these problems by re-focusing their organisations, clearly defining their core competences and then increasingly relying on networks and strategic alliances to provide other critical capabilities and resources, the problem does not end there. Changing the nature of the organisation doesn't resolve the question of what the future holds. Companies do not trip up just because their past formulae no longer work. Future plans can just as easily go wrong if they assume a future that does not materialise (as some récent investors in Internet stocks will no doubt find out). For instance, many a recently re-designated life sciences' company, initially rewarded by the stock markets for their clever exit from cyclical bulk chemicals, have been banking on a wonderful future for genetically modified organisms. They have devoted considerable resources to re-focusing their businesses and acquiring the newly required competences. But right now, in Europe at least, this technology is not the winner it was going to be. Large companies like Monsanto, Aventis and AstroZeneca therefore have to readjust their mindsets to a *new* reality.

Grappling with the future

So how can managers think about the future? Reflecting the different answers to this question, Technology Futures Inc, a US consulting firm, has devised a neat way of categorising the five different ways people think about the future.

The first group is the *Extrapolators.* They believe that the future is a logical extension of the past. Large scale, inexorable forces are at work driving the future in a reasonably predictable way. The future can therefore best be forecast by extrapolating past trends in a carefully reasoned and logical fashion. Next are the *Pattern Analysts.* They believe that powerful feedback mechanisms in society, combined with basic human drives, cause Jxends and events to occur in identifiable cycles and predictable patterns. Thus, analogous situations from the past can be analysed to identify probable future patterns.

The third group is the *Goal Analysts.* The best way to project the future, in their view, is to examine the explicit and implicit goals of key decision-makers and trend-setters and to evaluate the degree to which these, and the actions they take to achieve them, will affect the long-term. *Counter Punchers* comprise the fourth group. Seeing the future as the outeome of unpredictable and random strings of events, they believe that the only way to deal with it is to keep an eye on a wide range of possible trends and events, monitor the technical and social environment and stay as flexible as possible.

"Who the hell wants to hear actors talk?"

H M WARNER, WARNER BROTHERS, in 1927 when weekly cinema attendance was about 5 million a week. By the end of 1929, 'talking pictures' were drawing 90 million a week.

"The bomb will never go off. I speàk as an expert in explosives."

ADMIRAL WILLIAM LEAHY about the Manhattan Project 1943

The final group is the *Intuitors.* Convinced that the future is shaped by a highly complex mix of trends, random events and actions by individuals and institutions, they believe there is no rational technique for forecasting the future. In their view, the only way to handle such complexity is to gather as much information as possible and then allow the brain's subconscious, and personal intuition, to provide meaningful insights.

Using scenarios

Naturally, *many* tools for each group are available, most of them quantitative. But there is a big difference between trying to predict the future by extrapolating past trends and using intuition to gain insights. Organisations will always use forecasts (effectively predictions) because they need them in order to project sales, create budgets and allocate resources. But to rely on forecasting techniques alone is to flirt with danger.

The gravest risk is that forecasts tend to project conventional wisdom and current assumptions forward. They fit well with existing mindsets. Yet, time and again, this is inadequate preparation for what the future holds. Fresh thinking, leading to foresight, or even better insight, is the ideal in the current business environment. So, at the intuitive end of the spectrum lies another tool: scenarios. Designed to explore unrecognised possibilities and challenge current thinking, scenarios provide an important vehicle for 'Goal Analysts' and 'Counter Punchers', as well as 'Intuitors', to use.

Over time, ways have been found to make them at least partially acceptable to 'Extrapolators' and even 'Pattern Analysts', as this Issue of *The Antidote* illustrates. But, to be of use, they must break down preconceptions and reveal blindspots, widen managerial thinking and re-focus it onto new, possible alternative futures. Unfortunately, this means that scenarios have to tread a narrow line between stretching belief and maintaining credibility - a problem cleverly captured by Denis Loveridge of the University of Manchester in Figure 1.

They need to arouse managers' interest and make them question their thinking while simultaneously holding on to reality - not an easy recipe. Nor are they a panacea. But what they do provide is one of the best, currently available ways to help managers avoid driving an organisation into a dead end. And, incidentally - used correctly - they also meet Hamel and Prahalad's admonition to build a *"corporate* perspective on the future" H

References: *Gaiy Hamel and C.K. Prahalad, "Competing for the Future", Harvard Business School Press, 1994, ISBN 0-87584-416-2. Peter Wiîliamson, "Strategy as Options on the Future", Sloan Management Review, Spring 1999. Henrik Duus, "Strategic Business Market Forecasting", Strategic Change, Issue 8, May 1999. Technology Futures Inc., www.tfi.com/ResCon/TF-Techniques.html.*

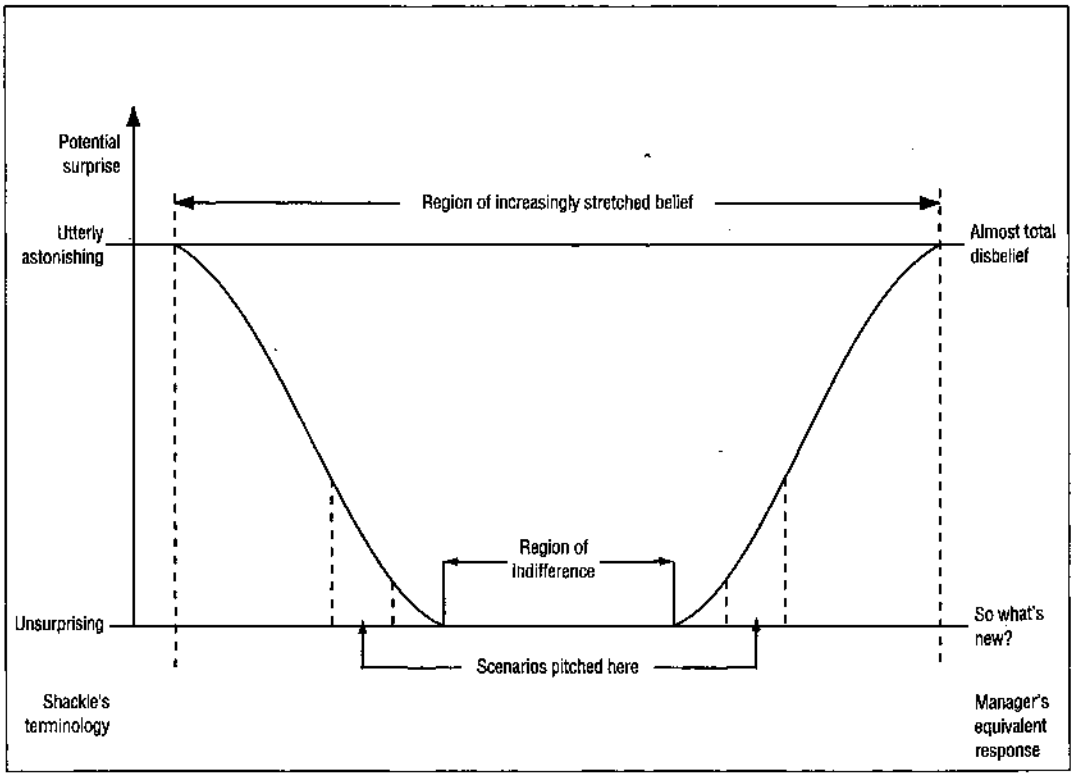


Figure 1: Relationship between scenario content and managerial response (Loveridge, adapted from G.L.S. Shackie, "Expectations in Economies")

Talking about scenarios

As happens so often in management, there is a problem with terminology: the way the word 'scenario' is used to mean a wide variety of dissimilar activities in different organisations.

At one end of the spectrum, using scenarios can mean trying out 'what if questions on an econometric model. At the other end, it can mean the development of full length, detailed 'stories' about possible alternative futures. The former tends to be an exercise in sensitivity analysis, adjusting existing data within a model - as in 'what if interest rates went up by 2%?' The latter may involve several man-years of work and is a task that can only be undertaken with a good deal of commitment and at considerable cost. While neither activity is invalidated by the other, such a divergence in the use of the same word can cause some misunderstandings.

The Shorter Oxford English Dictionary provides a number of definitions that tend to position the use of the word toward the story end of the spectrum:

scenario n. & *v.* L19. [It. F L *scena* SCENE] A n. PL -os. 1a A sketch or outline of the plot of a play; ballet, novel, etc., with details of the scenes and situations. L19. b *Cinemat.* A film script with all the details of scenes, stage directions, Btc, necessary for shooting the film. ,E20. 2 A; description of an imagined situation or a postulated sequence of events, an outline intended course of action; *spec* a scientific description or speculative model intended to account for observable facts. Also *loosely* a situation, a sequence of events. M20. B *v.t.* make a scenario (of a book, idea, etc); to sketch *out* M20.

In almost any discussion of scenarios, the influence of Royal Dutch/Shell as an exemplar of scenario-planning, and the relative dominance of their model as a prime reference point, quickly becomes clear. Shell's own definition goes: "Scenarios are descriptions of ALTERNATIVE futures which are PLAUSIBLE and INTERNALLY CONSISTENT. Scenarios are QUALITATIVE and QUANTITATIVE descriptions of future environments which highlight key UNCERTAINTIES."

For the purposes of this Issue of *The Antidote* we use the word scenario to mean *a detailed, descriptive plot of a possible alternative future.*

Origins

In the 1950s, the US Air Force began using what were termed 'scenarios' to try to identify what its Soviet bloc opponents might do and so prepare alternative strategies.

According to historian Art Kleiner, it was the novelist and screenwriter Leo Rosten who, finding a group of physicists hunting for a name for alternative descriptions of how satellites might behave, first suggested the term "scenario". "You should call them scenarios," he said. "In the movies, a scenario is a detailed outline of a future movie..."

In the 1960s, first at the US RAND Corporation and then at the Hudson Institute, Herman Kahn, who had worked with the US air force, used scenarios in a non-military context. Although he is often remembered for looking at the potential for nuclear war - he urged people to think the unthinkable so that they would be better prepared should it ever become imminent - he also developed the use of scenarios in a business context.

Kahn saw scenarios as fiction rather than rigorous forecasts. The point, as he saw it, was not to make accurate predictions but to corne up with a mythic story that brought the point home. Traces of this approach can still be seen in some of Shell's thinking on the subject today.

Types

The management literature tends to divide scenario methodologies into three categories. Explanations of all three, and other methodologies, are included in this Issue.

1. Intuitive logic is a 'soft' method of scenario development focusing on changing mindsets so that managers can anticipate different future worlds. It involves creating a series of alternative coherent and credible stories about the future against which decisions can be tested. It does not try to predict but offers a means of thinking about the future, while also being a learning vehicle.

2. *Trend-impact analysis* is a 'harder' methodology that tries to predict the future by looking at the effects of trends over time. It helps forecasters identify pertinent factors

"A severe depression like that of 1920-1921 is outside the range of probability."

THE HARVARD ECONOMIC SOCIETY
16 NOVEMBER 1929

"Very interesting, Whittle, my boy, but it will never work!"

PROFESSOR OF AERONAUTICAL ENGINEERING AT CAMBRIDGE UNIVERSITY TO A YOUNG SIR FRANK WHITTLE, WHO WENT ON TO PATENT THE BASIC DESIGNS FOR THE TURBOJET ENGINE IN 1930

and assess their impact on an established trend based on the probability of their occurrence. While it has the advantage of combining traditional forecasting techniques with qualitative factors, it is designed primarily for the evaluation of one key decision or forecast variable which is quantitative and on which historical information exists. As such, it rarely allows for assessment of the impact of events on each other.

3. Cross-impact analysis is also associated with 'harder' forecasting techniques. It in volves experts identifying a large number of trends, potential events and conditions, which may affect the likelihood of other events occurring. Each is assigned a probability and, using a computer, different combinations and cross-impacts are plotted. It allows analysts to work through a large number of variables and scenarios, and to be explicit about the interrelationships of particular events and conditions.

It's worth noting, however, that the proponents of each methodology have little time for each other. For example, Steven Schnaars, author of *Megamistakes*, describes cross-impact analysis as "a family of exotic mathematical models that seek to quantify and manipulate the judgemental estimates of experts. The procedure exemplifies the madness of models over substance."

Intended outcomes

The scale or scope of a scenario exercise - which vary at the extremes from the ten man-years of work that Shell's 'global' scenarios can take to a 50 minute 'electronic meeting' - will depend on the intended use (and budget). Apart from superseding trend-based forecasts, scenarios can add value in many ways. The following are some proposed by experienced managers at C|S|B|S workshops where scenarios have been discussed:

- increasing management sensitivity to potential future shocks and discontinuities
- helping to identify and quantify the unknowns during a period of upheaval
- explaining why there may be many possible answers to a single strategic question
- looking for future threats and opportunities
- generating future strategic options
- creating a better and wider understanding of the real business drivers
- gaining competitive advantage by recognising an emerging future early
- helping senior managers to recognise that 'strategies they like' may not always be perfect and may need changing
- assessing long-term investment decisions
- assisting in portfolio management
- helping to make implicit management mindsets explicit
- building a common language across the organisation for people to talk about issues
- developing a tool for organisational learning
- crafting new strategies for different futures

Going about it...

Newcomers to scenarios confront a Catch 22 situation. Many pilot schemes or experiments, designed to 'prove their worth' are necessarily limited. This means that the true potential of scenarios may notbe realised or that a contrary belief develops - that no great commitment of resources is really needed. The alternative is to prove by example - quoting companies or organisations that have really benefited from their use. This is difficult, not only for reasons of commercial sensitivity, but because many keen proponents find it difficult to quantify the benefits, especially at the softer, 'learning' end of the spectrum. Predictors will, of course, only tell you when they got it right. Unfortunately, many people have heard of Shell's prediction of the 1970s oil price rise, yet Shell's processes are intended to be non-predictive (see www.theantidote.co.uk/articles/shellscenarios.html for more on this).

So there are a limited number of alternatives:

1. Use generic, pre-prepared scenarios, created by strategic institutions or industry bodies. While such scénarios benefît from being externally produced, they are also available to others, so no unique insights are likely. In-house scenario presenters may also lack familiarity with the internai logic and consistency involved in their creation. A further problem is that industry-specific scenarios may contain current conventional wisdom. So the way things have always been done in the industry is likely to predominate - thinking stays inside the box.

2. Use external consultants. This is a common route, but means that the selectors have to know what they are after. This issue of *The Antidote* is designed to help because it identifies many different methodologies from which to choose and the criteria for making the choice. But the big consultancies will cost a leg and an arm, while medium and small-sized consultants will have more limited experience.

3. Internai development or DIY is probably the ideal route. It has its problems, however, not least a potential lack of experience. Once a scenario exercise has failed, it may take years to rekindle interest in the process! So, unless you have people on your team with experience of scenarios, consider bringing in a scenario expert as facilitator - at least for the flrst few attempts. As usual, external voices also carry more weight...

Having said all that, it is worth persevering. The alternative, after all, is to stick with extrapolated trend lines and hockey-stick forecasts! •

References: *Steven P. Schnaars, "Megamistakes: Forecasting and the Myth of Rapid Technological Change", The Free Press, 1989, ISBN 0-02-927952-6; "A Summary of Discussions on Scenarios", The Centre for Strategic Business Studies, 1995, £35.*

A perceptive and persistent pioneer

For 12 years, from 1970 to 1982, Pierre Wack wrestled to create scénarios that were both relevant and meaningful enough to change Shell management's mindsets

Pierre Wack, an economistby training, is credited, alongside Ted Newland, with the development of scénario planning at Royal Dutch/Shell. Described by his successor, Peter Schwartz (see page 11) as a "mysterious, elusive Frenchman, almost oriental in appearance", Pierre Wack learnt through a process of trial and error what it takes to make the use of scénarios effective. The story of how Shell developed and then used scénarios to good effect, told in his own words, can be found in two séminal articles in the *Harvard Business Review* published in 1985 (see références below). The trials and tribulations of the learning process that Shell went through has also been extensively covered in *The Antidote* Issue 10 on Organisational Learning (pages 35-40). That article, entitled "Over 25 Years of Learning to Learn", is also available at: www.theantidote.co.uk/articles/shellscenarios.htrnl.

Hère, we look specifically at some of the scénario concepts that Pierre Wack developed and the lessons he drew from his expérience. Since many organisations hâve tried using scénarios, with very différent degrees of success, it is instructive to reflect on Wack's own findings.

Forecasts
Wack accepts that straightforward forecasts can be reasonably accurate on many occasions. But he believes that, paradoxically, this is their greatest danger, because sooner or later they fail to predict some major shift. And this occurs at precisely the moment that organisations most need to know, or at least sensé, what the future may hold and, more particularly, what éléments of it may quickly make their stratégies obsolète.

It is the ability to predict stormy change that would make forecasting useful, and that is precisely the area where it is weakest. Too many différent forces are now at work for it to be possible to get *the* right forecast, "no single 'right' projection canbe deduced from pastbehaviour".

The alternative
Instead of looping for better forecasts - by perfecting techniques or finding better forecasters - Wack argues that managers must "accept uncertainty, try to understand it, and make it part of their reasoning". Uncertainty is not just a short-term déviation from a predictable world, it is now an intégral part of business life. And, he argues, one of the best ways of managing this uncertainty is the proper use of scénarios.

Scénarios - "pathways into the future" - acknowledge uncertainty and set out to structure and understand it. This, he suggests, is very différent from simply criss-crossing multiple variables and then looking at scores of possible outcomes. Good "décision" scénarios, as fie calls them, "are not a group of quasi-forecasts, one of which may be right". Critically, they describe "différent worlds, *not* différent outcomes in the same world" (our emphasis). The aim is not to 'get it right[1] but to "illuminate" the major forces at work within the System, to illustrate their interrelationship and to highlight the key uncertainties. This he calls "the gentle art of reperceiving".

Some **problems**
For those who hâve tried scénario planning and been disappointed, Wack offers some thoughts. Many so-called scénarios "merely quantify alternative outcomes of obvious uncertainties"; for instance projecting a possible range of oil priées ten years hence. Thèse, he suggests, do not help décision makers, because they présent "raw uncertainties" but provide no basis on which managers can exercise their judgement. As a resuit, no stratégie action or thinking takes place.

Scénarios need to be structured in such a way that executives corne to understand the nature of the uncertainties and thus corne to grips with them. But even good scénarios are insufficient. They can only help managers when they change the décision makers' assumptions about how the world works and then compel them to rearrange their mental models. To do this they must create a bridge between the new realities of the outside world and the "microcosm" of the manager's mind.

The need to observe
Wack also highlights the need to separate what is uncertain from what is predetermined. By 'predetermined', Pierre Wack means events that either ha-ve occurred, or are almost certain to occur, *but whose conséquences are not y et clear.* He likens it to monsoon storms hitting the Ganges river basin - the fact that the conséquences will be felt in Rishikesh in the Himalayan foothills within two days, in Allahabad three or four days later and at Benares two days later still, is predetermined.

By simply recognising the future implications of something that has already occurred, effort can be directed at what those conséquences mightbe. In Wack's view, identifying what is predetermined is fondamental. But it is also an area of great danger. He quotes Paul Valéry, the French philosopher: "A fact poorly observed is more treacherous than faulty reasoning." Errors in scénarios, Wack suggests, are more often the resuit of poor observation than weak reasoning.

Looking at the edges
Wack sought out what he called "remarkable people". Thèse were "acute observers with keen, unending curiosity"; people who paid attention to the way the world worked and, in the process had their finger on the puise of change. For example, on one occasion in the

"T/râ *'téléphone' has too many shortcomings to be seriousty considered as a means of communication. The device is iriherently ofno value to us."*

INTERNAI MÉMORANDUM
WESTERN UNION 1876

[H]The phonograph... is not ofany commercial value."

THOMAS EDISON
ITS INVENTOR 1 880.S

1970s, Wack got into a stimulating conversation with an Iranian physician. They became close friends and each year Wack would visit him to see how his perceptions of the world were changing.

Peter Schwartz, Wack's successor at Shell, explains why this was so important: "Pierre had corne to believe that if you wanted to see the future you could not go to conventional sources of information. Everyone else would know them as well and thus you would hâve no unique advantage." Scénario builders need peripheral, not tunnel vision.

Number and nature

The number and nature of the scénarios also matters. For instance, three scénarios along a single dimension will tempt managers to pick the middle scénario as the most likely. Two scénarios - one optimistic and one pessimistic - will tempt managers to 'split the différence'. Wack's personal suggestion is that there should never be more than four and that the idéal is three, two différent worlds and one based on existing thinking (the "surprise-free scénario"). The latter is included specifically to show how fragile current assumptions are!

In terms of their nature, Wack argues that scénarios must address management's deepest concerns - what keeps them awake at night. That way, they hâve immédiate relevance. According to Peter Schwartz, Pierre Wack also believed that scénario création was not a reductionist process, it was an art full of subtleties - like good story-telling. Anecdotal évidence certainly suggests that Wack himself was an excellent story-teller.

Two tests

Wack suggests two tests for evaluating scénarios. First, what do they leave out? Managers must not be able to look back and see that important events were missed. Second, do they lead to action? If they do not push managers to act differently then they are little more than "interesting spéculation".

In times of change

In a rapidly changing business environment, the inability to see a newly emerging reality because of obsolète assumptions is a common cause of stratégie failure, "particularly", Wack says, "in large, well-run companies." Management mindsets, shaped by past expérience and sustained by standard forecasts and projections, frequently prove inadéquate.

Because of the sheer quantity and complexity of information available, managers' mental models never match reality - they are always constructs. Thèse constructs tend to be nearer to reality when times are stable. When change accélérâtes, however, they "become a dangerously mixedbag: rich détail and understanding can coexist with dubious assumptions, sélective inattention to alternative ways of interpreting évidence, and illusory projections." This is when scénarios are of most value.

And success...

Scénarios are intended to gather and transform strategically important information into fresh perceptions. However: "This transformation process is not trivial - more often than not it does not happen. When it works, it is a créative expérience that générâtes a heartfelt 'Aha!' from your managers and leads to stratégie insights beyond the mind's previous reach." In times of change and uncertainty, scénarios in this context can provide real opportunities for companies to achieve compétitive advantage *M*

Références: *Pierre Wack, "Scénarios: Uncharted Waters Ahead", Harvard Business Review, September-October 1985 (reprint no. 85516); "Scénarios: Shooting the Rapids", Harvard Business Review, November-December 1985 (reprint no. 85617); Peter Schwartz, "The Art ofthe Long View", John Wiley&Sons Ltd, 1998 (first published 1991), ISBN 0-471-97785-3, £14.99 PB; Arie de Geus, "The Living Company", Nicholas Brealey, 1997, ISBN 1-85788-180-X.*

COMMENT

Unlike many other Shell alumni - apart from teaching scenario planning at Harvard Business School for two years in the mid-1980s and his two subsequent articles in HBR, Pierre Wack has remained reticent about precise methodologies. Perhaps this adds to the air of mystery that surrounds him and causes some among MS purist followers to call him the Master.

What is clear is that he understands the problems inherent in getting managers to reframe their mental models. Many who have tried using scénarios express disappointment at their inability to achieve this goal. Revisiting Wack's views, outlined above, may help to explain the difficulties involved and provide the encouragement to persevere.

Weaving plots for alternative futures

An eight-step guide to developing scénarios

Peter Schwartz is a leading futurist and président of Global Business Network, an international think-tank and consultancy based in California, USA. His book, *The Art of the Long View: Planning for the Future in an Uncertain World,* encapsulâtes his approach to scénario planning, an approach which reflects his expérience with Stanford Research Institute as well as time spent working for Royal Dutch/Shell in their ground-breaking planning team. As well as many articles, he is also the co-author, with Paul Hawken and Jay Ogilvy, of *Seven Tomorrows,* a book of global scénarios.

Introduction

A good scénario is one which "captures the dynamics of the situation and communicates the point effectively", he says. By putting together a manageable number of such scénarios, a future of infinité possibilities can be represented by carefully chosen plots which will help an organisation to clarify its own future. The best way of doing this, the author suggests, is to develop such scénarios at a two-day off-site seminar. Those attending shouldinclude:

- senior managers, who bring credibility and top level approval to the process
- people operating at the periphery of the organisation (functionally or geographically) for the original perspective that they can bring
- people with a thorough knowledge of différent organisational functions and opérations, for diversity
- outsiders who can be useful in provoking discussion.

Step 1. Pinpoint the key issue

The place to start, says Schwartz, is to establish the major décision confronted by the organisation - whether to build that factory, launch that new research programme, make that acquisition. In this way y ou can ensure that differing scénarios will impact differently on the organisation, and that they will be relevant to an individual situation. It is no good looking at an organisation under various différent économie growth assumptions, for example, because the resulting scénarios will be insufficiently varied, and will not be spécifie to the organisation.

In addition, scénarios can be a good method of assessing the more generalised threats faced by the organisation, and the possibilities open to exploitation. Envisaging future work patterns, product requirements, and market developments, for example, can create useful discussions, leading to a consensus view around which future strategy can be based.

Step 2. Establish the major local influences

What are the factors, at a local, micro level, that hâve a bearing on the organisation^ key décision? Issues relating to customers, suppliers, staff, indeed ail stakeholders, need to be examined, and the effects they might hâve on that new factory, research programme, or acquisition, assessed.

Step 3. Establish the major global influences

Again, the local factors are influenced by the macro environment, with trends on the technological, political, environmental, social and économie front having varying degrees of relevance. Some forces at work are factual and predetermined, like demographics - a surge in birth rate five years ago, for example, would naturally create a surge in the teenage consumer market ten or so years from now. Others are much more difficultto pin down - the influence of public opinion, for example. Schwartz refers to thèse as "critical uncertainties".

This is the area in which establishing the trends requires the most research. It is also the area where it pays to keep an eye on a wide variety of trend indicators: from books to music, to popular culture; from the Internet, to unconventional people who often yield remarkable insights, as well as those filters of information such as editors of periodicals, and other "sources of surprise".

Step 4. Classify the influences identified

The purpose of this stage is to identify which (two or three) of the influencing factors are key, and which (two or three) are the least certain. So they need to be ranked according to their degree of influence on the key décision established in step 1, and according to their level of uncertainty. Scénarios can then be created which reflect the major différences.

"De Forest has said in many newspapers... that it would be possible to transmit the human voice across the Atlantic before many years. Based on thèse absurd and deliberately misleading statements, the misguided public... has been persuaded to purchase stock in his company."

US DISTRICT ATTORNEY PROSECUTING DR LEE DE FOREST INVENTOR OF THE VACUUM TUBE FOR FRAUD IN 1913

A useful variant at this stage of the process is to create an "officiai future", a relatively benign scénario with no major changes to the status quo. Varying the local and global influences will rapidly start to show up which are the most influential factors, the critical uncertainties. It is not recommended that probabilities should be allocated to particular scénarios, as the natural tendency is then to consider only the most likely scénario, which destroys the point of generating différent scénarios in the first place.

Step 5. Choose the basis of the scénarios

The ranking process outlined in step 4 provides the two or sometimes three axes for a matrix on which the differing scénarios are based, the "scénario drivers". So a car manufacturer might hâve fuel costs for one axis, market protectionism for another, perhaps environmental awareness for a third. Scénarios would then be based on différent combinations of extrêmes: high fuel costs/market place accessibility/ environmental sensitivity, and so on.

Two or three axes, or driving forces, for the scénarios might appear to be an over-simplification, but the resulting multiple possibilités for combining them, together with the addition of other influences, rapidly créâtes more than enough complexity. The task then becomes one of clustering sets of events, identifying the patterns of the trends that link them, and recognising the fundamental structural issues and relationships.

However Schwartz cautions against using more than four or five scénarios, because it tends to become quite difficult to distinguish between them. He also points out that whenever three scénarios are under considération, the temptation is to choose the "middle ground" scénario and treat it as a "most likely" forecast. Thebenefits of scenario-based planning lie in its variety, and he suggests that the optimum approach is four scénarios, two of which are probable, two improbable but each with high impact.

Step 6. Add détail to the scénarios

Creating a cohérent, mémorable and detailèd narrative that incorporâtes différent critical uncertainties and scénario drivers is the next stage in the process. The key trends and issues need to be covered in détail, and making them as realistic as possible helps to improve credibility. Schwartz suggests that imaginative and mémorable names for the various différent scénarios help people to integrate them into day-to-day corporate thinking and conversation.

Plots to weave

Schwartz also identifies *t&n* différent types of "plot" which commonly ârise in detailed scénarios, and which caii prove useful when stories are beirig "fleshed out":

Winners and losers - hère the underlying assumption is that only one company can dominate in a zero-sum game where one organisation^ gain is another's loss. Alliances and the balance of power are the issues which predominate. The Pepsi-Cola/Coca-Cola conflict îs cited as an example, with every movê or advertisement by one being met and counteracted by the other.

Challenge and response - in which an impending threat or challenge is met or seén off, a plot commun to adventure films orbooks. A crisis is metby more or less successful adaptation to the new set of circum-stances. À good example is the issue of sustainable development/with the contradictory goals of économie growth and environmental quality. Damage to the environment leads experts to assign limits to industrial development, but countries and companies find new ways of doing things which enable theni tobypass those limits. As a resuit, sustainable development becomes a realistic and achievable possibility.

Evolution - in which small incrémental changes occur over a period, and cumulatively amount to something more radical. Technology is perhaps the best illustration of an evolutionary plot, with minor developments suddenly enàbling a whole new approach to be adopted. Witness IBM's eàrly failure to comprehend and exploit the growth of personal computers.

Good news/bad news - in which both désirable and undesirable futurés are examined. Valuable because the latter is often neglected out of a natural reluctance to consider the unpalatable.

Révolution - in which major unpredictable events or discontinuities occur, such as the émergence of Russia from years of communist économies, the rise of OPEC in 1973, the change in public attitude towards the environment.

Cycles - where often predictàble séries of events take place, examples of which might be thè link between interest rate policy and inflation, or cyclical industrial markets such as shipbuilding or steel production which arç protie to price compétition/consolidation/ investment/overcapacity cycles.

Infinité possibility - trying out the optimistic inevitability of growth and improvement In the 1980s computer sales attained growth levels that were hitherto unthinkable.

The lone ranger - in which established practices are overturnedby a *new* protagonist, for èxample, a Branson taking on British Airways, Apple computer versus IBM, etc.

My génération - in which plots take account of new cultural groupings, egbaby boomers or the overseas Chinese network. Their power stems from the collective ability of a given génération or cultural group to make a différence.

Perpétuai transition - *m* which the marketplace is vast, forever changing and has °no régulation, control, or limits". The Internet exemplifies such a plot line.

Step 7. Review results
At this stage it should be possible to assess the focal décision defined in step 1 in the light of the scénarios developed, to see how it stands up under various visions of the future. If it is vulnérable only to minor variations, or it looks sensible in only one set of circumstances, the strategy needs to be changed. In many cases the strategy is adjusted so as to enable the company to be more flexible, more capable of responding to a variety of différent challenges suggestedby the scénarios.

Step 8. Choose early warning signais
After creating the scénarios, it is worthwhile to try and establish some early warning signais which might indicate which of the various scénarios applies. A few key indicators - early and sometimes weak signais - can forewarn astute observers. Thus a rise in job vacancies in particular catégories might herald a country's économie restructuring, as may the launch or rise in circulation of certain types of journals, magazines and periodicals. Much of the benefit of creating scénarios cornes from the increased awareness within the company for spotting the trend changes that really matter.

CONCLUSION
As Schwartz says, "You can tell you hâve good scénarios when they are both plausible and surprising; when they hâve the power to break old stéréotypes; and when the makers assume ownership of them and put them to work. Scénario making is intensely participatory, or it fails." •

Référence: *Peter Schwartz, "The Art ofthe Long View: Planning for the Future in an Uncertain Worîd", John Wiley & Sons Ltd, 1998 (first published 1991), ISBN 0-471-97785-3, £14.99 PB.*

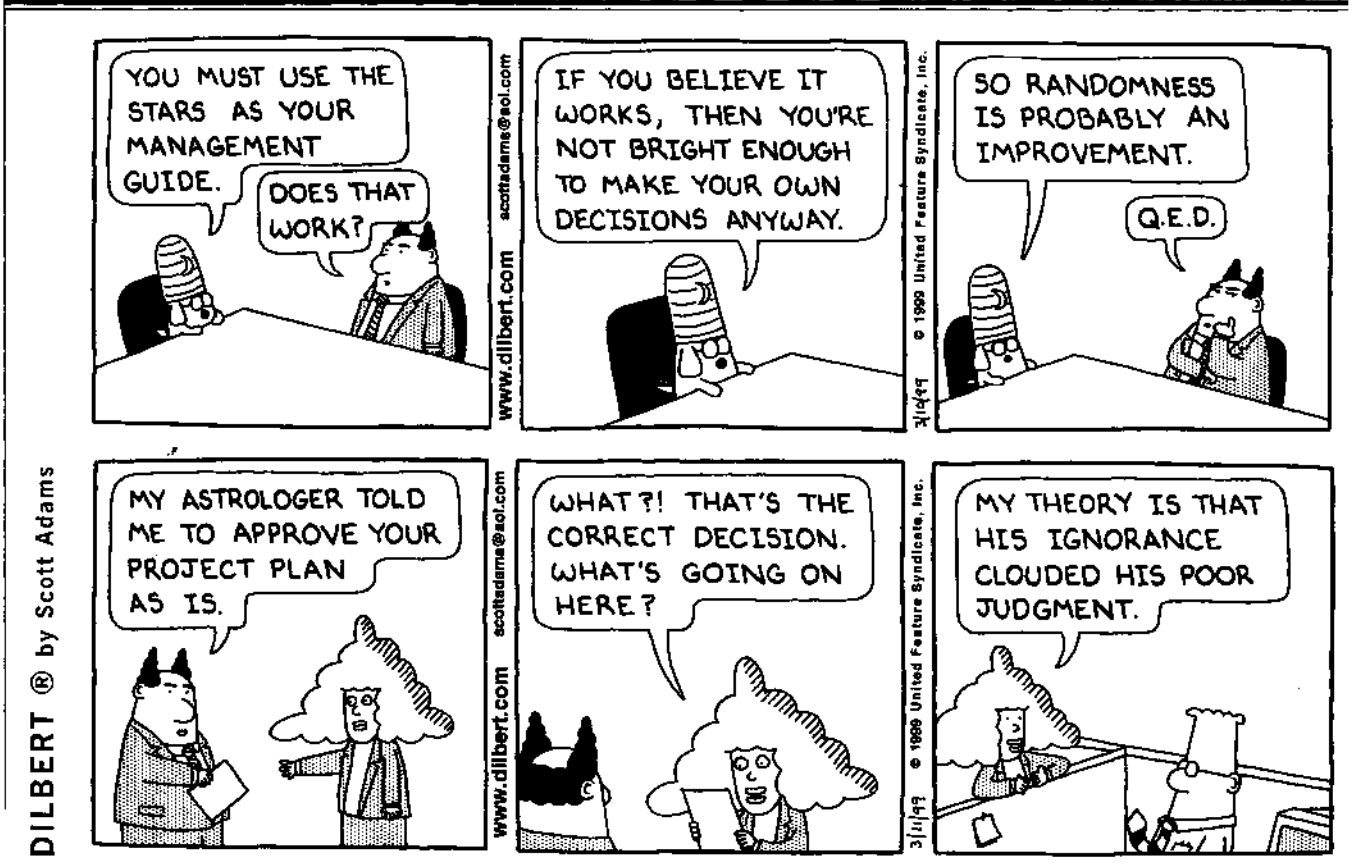
COMMENT

Peter Schwartz has spent much of his working life involved in scenario building, from his time with SRI in the 1970s, through four years with Shell in the mid 1980s and since then as a co-founder of GBN. As Pierre Wack's successor at Shell (see page 9), he has produced definitions and methodologies where Wack refused to do so, lest the subtleties of scenario building were lost. Given that many Shell planning alumni (including Wack) are members of GBN, this looks like the best publicly available insight into the basic processes that they developed.

Critically, users should be aware that this step-by-step guide is designed to produce scenarios for managers to think in.

Although based on intuition and logic, they are not intended as predictors or forecasts but instead are designed to challenge mindsets and assumptions.

Read with care (there is a lot of diversion and deviation within it) this book provides the rudimentary tools for managers to have a go at scenario building themselves. But if you are going to be rigorous, don't expect it to be either quick or easy. Shell devoted many man-years to creating each set of its global scenarios and whilst they were hugely ambitious projects, even scaled down versions require a lot of dedicated hard work to be really worthwhile. If you are not going to be rigorous, don't expect to get the same benefits. And beware that you don't end up misleading yourself !



CREATING THE FUTURE

A French school, la Prospective', argues against taking a fatalistic approach to the future

Michel Godet is a French strategy specialist who has built on the work undertaken in the 1950s by Gaston Berger. A philosopher, manager and civil servant, Berger was the originator of *La Prospective,* an approach to scenario planning characterised by its future-oriented attitude. Havingbeen involved in scenario planning when employed by SEMA Consulting Group during the 1970s, Godet is now Professor of Strategic Prospective at the Conservatoire National des Arts et Métiers and Director of the Laboratoire d'Investigation Prospective et Stratégique, Paris. He is the author *of From Anticipation to Action: A Handbook of Strategic Prospective,* published in 1993.

La Prospective

"La Prospective is neither forecasting nor futurology, but a mode of thinking *for* action and against fatalism," writes Godet. It in volves looking far into the future on a broad front, as well as in considerable detail; it involves risk, because we must change and adapt in the light of what we foresee; and it is a humane process, intended to improve our situation and, by extension, the lot of mankind. *La Prospective* does not pretend to make an uncertain future certain, but he argues that it does help to highlight the çhoices we can make today given various possible futures. The benefits of the possible futures lie not so much in their accuracy but in the process of involvement with it, and whether they prompt the right decisions to cope with them.

As the future becomes ever more uncertain and complex, and the pace of change accelerates, organisations need to respond not just by reacting to change, but by anticipating it - indeed by provoking it. "The faster you drive, the further your headlights must shine." Additionally, as structures and patterns of behaviour become more complex, the inertia to be overcome in order to change both of them increases. Fatalism, says Godet, passively letting the future happen, is no longer an option.

He points out that forecasts frequently go wrong because the degree of technological change has been exaggerated, and the degree of inertia understated. He also observes that managers are not known for using their powers of anticipation, believing as they do that this is an unnecessary luxury when things are going well. And when things are going badly, they react in short-term panic.

Dismissing forecasting as too prone to a quantitative approach, foresight as being insufficiently proactive, and futures studies as being too broad in scope, Godet espouses the merits of "strategic prospective" as an exploratory, long-range and imaginative process.

Transforming anticipation into action

People are far more likely to act on an idea if they've thought of it themselves, or at least think that they have. The corollary of this is that if people don't buy into an idea, they won't do anything about it. People think rationally *and* emotionally, so for action to occur we have to appeal to both aspects of their thinking. Similarly scenario planning depends on both intuitive and logical thinking.

There is always too much data, says Godet, yet it is never complete. Models are never wholly satisfactory as a means of processing that data, and interpretation is necessarily subjective. But credible results which survive different assumptions and models are possible - and the major benefit of the process is to get people thinking and talking.

Godet outlines four computer-based tools to stimulate imagination and a sense of ownership, which, he claims, are simple for clients to use.

- Use futures workshops and MICMAC to classify the key variables
- Use historical studies and MACTOR to assess the trends and the actors' strategies
- Use morphological analysis and Delphi techniques to filter out any unlikely scenarios
- Use multicriteria analysis and the MULTIPOL method to generate and screen options

*The acronyms MICMAC, MACTOR, MULTIPOL and SMIC refer to specific computer programs developed by Godet. Morphological analysis is a systematic technique for breaking down a problem into its component parts and recombining them in as many ways as possible. Details of the Delphi technique can be found on page 25.

MICMAC, for example, is a method by which the interrelationships between the variables can be highlighted, and the complex multiple interactions between them assessed in a more systematic way than is possible with a simplified approach. A database of variables is constructed from which a matrix - plotting their influence and dependence on each other - can be created. This analysis prevents undue emphasis being placed on the status quo, and helps users to resist uncritical extrapolation of the past into the future.

The MACTOR method then helps the scenario builder to look at the ways in which the actors - the human beings involved, whether as individuals, companies, industries, or countries - converge or diverge over a set of issues or objectives. It is used to show the effects of different strategic influences. SMIC then helps to estimate probabilities of different combinations of hypotheses or events occurring.

His scenario method

A scenario, says Godet, is "a description of a future situation and the course of events which allows one to move forward from the original situation to the future situation". Scenarios are "not a future reality but a way of foreseeing the future". He distinguishes between two types of scenario: an exploratory scenario in which the past and present trends are extrapolated into a likely future; and an anticipatory set of scenarios which incorporates different visions of the future. His method of generating scenarios in volves four linked steps:

- analysing Systems
- reviewing the past
- defining the strategics of those involved
- adding detail

The hypotheses on which the scenarios are based must be appropriate, consistent and likely, but scenarios can be defined as 'possible' (everything that can be imagined), 'realisable' (everything realistic), or 'desirable' (possible but not necessarily realistic).

Figure 1 illustrates the sequence followed in creating scenarios and generating the strategies that flow

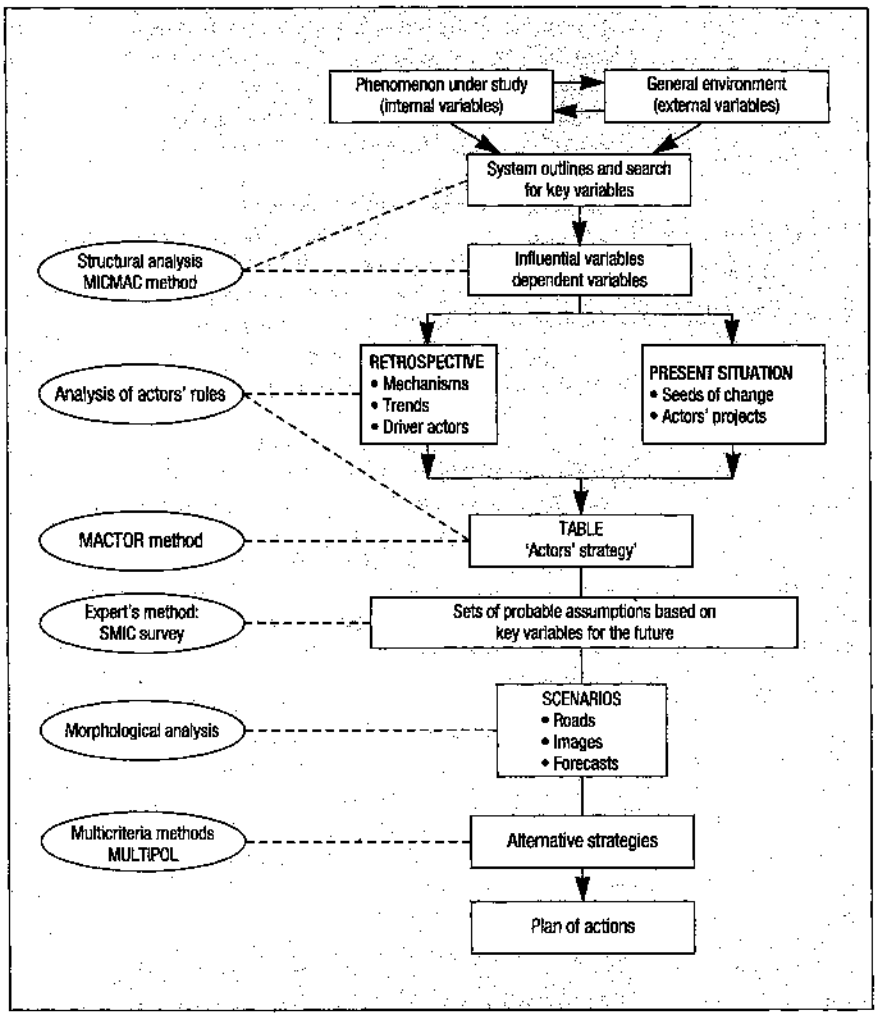


Figure 1.Godet's scenario method

Using probabilities

Godet acknowledges the distaste that many planners have for using probabilities, but makes a case for their usefulness by citing his work with the French iron and steel industry. In an article for *Long Range Planning*, co-authored with Fabrice Roubelat in 1996, he explains how six scenarios were constructed, each based upon different combinations of three hypotheses: weak economic growth, strong environmental constraints, and strong competition from other materials. The scenarios were:

- *Black* - weak growth of GNP, strong competition from other materials
- *Gloom* - weak growth ofGNP, weak competition from other materials
- *Trend driven* - continuation of the current situation
- *Ecology* - strong environmèntal constraints
- *Optimistic steel* - strong growth of GNP, competitiveness favourable to steel
- *Optimistic plastic* - strong growth of GNP, competitiveness favourable to other materials

Expert assessment of the probabilities of earchof the hypotheses occurring, and subsequent computer processing of those, lead to the realisation that in total they accounted for only 40% of the possibilities. Reassessment of the possible combinations of hypotheses unearthed three hitherto unconsidered or discounted possibilities. These were:

- *Black ecology* - weak growth in GNP, strong environmental Gonstraints, strong competition with other materials (dismissed initially as an improbable luxury, and therefore not worth considering)
- *Green steel* - weak growth in GNP, strong environmental constraints, weak competition with other materials (dismissed for the same reason)
- *Green plastic* - strong growth in GNP, strong environmental constraints, strong competition from other materials (dismissed initially as unlikely, as steel was considered to be more environmentally friendly - but the possibility of recyclable or biodegradable plastic had been ignored)

These three hitherto uncônsidered combinations of hypotheses each turned out to be more likely than any of the first six, and accounted for the missing 60 % of possible outcomes. So probability analysis may not be useful as a decision criterion, argues Godet, but it can be helpfuul in exposing new avenues worthy Of further investigation.

[H]It will be years - not in my time - before a woman will become Prime Minister."

M ARGARET THATCHER 1974

from them. Godet considers from his experience that this approach has "stimulated strategic thought and communication; improved flexibility of response to uncertainties and breakdowns; and reoriented policy options".

Inappropriate use of scenarios

Just as the use of the word 'scenario' can confer undeserved respectability on a combination of hypotheses, so it is unnecessary to construct comprehensive scenarios for each and every eventuality. Eventualities of low probability simply do not warrant the time spent on them.

There is also a risk of using scenario development as entertainment for managers who are unskilled in the process, says Godet. In particular, failure to ask the right questions and formulate the key hypotheses properly renders any resulting scenarios useless, and the model outlined in Figure 1 can prove invaluable, he believes, in ensuring rigour and eliminating contradictions.

Scenarios should be clear and easy to read, otherwise users of the scenarios tend to misunderstand or reject them, and the whole scenario effort is wasted. Attractive scenarios with catchy titles to capture the imagination may have little more use than as pieces of fictional entertainment.

Attempts have been made by some futurists to incorporate scientific techniques from other fields, such as bifurcations or chaos theory. But transferring such techniques from one field to another is fraught with complications and rarely proves useful, he argues.

Often the scenario approach is inappropriate because of the number of people required or the time needed to make it work - perhaps as much as 18 months. Godet suggests that it is best to establish in advance what can be achieved in the desired timeframe. Five or six scenarios is usually the maximum number to consider, so it is all the more important to ensure that the key variables, trends and strategies have been properly thought through.

Finally, projects should be limited to a period over which it is possible to keep the scenario-building team together, as frequent changes of personnel have an adverse effect H

References: *Michel Godet and Fabrice Roubelat, "Creating the Future: The Use and Misuse of Scenarios", Long Range Planning (Elsevier Science Ltd), Vol 29 No 2, 1996; GUI Ringland, "Scenario Planning: Managing for the future", John Wiley &Sons Ltd, 1998, ISBN 0-471-97790-X, £19.99 HB; A. Khalifa and P. Bennett, "Incorporating Conflict into Scenario Building Process: An Outline of a Game Theoretical Approach", workingpaper ref 94/11, 1994, Dept of Management Science, University of Strathclyde.*

"I have travelled the length and breadth of this country and talked with the best people, and I can assure you that data processing is a fad that won't last ont the year."

BUSINESS BOOKS EDITOR AT PRENTICE HALL 1957.

COMMENT

At first sight, Michel Godet's approach sounds similar to Peter Schwartz's methodologies (page 11) and not too distant from Pierre Wack's views (page 9). However, there are marked differences. Godet includes significant use of computer-based tools to enhance the team's imagination, intuition and logic. And he also argues the case for using probabilities - at least in one part of the proceedings.

Godet's use of computer-based tools is a far cry from Wack's emphasis on developing a deep and intimate understanding of the forces at work. A computer whizzing through the calculations may indeed be able to handle much more complexity and save you time - but it also removes the need to personally and painstakingly unpick the interaction between largely unseen forces and key uncertainties. It is this process that both adds to learning and provides remarkable insights.

The emphasis on experts also differs from Wack's and Schwartz's search for non-expert thinkers, often on the fringe. Schwartz recounts Shell's scenario study of the Soviet Union in 1982-83 which identified that dramatic change would be afoot if a virtually unknown man at the time, Mikhail Gorbachev, came to power. Shell often presented its global scenarios for friendly governments and every Soviet expert with one exception thought they were mad. The CIA is reported to have said: "You really don't know what you're talking about. You just don't have the facts." So beware, experts alone may box you into a current conventional wisdom corner.

On the other hand, Godet's emphasis on the need to avoid a fatalistic approach - the passive acceptance of the future - and his recognition of the key role of actors (in whatever form) are critically important. So is his emphasis on communication, debate and the use of causal logic. He also urges scenario planners to use common sense, acknowledging that what he calls "the prevailing forces" are less than ideal, and that most decision makers want a scenario project completed too quickly. Godet's thinking is on the grand scale, with its talk of "humane process", fatalism and "the lot of mankind". Dabblers beware!

Using scénarios to develop the right resources and capabilities

A German approach to "scénario management[9] based on future trends

Juergen Gausemeier is Professor of Computer Integrated Manufacturing at the Heinz Nixdorf Institut, University of Paderborn in Germany. An article written with researchers Alexander Fink and Oliver Schlake in 1998, "Scénario Management: An Approach to Develop Future Potentials" summarises his views on scénario development. "Enterprises", he writes, "should not look only for one visionary view, which is most likely to correspond with the expected view, but instead they should try acquiring various views that describe the whole 'window of opportunities'."

Différent needs

Organisations in the past used to be able to survive by managing cashflow and profitability, whereas today they must hâve the resources in place to ensure future success: "precontrolling" their "success potentials", as Gausemeier puts it, ensuring that in the future they will hâve the right new products, new markets and *new* technologies. In his view, stratégie management is ail about controlling the balance between current performance and future potential, and about recognising the need to assess success in terms of benefits to différent groups of stakeholders.

The rôle of scénarios

Scénarios are a way of helping organisations to reduce the uncertainties inhérent in developing the right "success potentials" in time to retain competitiveness.

Gausemeier's approach to scénario management is based upon two strands: Systems thinking and multiple futures. The first emphasises the need to consider an organisation as one élément in a complex System - "a sub-system within an overall System" - which is subject to many différent interrelated influences, which in turn are subject to changing trends. "Enterprises hâve to think in terms of linked influences." The second strand recognises that predicting the future is an impossible task, so a single prédiction makes no sensé. Creating multiple futures through scénarios enables executives to incorporate the necessary variety of possible visions into their stratégie thinking and décision making.

A typical scénario project

Gausemeier's approach is based on trend-impact analysis, in which key factors are projected forward under différent assumptions, creating realistic visions of the future. Typically a project is a five-stage process: préparation, field analysis, projection, development and transfer.

1. Préparation

The basis of the scénarios must be established by defining the décision field under considération. As any scénario project is intended to assist in the making of business décisions, it must relate to a key décision regarding, say, a new product or technology. Figure 1 illustrâtes both the décision and scénario fields for a manufacturer of automatic teller machines (ATM).

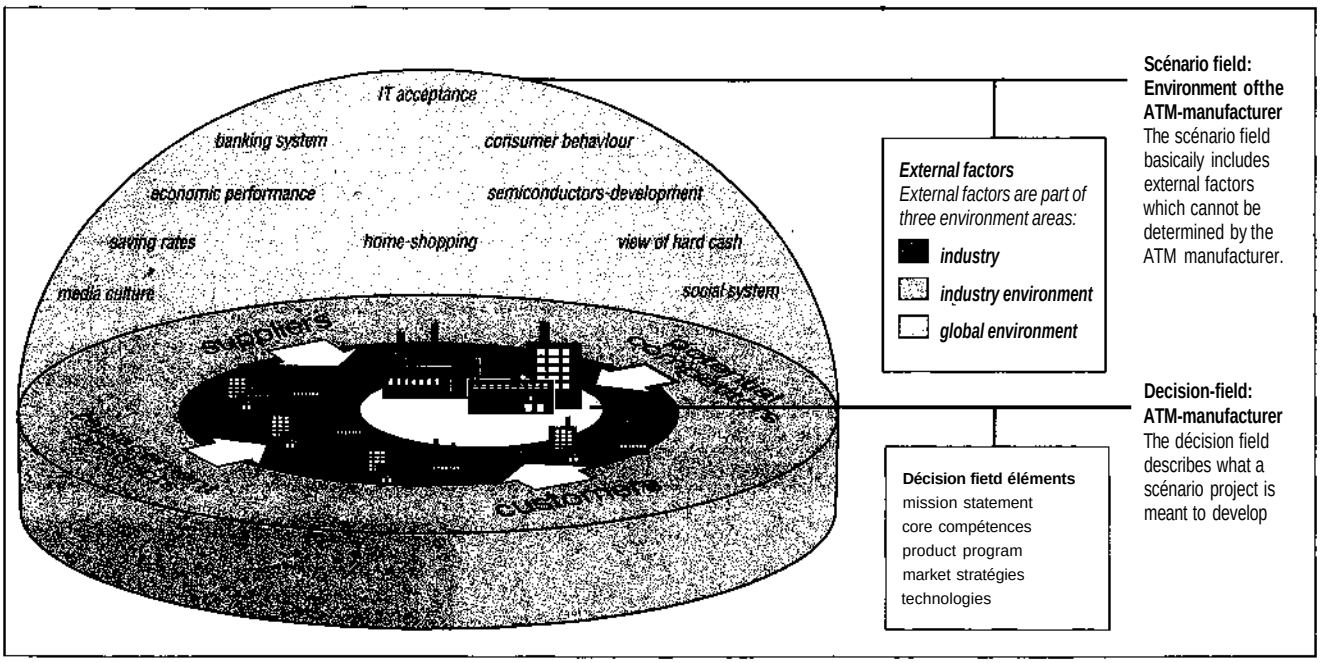


Figure 1: Décision field and scénario field (adapted from Gausemeier)

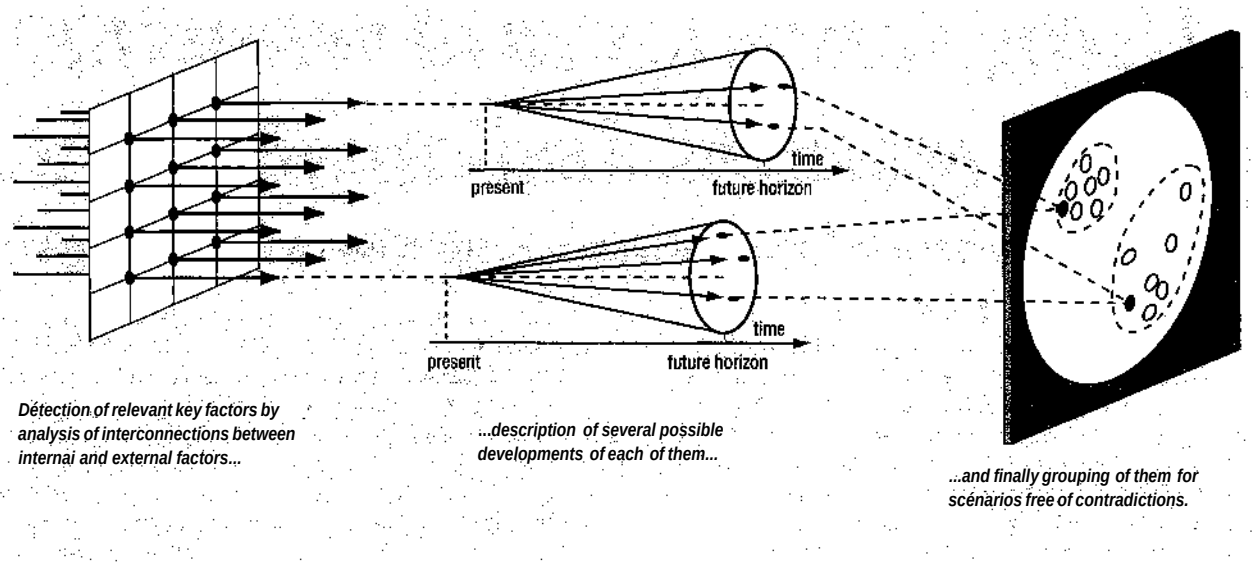


Figure 2: The process of scénario création

2. Fiéld analysis

Figure 1 highlights the multitude of influencing factors at work, both internai and external. For instance, the external factors can relate to the industry itself (eg direct competitors), the industrial environment (suppliers, customers, etc) or the global environment (technology, économies, societal shifts etc). Figure 2 illustrâtes the process of scénario création, with a myriad of influences being identified by, for instance, brainstorming. Gausemeier suggests that three types of scénario field can be developed: external, internai or what he calls "Systems" scénarios. This latter connects internai and external factors and seeks to capture their interrelationship.

An influence analysis can then be undertaken to assess which are the key factors at work. Thèse become the focus for scénario création. Figure 3 shows an influence matrix which illustrâtes, for example, the degree to which home shopping has a major impact on the use of crédit cards in the ATM market.

By grading each factor's influence on every other factor, a grid can be drawn up to help détermine the critical influences that need to be considered.

3. Projection

This is the key part of the créative process as shown in Figure 2, with a time horizon being deflned for the scénarios and each influencing factor projected forward to the chosen time horizon. Gausemeier suggests that each individual factor can be developed in up to three différent ways. This is important because it is not just probable projections that are of interest, but extrêmes too. It is thèse that will help to define the "window of opportunity".

4. Development

Combinations of projections, "projection bundles", need to be checked for consistency. For instance, in the ATM example, cashless money transfer is inconsistent with no increase in electronic bank services. This éliminâtes many theoretically possible combinations, and the

Influence matrix
Question: How strong is the impact of factor A (row) on factor B (column)?

Scale
0 = no impact
1 = weak and delayed impact
2 = medium impact
3 = strong and direct impact

activity (sum of rows): How strong is the impact of a factor on all other factors?

	1 buying habits	2 cashless mone	3 size of purchas	4 home shoppin	5 buying power	6 hours of openi	7 use of credit ca	8 use of consum	9 point-of-sa	...	35 system of valu	36 growth rate	active sum
1 buying habits		2	2	3	–	1	2	2	1		–	–	13
2 cashless money transfer	1		–	–	–	–	3	2	3		–	–	17
3 size of purchasing points	–	1		2	–	1	–	3	3		–	–	13
4 home shopping	–	2	1		–	–	3	–	–		–	–	10
5 buying power	3	2	–	1		–	–	–	–		–	2	15
6 hours of opening	2	2	2	3	–		–	–	–		–	–	13
7 use of credit cards	–	1	–	–	–	–		1	1		–	–	10
8 use of consumer cards	–	1	–	–	–	–	2		3		–	–	6
...													
35 system of values	3	–	–	1	–	–	–	–	–			2	26
36 growth rate	2	–	–	–	3	1	–	–	–		–		19
passive sum	30	41	13	31	32	17	26	12	24		10	14	

passivity (sum of columns): How strong is a factor impacted by all the others?

Figure 3: Scénario field analysis

remaining projection bundles are assigned to a suitable number of scénarios through "cluster analysis" - clustering similar attributes. The number of scénarios chosen dépends on the complexity of the future situation and the degree of variety within the projections. Many scénarios will share basic preconditions, and the descriptions can be developed from that basis to account for the effects of différent disruptive factors, différent degrees of robustness and sensitivity to change.

5. *Transfer*
Each scénario generated by this process has conséquences for the business, each highlights opportunities and threats of varying plausibility. Organisations must then incorporate thèse aspects into their overall strategy. How they do so is a culture-based issue dépendent upon whether they are planning-oriented (anticipating forthcoming e vents); responsive (reacting to unforeseen changes); or proactive (anticipating and shaping the future). Gausemeier argues that, using his approach, companies can either plan around one référence scénario (focused planning), or plan on différent scénarios (future robust planning). The resulting variety of possible approaches is illustrated in Figure 4.

Other aspects of scénario management
Gausemeier suggests that the process of scénario création and management he describes ties in well with other modem stratégie approaches. "Mission statements often include future potentials that show the value that every stakeholder can draw out of this vision"; core compétences are closely linke^d to "success potentials" and help direct how strengths can bestbe utilised. Concepts of product portfolio management also link well with scénario analysis.

CONCLUSION
"In order to deal with uncertainties and to préserve their compet-itiveness, enterprises must focus their stratégie thinking to more than only one simple and alleged prognosticable future," writes Gausemeier. He argues that scénario management is a powerful and practical way of constructing stratégies that are robust enough to withstand a variety of différent futures. Most of ail, it forces managers to think ahead *M*

	Planning-oriented Strategy	Responsive Strategy Opportunity-seeking/risk-avoiding	Proactive Strategy
Focussed strategy (strategy based on one reference scenario)	***Strategy based on the scénario with the greatest probability*** *Conventions! one-dimensional planning is easy to communicate - but traditional prognoses and most probable scénarios corne true less often than planners think.*	***Strategy based on the scénario with the greatest opportunités*** *Powerful but risky strategy to achieve the best possible results* ***Strategy based on the scénario with the greatest threats*** *Risk-avoiding strategy to use in Crisis Management*	***Strategy based on the desirable scenario*** *Enterprises create "their own future" – difficult to handle with external scenarios.*
Future-robust strategy (strategy based on several scenarios)	**Safeguarded strategy based on the scénario with the greatest probability** *Conventional strategy which is safeguarded by alternative scénarios.*	***Strategy concentrating on the maximization of flexibility*** *Effective strategy to cope with uncertainties – but often not powerful enough.* ***Strategy concentrating on the minimization of threats*** *One-sided concentration on risk-minimization.*	***Safeguarded strategy based on the desirable scenario*** *Enterprises create "their own future" and safeguard their strategy by putting the strategy in different environments.*

Figure 4: Main approaches for scénario transfer

Reprinted from Technological Forecasting and Social Change, Vol 59, Gausemeier, Fink and Schlake, "Scenario Management: An Approach to Develop Future Potentials".

Référence: Juergen Gausemeier, Alexander Fink and Oliver Schlake, "Scénario Management: An Approach to Develop Future Potentials", Technological Forecasting and Social Change, Vol 59, 1998, Elsevier Science Inc.

COMMENT
Despite Gausemeier's claim that his is a trend-impaot approach, this feels awfully like a cross-impact Une of attack - at least as defined on pages 7-8! But, in a sensé, that is by the way. While he does not use the term, what he is arguing is that scénarios can be used for the resource-based view of strategy. This is an emergingbody of thinking about strategy, which we covered extensively in Issue 17 of *The Antidote*, pages 6-11 (see www.theantidote.cO.uk/articles/rbvstrategy). See also pages 4-6 inthisIssue.

The point is that in a fast-moving world, how can you work out the resources anii capaMLities that you need to develop how so that you can compete successfully in the future? While applicable Worldwide, it no doubthas particular résonance in Germany where the Mittelstand, or mid-sized company, has been the long-run engine of growth. Manufacturing- and engineering-oriented, this iswathe of, often family owned, companies faces a less clear future in the present business climate than it has at any time in the last ÔÒyears.

Gausemeier 3 suggested approach is élaborate and complex, though he has a particular process for each step of the Wy. As such, it represents a mechanistic rather thananopenlyintuitiveapprbacii to scénario création. If this appeals to you, Ms Original article describes in quite fine detail wjlat *jon* need tc do. Reprint requests foç the article should be *aedi eskè$ to* A. Fink, UniversitaJ Paderbo[n, Heinz Nixdorf Ins [redacted] Furstenallee 11, *b33IQ2* Padefborn, Germany, or e-mail <afink@hni.uni-paderboni.d^>/ quoting the référence above.

f^. j£ . . s& . p. m Viirfiiticift^s on a thème

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The différent méthodologies for managing alternative futures fall broadly into three catégories:

- **Intuitive logic** - a 'soft' method of scénario development
- **Trend-impact analysis** - a 'harder' methodology that tries to predict the future by looking at the effects of trends
- **Cross-impact analysis** - also associated with 'harder' forecasting techniques. It involves experts identifying trends, potential events and conditions that may affect the likelihood of other events occurring. (For more détail on thèse catégories, please see définitions on page 7.)

Examples of each are given below:

SRI ***(intuitive logic)***
SRI International (Stanford Research Institute International, the Californian-based think-tank) first started work on scenario-based planning in the 1960s. Its current intuitive logic process took shape in the late 1970s, following a major revision of its methodology alongside Royal Dutch/Shell Group. The process assumes that business décisions are based on a complex set of relationships among a number of (mostly external) variables. It deflnes scénarios as "devices for ordering one's perceptions about alternative environments in which one's décisions mightbe played out".

SRI's methodology is decision-focused rather than environment-focused and occurs in a joint client-consultant workshop. It has the advantages of:

- being simple and transparent, thus easy to put into practice
- being flexible and adaptable
- identifying and clarifying issues
- encouraging a high degree of 'ownership' of the final product

The six steps of the process are:

1. Deciding what **stratégie** decision(s) the scénario aims to address.

2. Defining the **key décision factors** - what the management needs to know about the future in order to make a better décision.

3. **Analysing thèse key décision factors and mapping environmental forces** at both the micro (industry and market) level and the macro (social, économie, political and technological) level. The resuit is a detailed assessment of the influence each environmental force exerts on the key décision factors, and their uncertainty level, thus filtering the "relatively unpredictable" from the "very uncertain".

4. **Developing scénario logics** (differing views of the way the world might look in future) which incorporate ail the critical environmental forces and uncertainties. This step establishes the basic structure of the scénarios and is seen as the core of the whole process.

5. **Describing the scénarios** from the basic logical structures. Typically descriptions consist of a two or three page story, a table showing scénario différences and some quantification of the key factors. The scénarios are not considered 'optimistic' or 'pessimistic': each présents opportunities and threats to the user organisation.

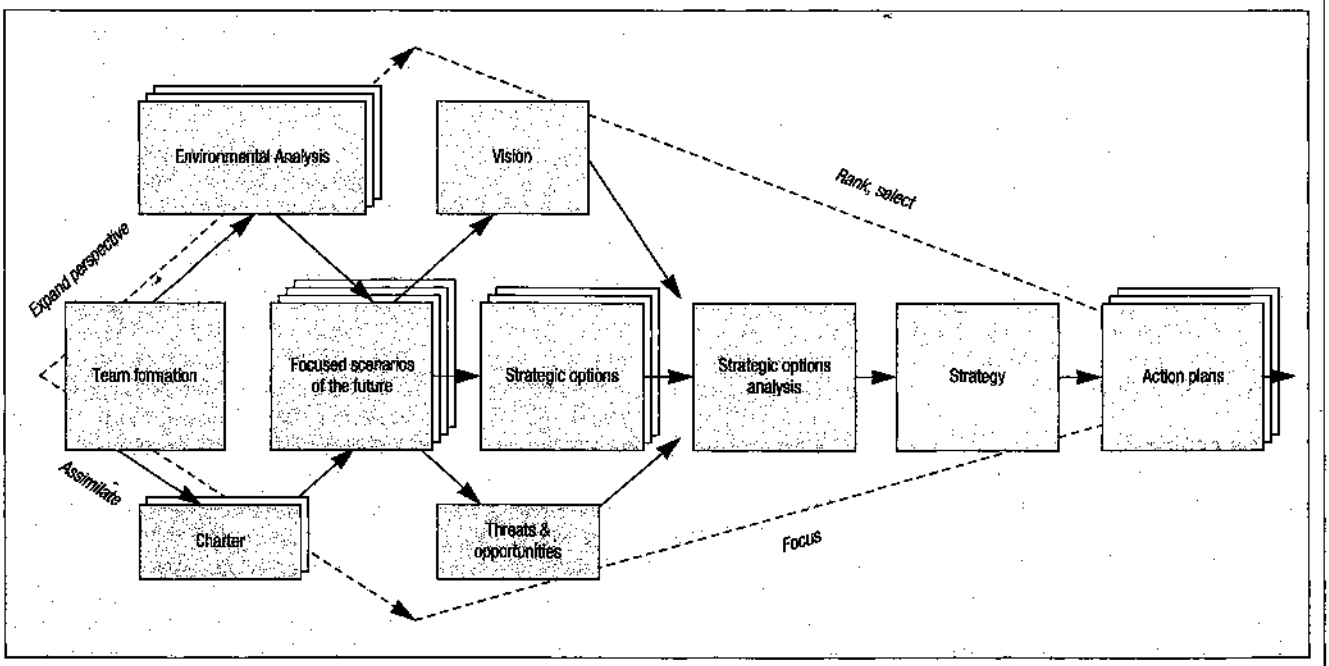


Figure 1 : SRI's process flow from scénarios to strategy

6. **Deciding the stratégie implications** - participants use the scénarios to help understand the implications of future décisions and to assess the risk-reward of différent stratégie options (see Figure 1).

NCRI Future Mapping Method ***(intuitive logic)***
Developed by Northeast Consulting Resources Inc of Boston, Massachusetts. By the mid-eighties, scénario planning had become a somewhat cumbersome process. Future Mapping was an attempt to return to the simpler yet more robust techniques of the 1970s.

Future Mapping has two basic assumptions:

- the shape of the future dépends on the activities of certain people today
- striving for compétitive advantage results in structural change in most industries.

It uses two sets of tools:

Endstates, or snapshots- of an industry at a particular point in the future (typically three to five years ahead), created intuitively by the client together with NCRI analysts. Usually written in sets of four or five, they should be short (one page), high level, holistic and divergent. Each endstate set can contain a mixture of différent technologies and différent business models.

Events, or "spécifie, observable manifestations of a key trend or issue", which hâve two important characteristics. It mustbe possible to tell that an event has occurred (by, for example, being able to express a tpend in terms of a date and a happening), and for any event there must be people in the industry who actually make it happen. Usually written in sets of 150 to 200, each event is entered on a separate card and grouped by topics to cover the full spectrum of issues facing an organisation.

The issues addressed by thèse endstates and events can be on any scale from geopolitical through industry, company, right down to project or even function.

The Future Mapping Process has two phases:

- A working meeting tasked with producing four to five endstates and 150 to 200 events. A "conventional wisdom scénario" is built to help managers think differently and ensure that their existing decision-making context is explicit. While the resulting mental model can be unpopular or uncomfortable, the discussions between group members about the likelihood or not of an event occurring can reveal disagreements and ensure there is no misinter-pretation of information.

- For the second phase, the group is divided into teams. Each is allocated an endstate and asked to think out a logical séries of events leading up to it (thus helping managers to understand the relationship between certain events and the endstate outeomes). Each team then has to concoct an industry and a business définition that they can build into a compelling success story in the context of the scénario.

At this point, teams can go one of two ways:

- *the common features approach,* which highlights events common to ail the scénarios. Thèse events can be used as leading indicators in a monitoring System. The scénarios can be used for awareness training for managers on how to react in the face of unexpected upheavals in the industry.

- *the aggressive change approach,* which allows companies to be agents of change. Each *manager* is asked to rank endstates in terms of desirability and attainability; thèse scales can be used as the basis for structured discussion on the direction of the industry and the organisation.

Shaping Factors-Shaping Actors *(intuitive logic)*

This method was developed by the European Commission's Forward Studies Unit and used for several of their studies carried out in the 1990s. Its basic premise is that the implication of différent futures is bound to affect people's behaviour today. For example, primitive hunter-gatherers considerably increased their chance of survival by constantly thinking 'what if (as in, 'What if there's a sabre toothed tiger behind this rock?')

So-called foresight studies fell into disuse in the 1970s and 80s so the return to think-tanks in the 1990s was welcomed. The Shaping Factors-Shaping Actors technique differs from the Delphi method to which it is related in that it is less formai and more adaptable, using small groups of nominated experts. There are two stages in the methodology: fîrst identify the shaping factors and shaping actors, and then identify the main linkages between them. (The Delphi technique is explained in more détail on page 25 of this Issue.)

A typical project involves initial data collection. Then the shaping factors are identified - a list of issues likely to be important in shaping future outeomes. They couldbe régional, local or national; socio-economic, political or cultural; they could be hard or soft issues, including feelings. Next the shaping actors - the individuals or groups likely to hâve an influence on the shaping factors - are listed.

Identifying the linkages between the factors and actors takes place at an expert workshop. The outeome is usually three 'intuitive' scénarios: one 'pessimistic', one 'optimistic' and one 'surprise free'. The whole process is itérative - as events unfold, a second phase is often needed and the whole process repeated.

The strength of this approach *to* scénario building is its ability to include divergent opinions (whereas the traditional Delphi method tends to be convergent). Its weakness lies in the fact thatbecause relatively few •experts are involved, it can only be a partial view. The choice of expert is essential to the method's success.

Futures Group ***(trend impact)***
The Futures Group (a strategy and policy research consultancy based in Connecticut) first developed trend impact methodology and is its best

"In *ail likelihood world inflation is over.*"

MANAGING DIRECTOR OF THE IMF 1959

"The concept is interesting and well-formed, but in order to earn better thon a 'G, the idea must be feasible."

MANAGEMENT PROFESSOR AT. YALE UNIVERSITY MARKING FRED SMITH'S PAPER PROPOSING A RELIABLE OVERN1GMT DELIVERY SERVJCE. SMITH WENT ON TO FOUND FEDERAL E* PRESS

known exponent. A typical project has three stages:

1. Préparation

- Define the focus of the scénario in terms of what issue needs to be addressed, what possible future development needs to be examined, what the future timescale is, what forecasts need to be made.
- Chart the driving forces. A brainstorming session with the organisation^ key décision makers is held to identify the 100 to 150 drivers essential to the system/environment in the study.

2. Development

- Construct a range of possible future scénarios by systematically arranging the way key drivers can react together. Any that are implausible or outside the timeframe are discarded.
- Select the alternative worlds to be detailed. Choose a small number (usually four) of thèse alternative worlds that cover most of the major opportunities or threats.
- Prépare scénario-contingent forecasts. Identify which trends and events are essential for each of the selected alternative worlds to happen, and project a time trend (either qualitative or quantitative) for each.

3. Reporting and Utilisation

- Document the scénario by creating a simple chart and description of each to communicate the assumptions and outcomes to the people who will use them. Writing scénarios should combine the client's detailed knowledge of the industry with the consultante imaginative projections of possible futures. The results should be vivid and convincing, and should challenge assumptions about the future.
- Contrast the implications of the alternative worlds. Each scénario is handed over to an internai team headed by a senior stratégie executive who use workshops to prépare a strategy that would allow them to prosper in their future world.
- At the final workshop a "Strategy Merge" process is undertaken. Stratégies that work well across différent worlds make up a core or robust strategy - one that should be effective in a number of possible futures.

BatteUe's BASICS *(ci-oss impact)*
This computer-based scénario development and analysis methodology was developed by Ohio-based consulting group Battelle in the 1980s. BASICS (or Battelle Scénario Inputs to Corporate Strategy) uses a combination of:

- cross-impact technique, developed at the RAND Corporation and the University of Southern California
- BatteUe's computer-based algorithm formulated in Geneva
- an expert judgement methodology

Thèse are combined into a user-friendly PC program.

A BASICS project has three steps:

1. Identifying the issues - what does the organisation need to know, what questions does it want answered? Thèse issues are teased out of a séries of group meetings with client managers and Battelle consultants, from which 20 critical factors might be identified.
2. Trend analysis - the client, helped by a Battelle researcher, then writes an 'essay' on each factor, describing its importance, immédiate history and current situation. Unlike other cross-impact analyses, the BASICS method allows for up to four likely outcomes for each factor. Thèse outcomes and the probabilities of their happening are produced by the researchers based on their judgement.
3. Cross-impact analysis and matrix - the BASICS program is then run and a matrix produced, with the critical factors on one axis and the alternative outcomes on the other. The matrix cells contain index values of how the occurrence of each outeome would change the probabilities of ail other outcomes. Any différences of judgement in the completed cross-impact are discussed and reconciled. The BASICS algorithm organises outcomes with high probabilities into sets that are internally consistent. From thèse, analysts can detect a clear pattern of the most likely outcomes, which are written up in a report outlining the four principal scénarios and delivered to the organisation^ senior management.

Dynamic Scénarios *(a différent way of looking at scénario building which does not fit neatly into a methodology category)*
The fondamental concept behind dynamic scénarios is that the real world is an ever-evolving System, not a static set of conditions that can be charted on a matrix. The compétitive arena and the broader social and political environment facing any organisation is both complex (many variables to be considered and a variety of relationships between them) and dynamic (différent types and rates of change occur).

Scénarios are one tool in the study of that environment, another is the discipline of Systems thinking - employed together, rapid learning can occur. Décision makers are provided with a methodology that enables them to identify and better undérstand the complex

relationships that are at the heart of any System, and the dynamic nature of how thèse relationships change.

A typical dynamic scénario created by a company to help consider future strategy consists of seven steps.

l.Generate scénario event ideas. Achieved by intelligence gathering about the issue in question, considering the expectations of senior management, and holding focus sessions with selected key individuals from the company (including some maverick thinkers). The sessions generate dues to the future in the form of 60 to 100 event ideas.

2. Discover scénario dimensions. Related events are then grouped into clusters. Each is given a mémorable label (a word or phrase) and becomes a scénario dimension - 75 event ideas might produce seven to ten scénario dimensions. The focus sessions are then repeated to give more event ideas and scénario dimensions. Duplicates are removed to produce a complète set of clustered events.

3.Develop divergent scénario thèmes. Thèse are based on what has been learned about how events surrounding the issue in question could possibly unfold. The resulting scénarios (typically three to five) would be essentially différent. As the team works to assemble related ideas into scénario thèmes, the facilitators note any comments on relationships between events and then make sketches of the relationships. This starts the process of understanding the dynamiçjforces at work in the System under considération.

4. Discern patterns of behaviour. For each scénario thème, approximately ten events are identified that appear important to the thème's underlying logic, and then the key variables associated with the events are considered. Thèse variables could be 'hard'(eg facts and figures), performance measures (eg sales growth rates, performance ratios),or 'soft' (eg expectations, confidence levels).

5. Diagram scénario structures. Some of the key variables identified will be common to several scénario thèmes and can be linked in causal loop relationship diagrams. Thèse are then joined to create one diagram representing the whole System - a dynamic scénario generator or DSG - which is effectively a model of the dynamics within the whole System.

6. Write the scénario scripts. With the DSG showing the outline of the plot and the scénario thèmes adding content, the team can trace the effect of a change in one key variable (or critical uncertainty) through the whole System. For each of the plausible but distinctly différent scénarios already identified, they then produce scripts in the form of a two-page narrative which is clear, compelling, and which offers stratégie insights.

7.Assess stratégie choices. Distinctive stratégies are then devised for alternative investment and operating choices. Their quality is tested in a dynamic scénarios matrix, in which rows represent stratégies and columns represent scénarios. At the intersections the conséquence of each strategy within each scénario can be evaluated. No-risk stratégies that work in ail scénarios can be implemented, no-go stratégies that. work in none can be eliminated. It is on those high-risk stratégies viable in one or more scénarios that the team has to work, reassessing them to ensure that their key variables and driving forces are understood, then honing them as potential stratégies, refining the scénarios, and assessing risk and reward.

Inevitably, step 7 will lead to the identification of important new key variables that need to be added to the DSG, and the process is reiterated. Once the basic structural relationships between variables hâve been established, it is relatively simple to assess the effect of a dramatic change in one critical uncertainty on the whole System, and for new, plausible scénarios to be created and conséquent stratégie options devised. In the same way, new learning can effectively be incorporated into the System.

Simulation Models *(a tool for scénario anàlysis rather thon a methodology)*

Scénarios open up a wide range of possibilities for exploring alternatives in our environment. However, an organisation has to go further - it has to be clear about those possibilities and commit to courses of action to try to ensure an effective performance.

Computer simulation models of scénarios can expose inhérent assumptions and help organisations to prioritise variables. This makes it easier to sélect the fundamental drivers of future outeomes and to understand the relationships between them. Whereas people only hâve the mental capacity to focus on a few hypothèses of cause and effect in their business, computer simulation models hâve far more scope for considering inter-dependencies and possibilities for explaining results. They allow managers to dérive the implications of relationships by playing out complex interactions.

Using computer modelling with scénario anàlysis also adds value to the process by providing a fuller explanation of model relationships, revealing the implications of assumptions and producing quantitative estimâtes.

Integrating computer simulation with scénario anàlysis can be achieved in four steps:

1. Détermine the purpose of the simulation. A computer model essentially focuses on a particular issue. A concise statement expressing this has to be written and the core variables impinging on the issue need to be identified.

2. Specify model structure. Specify the relationships between thèse variables and develop causal loop diagrams. Gather data to quantify relationships (which are then turned into équations) and expand the diagrams into a set of comprehensive computer-based models of the whole business,

"I do not believe the introduction ofmotor-cars will ever affect the riding ofhorses."

MR SCOTT-MONTAGUE
UK MEMBER OF PARLIAMENT 1903.

including fînancial models, models of production, human resources, sales and marketing processes, etc, throughout the organisation.

3. **Test the model to ensure it works.** Use a wide range of inputs to check that its outputs are plausible under a variety of conditions. Testing is an itérative process which reveals what revisions are needed to the model structure and équations.

4. **Use the scénarios to help groups of managers learn.** The model can be used for analysing scénarios and testing alternative stratégies with larger groups of people. Simulations allow managers to assess the impact of a variety of différent stratégies under différent scénarios. A primary output from this "exercising scénarios" activity is implementation of new actions in the workplace.

IDON ***(a*** *facilitation tool)*

The Idon Group's approach to practical scénario building offers the chance for organisations of ail sizes to create DIY scénarios using visual tools (whether magnetic shapes on a whiteboard, or the same shapes on a computer screen). The kits of shapes and the software are inexpensive and corne with full instructions, enabling organisations to create their own well-defined stories of possible future worlds, and to décide what différent options for action there are in each.

"Tkis is typical Berlin hot air. Theproduct is worthless"

THE HEAD OF BAYER'S PHARMACOLOGICAL INSTITUTE REJECTING FEUX HOFFMANN'S INVENTION OF THE ASPIRIN IN 1897.

A typical session creating and writing scénarios with a group using the Idon technique would involve a facilitator and an Idon kit (whiteboard and pens, about 40 magnetic hexagons, a PC with Idon software). In bare outline the steps are:

(i) clarify environmental factors
(ii) create prototype scénarios
(iii) generate multiple images of the future
(iv) verify through environmental scanning
(v) map décision issues
(vi) apply scénarios to décisions

Although simple, the Idon technique is inherently powerful and its use is recommended by a number of leading scénario exponents, including ex-Shell scénario experts Arie de Geus and Kees van der Heijden. They highlight Idon's emphasis and advice on facilitation, and the création of a common language which brings together the thinking of a wide range of individuals within an organisation. (See page 29 for more on Kees van der Heijden, and Issue 10 page 35 for more on Shell.)

Off-the-shelf scénarios

Many industry associations and some strategy oriented organisations and institutions produce generic scénarios. Carried out in a variety of ways, they hâve the advantage of saving both cost and time, but are short on the shared learning and insightful moments that occur in actually creating scénarios. Industry generated scénarios also tend to be inwardly focused and are more likely to be based on the 'lowest common denominator' rather than to contain really *radical* alternatives •

Références: *GUI Ringland, "Scénario Planning: Managing for the Future", John Wiley &Sons Ltd, 1998, ISBN 0-471-97790-X, £19.99 HB; A. Khalifa and P. Bennett, "Incorporating Conflict into Scénario Building Process: An Outline ofa Game Theoretical Approach", workingpaper ref 94/11, 1994, Dept of Management Science, University of Strathclyde; Liam Fahey and Robert M. Randall (eds), "Learning from the Future", John Wiley &Sons Inc, 1998, ISBN 0-471-30352-6, £29.95 HB; Charles M. Perrottet, "Scénarios for the Future", American Management Association Management Review, Jan 1996; D. H. Mason, "Scenario-Based Planning: Décision Model for the Learning Organisation", Planning Review, Mar/Apr 1994, Vol 22 No 2; Miriam Galt, Gary Chicoine-Piper, Nela Chicoine-Piper, and Anthony Hodgson, "Idon Scénario Thinking", Idon Ltd, 1997, ISBN 0-9530421-0-3.*

COMMENT

Clustered around the concept of either thinking about or trying to reasonably predict the future are a range of models. Many sound the same but are different in process and typical outcome. Each has its proponents and most have their advantages. What this says is that an organisation, and most particularly the commissioning managers, must think through what they are trying to achieve and what they are able to attempt. If, as a manager, you become involved in a scénario process, it also helps to recognise what that process is. Don't let consultants pull the wool over your eyes!

Forming Judgements

What do structurée! group techniques and electronic meeting Systems contribute to scénario planning?

No one can predict the future with any certainty but one can reach some sort of conclusion about a range of outeomes that are more or less likefy. In order to conclude what the future might hold for a business, industry, even country, one has to use one's judgement. The more informed that judgement is the better, and the greater the number of informed minds involved in making that judgement, the better. Or at least in theory. Is the judgement of a group of experts likely to be more accurate than an individual expert? Or is the group only as good as its most knowledgeable member?

Problems with groups

Gène Rowe, from the Department of Psychology at the University of Surrey in the UK, wrote an évaluation of group decision-making techniques in *Forecasting with Judgment.* He cites research that shows that unfacilitated groups often perform below their potential. For example, individuals within the group may:

- be just as likely to be swayed by a poorly informed team member as by a knowledgeable one
- ignore the member who is unconfident but knowledgeable
- be motivated by 'political' or self interest
- end up *cgnforming* rather than reaching *consensus*

So how can group décision making be improved? By using a number of formalised structuring techniques that eut out négative interaction and control information flow. One such technique is the Delphi process.

THE DELPHI TECHNIQUE

The Delphi technique for forecasting and décision making was developed in the late 1950s at the RAND Corporation in the US. It was named after the oracle in the Greek city of Delphi. The citizens would go to the Temple of Apollo to ask the priestess about their fate. Her utterances were wise but ambiguous.

Delphi was created as a statistical method of obtaining consensus from a group of experts. It is essentially an itérative process, in which through a séries of questionnaires individuals can modify their opinions in the light of controlled statistical feedback provided by facilitators. It allows individuals to express their opinions privately.

The process

There are many variations depending on the context, but the process usually goes as follows:

1. The first round is unstructured. Members of a panel of experts write down what they judge to be likely future events, or issues they see as important.

2. The facilitators assemble thèse into a cohérent set of scénarios and give them back to the panellists as a structured questionnaire for them to rank by giving quantitative estimâtes of their likelihood or importance. There is also opportunity for anonymous comment.

3. The questionnaire is analysed and a statistical summary of the whole panel's opinions is fed back to panellists for them to consider and alter their earlier estimâtes, if they want.

4. The questionnaire is re-presented and re-analysed over a séries of rounds until people hâve stopped making changes to their estimâtes. Quantified group consensus is then deemed to hâve been reached, with each item represented by the médian response.

Evaluation

So is Delphi just a technique for achieving consensus? Delphi is adopted on the basis that its use of aggregated expert opinions will improve forecasting. As Rowe suggests, however, it is difficult to tell whether the decreases in variance as the cyclè progresses genuinely reflect consensus. It may be that panellists' opinions converge as a resuit of seeing what is revealed as their peer group's norm. It may be, he says, that they alter their written estimâtes (ie conform) but not their opinions (consensus).

Are itsforecasts or judgements more accurate than they would hâve heen otherwise? Assuming a number of caveats - for example, that the level of expertise is both high and in the relevant area, that the facilitating is good, and that the purpose of the task is appropriate - then, according to Rowe, most studies comparing Delphi's effectiveness with that of other interacting groups generally show that the technique can add value, and that it can be accurate, at least in the short term.

But some versions of Delphi, argues Rowe, are of more limited value than others. The statistical feedback often consists of a single figure, a médian value, and so can only show participants where the norm lies. One study, for example, found that when a Delphi group was given feedback on participants' reasoning, its outeome was significantly more accurate than the group not given that information. It may be, Rowe suggests, that this is due to the shift in less firmly held opinions among the "swingers" (the less expert panellists) towards the more stable opinions of the "holdouts" (the more expert panellists). But it seems that, on the whole, using arguments in feedback may lead to greater accuracy.

ELECTRONIC MEETING SYSTEMS

Increasingly sophisticated computer technology means that some of Delphi's limitations - maintaining interaction and feedback without surrendering anonymity, for example - can be overcome. Thèse electronic techniques are referred to as "group décision support Systems" (GDSS) or electronic meeting Systems (EMS), depending on the purpose of the task.

Such Systems may include teleconferencing and software that allows electronic commenting, décision documenting, vote tabulation and display, and statistical programs like décision analysis. It allows users to develop, as Rowe puts it, "a shared understanding of their problem", enabling them to corne up with "a clear plan of action". Moreover, participants can 'discuss' sensitive issues without having to reveal who is saying what.

Depending on the software being used, such electronic Systems can be also be used for developing and analysing scénarios. In an article in *Long Range Planning*, Robert Blanning and Bruce Reinig* describe how EMS works and provide a case example of EMS in use (see grey box).

Four pros and a con

According to Blanning and Reinig, there are four advantages of EMS:
Anonymity - participants need notbe identified
Interaction - participants can enter into discussions with each other
Efficiency - participants can enter their comments in parallel and analysis takes place in real time
Documentation - sessions are recorded for later analysis.

However, they point out that EMS relies not only on facilitators who are very familiar with the software, but also on participants who are comfortable using a keyboard and mouse - still a potential problem with senior managers.

The setup

As Blanning and Reinig make clear, EMS is only a tool to support the process of constructing scénarios: "it is not intended to automate it". The authors go into some détail but, broadly, an EMS would normally in volve:

- a PC for each participant
- a local area network Connecting the PCs
- software for integrating the PCs and managing the meeting.

The software would include:

- a commenting tool - allowing participants to brainstorm a list of significant events they believe should be included for considération, and to enter comments, anonymously but for ail to see
- a voting tool - allowing participants to enter numbers representing the strength of their préférences, and to vote on "the probability that the events will occur and the degree to which the events are favorable or unfavorable" for the organisation, industry, etc.

Getting going

The authors propose three alternatives around which the events of a scénario mightbe organised:

- *optimistic* - not utopian but more favourable than unfavourable
- *pessimistic* - not disastrous but more unfavourable than favourable
- *realistic* - relevant and most likely to occur

An event can be optimistic *and* realistic - ie both bénéficiai and likely to happen - or pessimistic and realistic, but it cannot be both optimistic and pessimistic.

Participants are asked to put each possibility into one of thèse catégories, with their reasons. From this the facilitators draw up a comprehensive list of events and allocate them a number. Participants assign a probability score (P) and a favourability score (F) to each item on the event list on their screen. Thèse scores are averaged and plotted according to their event number onto an Event Matrix - the horizontal axis representing the probability of the event: the vertical, the degree to which it is considered favourable or not.

Developing scénarios from the Event Matrix

Scénario construction, say the authors, "is an art, not a science". The rôle of EMS at this point is to help identify which events in the Event Matrix should appear in which scénario:

- the optimistic scénario will contain the high P/high F events, and the médium P/high F events
- the pessimistic scénario will contain the high P/low F events, and the médium P/low F events
- the realistic scénario will contain ail the high P events

Some events will not appear in any scénario - for example, those with a médium to low probability score: they are judged most unlikely to happen. EMS itself does not allow any discussion of the *relationship* between events (ie how one might lead to another) - it is up to the facilitators to do this as they construct the 'story' from the events that make up the scénario. The authors point out that although the P and F scores will not appear in the scénarios themselves, the scores do suggest how the events should be described in the scénarios.

Conclusion

Blanning and Reinig conclude the EMS is "useful in discussing sensitive topics", as in the case of the Hong Kong business executives (see box) where anonymity allowed them to express their views more freely than they might otherwise hâve felt able to do. Using EMS to develop scénarios can be very helpful "where économie opportunities, political restrictions, and substantial risks corne together".

* Robert Blanning is Professor of Management at Vanderbilt University, Nashville, Tennessee, US. Bruce Reinig is Assistant Professor in the Department of Information and Systems Management at Hong Kong University of Science and Technology. Their work on EMS took place while Professor Blanning was on leave at Hong Kong University of Science and Technology.

But to go back to Gène Rowe, he found that the various studies into the effectiveness of Delphi and EMS came up with mixed results - some were more positive than others. There are so many factors to be taken into account (for example, "influential forecasters may be able to effect events so that their forecasts are more likely to occur") that the use of such techniques is itselfamatter ofjudgement *M*

Références: *Gène Rowe, "The Use of Structured Gwups to Improve Judgemental Forecasting", in "Forecasting with Judgment", (eds) George Wright and Paul Goodwin, John Wiley &Sons Ltd, 1998, ISBN 0-471-97014-X, £45 HB, Roben W. Blanning and Bruce A. Reinig, "Building Scénarios for Hong Kong Using EMS", Long Range Planning (Elsevier Science Ltd), Vol 31 No 6, 1998.*

COMMENT

In looking at the Delphi technique, a long-established methodology and EMS, its computer-aided counterpart, we have come a long way from the type of scenarios envisaged by Pierre Wack and others (see pages 9-16). Indeed, Delphi is essentially a forecasting technique. But so much depends on what you are looking for.

The Hong Kong example illustrates an excellent way of quickly capturing ideas and possibilities that can be put to immediate use. But it can only just be graced with the term 'scenario'.

The deeper, more complex discontinuities remained unexplored. Although there is mention of tension between China and Taiwan, where is the possibility of an Asian financial collapse? How does China's protracted entry to the World Trade Organisation play out? The greatest danger of limited scenarios is that people think they have really thought about the future. Sadly that takes a lot of time and effort. The Hong Kong scenarios looked inward rather than outward - not surprising given the circumstances - but that is part of the problem that scenarios are intended to overcome.

The business future of Hong Kong

In Octôber 1997, 16 Hong Kong business executives took part in a 50 minute session using EMS to create scénarios around the business future of the région. Some three months earlier, at midnight on 30 June 1997, Hong Kong had ceased to be a British Dépendent Territory and become instead a Spécial Administrative Région of the People's Republic of China. This had made its future very uncertain.

There were to be three commenting rounds - one for drawing up a list of events that would be désirable for the future business environment of Hong Kong, one for pessimistic events, and one for realistic events. Participants were presented with a screen for each of thèse alternatives, laid out for thémto enter their views (see Figure 1).

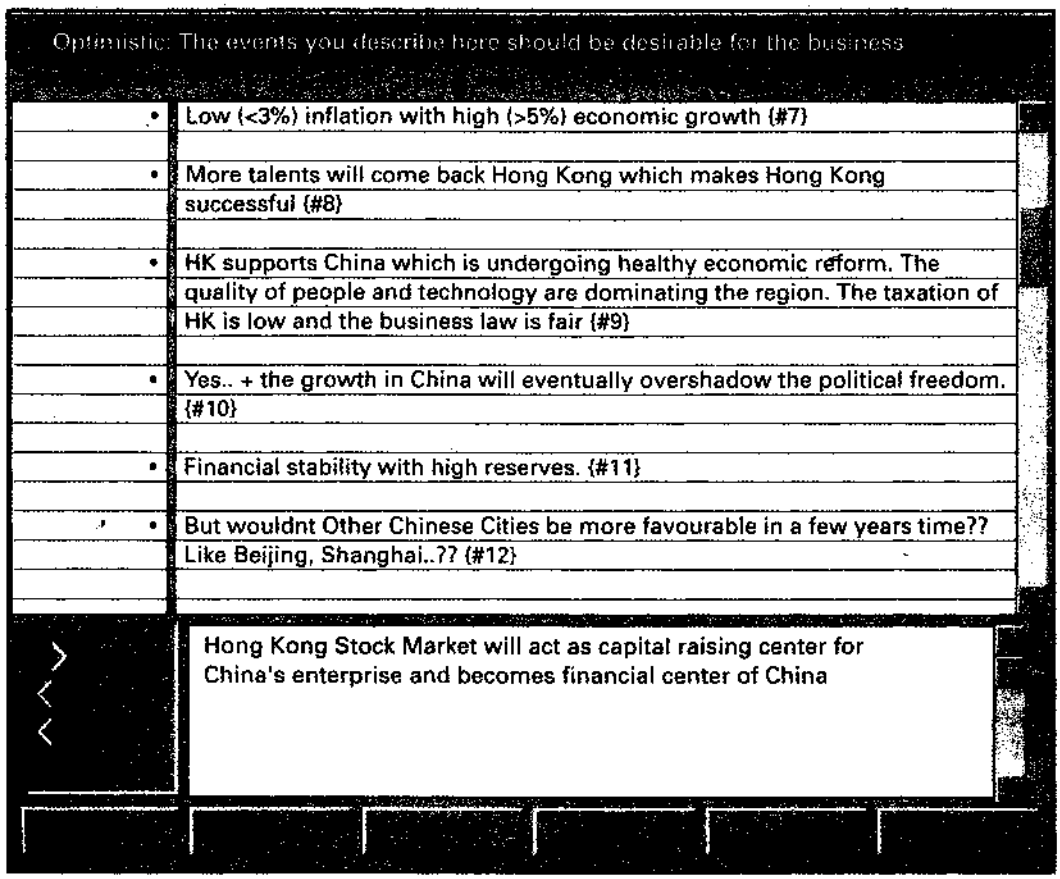
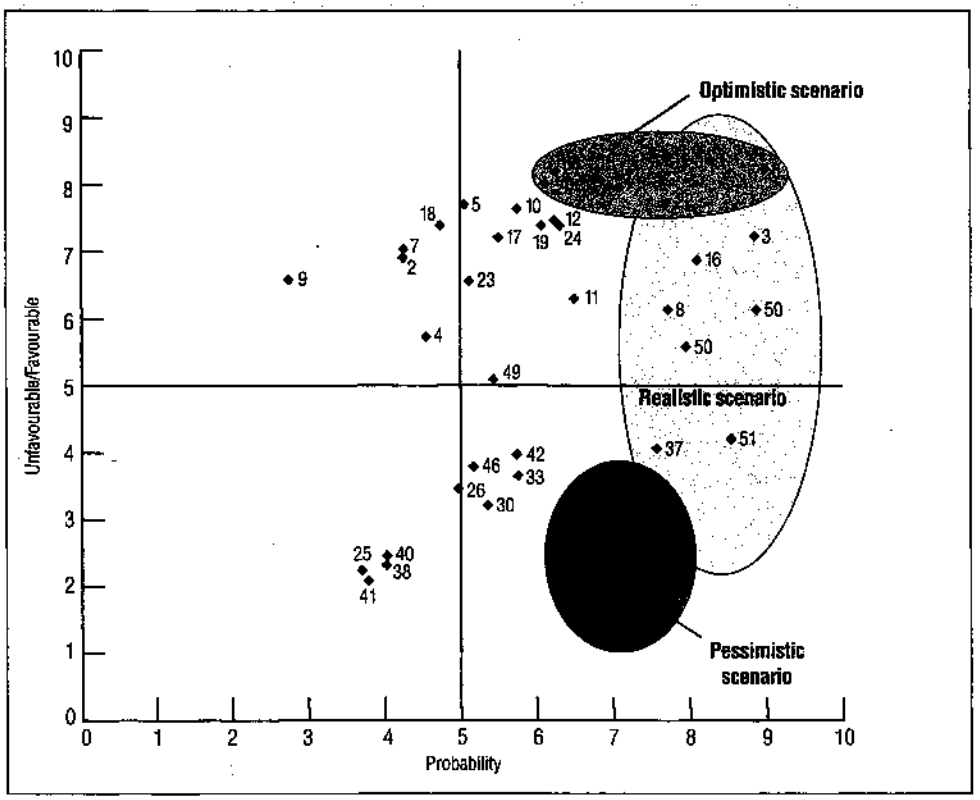


Figure 1: Comments on the optimistic scénario



Adapted from Long Range Planning, Vol 31, Robert Blanning and Bruce Reinig, 'Building Scenarios for Hong Kong using EMS', pp900-910; copyright 1998, with permission from Elsevier Science Ltd

Figure 2: Using the Event Matrix to construct scénarios

The EMS commenting tool allocated a number to each idea as it was entered. The facilitators then converted thèse into nùnibered events. For example, the comment numbered 8 on the screen in Figure 1, 'More talents will corne back to Hong Kong winch makes Hong Kong successfur, was succinctly rephrased to become: 'Talented HK people who hâve left will return' in the session's list of events .

Participants were presented with a screen listing ail the events (52 in this case) so that they could enter their estimâtes of the likelihood of each event occurring and whether or not it would be good for the business future of the région. (For example: 0 = will not happen, 5 = 50% chance, 10 = will happen; 0 = very unfavourable^ 5 •= neutral, 10 = very favourable.) The voting tool calculated the mean for each event and plotted thèse onto the Event Matrix.

Three scénarios were then mapped onto the Event Matrix (see Figure 2). The facilitators chose approximately ten events per scénario, with some overlap between them.

The skeletal scénarios the authors put forward went as follows:

The optimistic scénario Income tax remains low (event #1) and Hong Kong remains economically stable (13), with capital investments protected (48). The government invests more in schools (22), leading to an improvement in children's éducation (20). The région is in close contact with businesses in China (6) and becomes an important gateway for investing there (47). It could *evenbecome* the financial centre of China (21). Indeed, China is a major world économie power (43), so that Hong Kong is the most important city in Asia(15). ,

The pessimistic scénario Economically, Hong Kong faces increased compétition from other countries in Asia (36), and the cost of living goes up (32). Foreign funds go to the rest of China rather than Hong Kong (29) and businesses move there to make use of its workforce (34). Socially, Hong Kong becomes overpopulated (52) and the gap between rich and poor increases (39). And politically, China intervenes in Hong Kong policy making (27, 45), and there is conflict between China and Taiwan (35). Corruption is on the increase (31), with less political freedom and freedom of speech (44, 28).

The realistic scénario There is a closer relationship with businesses in China (6), and more of them are listed on the Hong Kong Stock Exchange (3), which raises capital for them (16). Income tax remains low (1), but there is more foreign direct investment in China (14) and so many Hong Kong factories move there (51). Mandarin is more widely used in Hong Kong (50).

Less likely but still realistically, there will be fewer disputes between Britain and China (8); Hong Kong is financially stable with high reserves (13); and more is invested in éducation (22). The région faces increased compétition from other Asian countries (36) and becomes more reliant on China's economy (37), And the gap between rich and poor increases (39).

Putting scénarios at the heart of strategy

How scénarios can be used to 'wind tunnel' business ideas and stratégies: scénario planning explained

Kees van der Heijden is Professor of General and Business Management at Strathclyde University and is a visiting professor at Nijenrode University in the Netherlands. Previously he spent 3£) years with Royal Dutch/Shell, latterly as head of Shell's internai strategy consulting team and then head of Shell's Business Environment Division, responsible for scénario planning. His expérience of using scénarios in strategy development is the basis of his book *Scénarios: The Art of Stratégie Conversation.*

Strategy as rationalist

Many organisations adopt, unwittingly, the rationalist approach to strategy formulation. Its main éléments are that the organisation^ objectives follow the mission of the business, and stratégies are formulated to achieve the objectives. The underlying rationalist principle is that there is a 'best strategy'. Often, the effects on the organisation^ objectives are tested by best case/worst case sensitivity analyses. Thèse are frequently referred to as 'scénarios' (see page 7). The organisation is therefore lulled into believing that it has explored the full extent of its stratégie possibilités. In fact, very often, it is busy refming aspects of a previously assembled strategy, while ignoring signais that the environment is changing.

Paradoxically, successful organisations that adopt a rationalist approach are habitually those most susceptible to an unforeseen shift in the environment in which they operate. The smoking wreckage of corporations that ignored the threat on the periphery of their restricted fields of vision serve to remind us of the dangers of taking a half-hearted view of what *might* happen.

Strategy as process

In contrast to the rationalist approach, scénario planning belongs to an entirely différent view of the process by which stratégies are formulated. First of ail, the thinking behind scénario planning runs entirely counter to the idea of a 'best strategy'. True scénarios are formed around multiple futures, each equally plausible, chosen to reflect the underlying uncertainties facing the organisation. The main assumptions used in constructing each scénario are continuously assessed and the observations used to feed back into management activity.

Van der Heijden uses the analogy of the wind tunnel testing of a new type of aircraft. The performance of an aircraft design is monitored, and the results fed back into redesigns. Wind tunnel testing is not a once-off activity. It is a continuous process that leads to incrémental understanding and development of the positive aspects of the design. Equally important is the sélection of conditions under which the design or strategy is being tested. The range of conditions must be adequately broad to reflect the uncertainty of the environment in which the strategy is being tested. Too broad, and the strategy will become over-engineered and cumbersome; too restricted, and the strategy will be vulnérable to some reasonably predictable conditions. As van der Heijden puts it: "although a global nuclear conflict cannot be ruled out, few planners will benefit from planning around such an outeome."

Putting structures, not strictures, on thinking

Scénarios provide the business planner with a means of bringing together apparently unconnected fragments of information into views of the future. To be effective, scénarios need to hâve their feet on the ground, but their heads in the clouds. Scénarios that are too far removed from current reality will be seen as implausible. And, by the same token, those that are too close to reality will not expand the vision or imagination of the organisation. Van der Heijden illustrâtes how individuals develop their partly formed ideas into more concrète views by quoting a concept developed by psychologist Lev Vygotsky, câlled "scaffolding". Social interaction between individuals engaged in thinking through the same problem provides a framework on which an individual's thinking can be structured - a structure between the ground and the clouds.

Stratégie conversations

In the same way that individuals rehearse future events in their minds, van der Heijden suggests that scénarios, properly constructed, can fulfil the same purpose for organisations. The wind tunnel analogy reflects the process described by various observers of organisational and individual learning. Observations and reflections, based on concrète expériences, allow abstract théories and concepts to be developed. When tested, thèse concepts form the basis of new expériences (see *The Antidote* Issue 10 pages 6-7 or www.theantidote.co.uk/articles/kolbstyles.html).

In organisations, scénarios built on the collective expériences and inventiveness of groups of individuals are stronger than those developed by individuals. Scaffolding helps to give individuals a way in which they can articulâte thoughts based on imperfectly formed tacit knowledge, within a structure offered by group reasoning and expériences. The process also adds to the understanding of the group.

The importance of using groups to develop scénarios is illustrated by an observation he made in the mid-1980s. Van der Heijden recounts how, when he took on responsibility for scénario planning in Shell, he decided to find out why some scénarios had failed to inspire the organisation. He consistently found that scénarios formed by planners who facilitated groups had succeeded, but

those that had been developed by planners with preconceived ideas, had failed. The ingrédient necessary for success, a dynamic dialogue which van der Heijden calls "the stratégie conversation", is one of the principal ingrédients of useful scénarios.

The Business Idea

Managers engaged in the stratégie conversation need a shared view of the nature of the business and what gives it its distinctive character. The Business Idea, as van der Heijden puts it, expresses the distinctive compétences of the organisation from which the compétitive advantages of the organisation follow (see Figure 1). Through positive feedback loops, use of the distinctive compétences and compétitive advantages generate the financial and physical resources to perpetuate the advantages possessedby the company (see *The Antidote* Issue 17 pages 6-11 or www.theantidote. co.uk/articles/ rbvstrategy.html for an explanation of current thinking on resource-based strategy).

Van der Heijden recommends the use of facilitated workshop techniques to extract perceptions of the true nature of distinctive compétences from managers and to obtain a consensus view of the "success plan" for the organisation. This then becomes the model, which is tested against the conditions operating under chosen scénarios.

Evaluating stratégies

If, under various scénarios, the Business Idea is lacking in some way, then work is needed to reinforce it by considering the addition of new compétences. Thèse stratégie options can be grouped to identify those th^at strengthen the positive feedback loop in the Business Idea. Ideally, this should resuit in a clustering of stratégie options with each set of options addressing the principal concerns of the business. The quality of each in turn is then assessed in terms of how they meet four main criteria:

Financial performance Does the option meet the desired financial aims of the business?

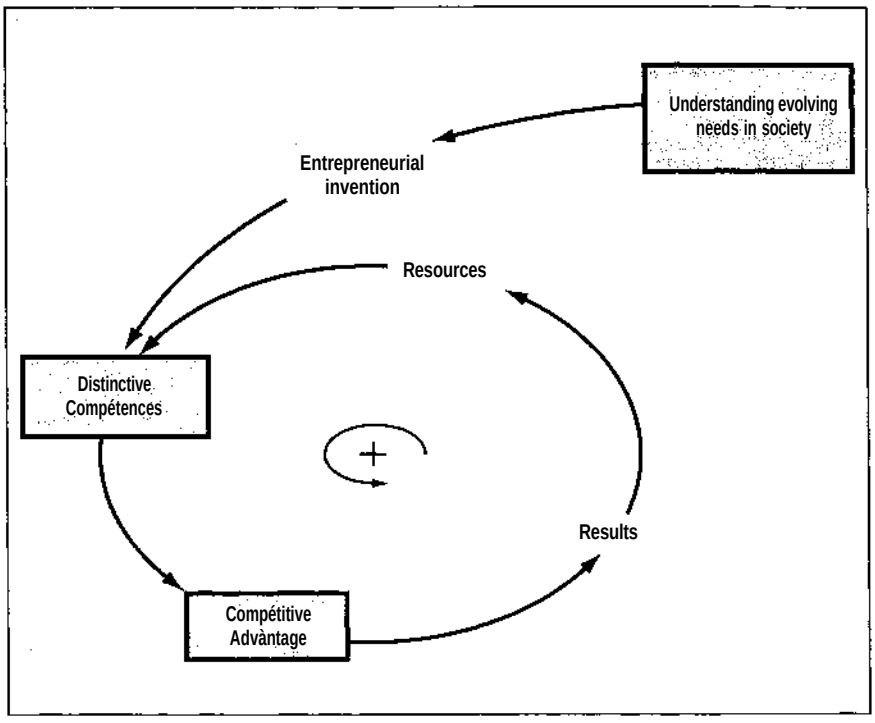


Figure 1 : The generic Business Idea

Risk What sorts of risks are inhérent in each of the options when measured against the conditions prevailing under the selected scénarios?

Stratégie fit Does the option make good use of existing distinctive compétences, or do thèse need to be developed for the strategy to work? Van der Heijden makes the point that most Business Ideas are built up over a number of years. The création of stratégies around new compétences is less likely to produce workable stratégies.

Cultural fit Although it is not impossible to change cultures in organisations, a strategy based on the need to undertake radical cultural change is almost certain to contain higher levels of risk.

Van der Heijden favours the use of a scénarios/stratégies matrix in which aspects of each strategy are evaluated against each of thèse four criteria. Although this invites a return to the rationalist approach of selecting a *best strategy', managers who hâve been involved in the process of constructing scénarios and stratégie options are more inclined to continue to 'wind-tunnel' the stratégies, seeking to optimise the chosen stratégies and search for new alternatives.

Strategy and imcertainty

The one certain aspect of stratégie planning is that the future cannot be predicted. Given that the scénarios should represent a range of equally likely futures, the process of wind-tunnel testing should assess whether the range of stratégie options is adéquate to meet the conditions being anticipated. Van der Heijden quotes the four types of strategy that deal with uncertainty in différent ways (originally identified by Steven Schnaars):

Robust stratégies are typically those that meet the circumstances across a variety of scénarios. Both the risks and returns are similarly modest.

Flexible stratégies are those that seek to position the organisation to exploit a range of uncertain futures. Such stratégies seek to keep as many choices as possible open for the maximum amount of time. Thèse are best suited to very uncertain futures and lend themselves naturally to the use of option-based théories (see *The Antidote* Issue 17 pages 20-22 or www.theantidote.co.uk/articles/ realoptions .html)

Multiple coverage stratégies allow organisations to cover ail the likely scénarios by simultaneously pursuing multiple outeomes.

Such an approach requires acceptance that some of the stratégies being pursued will be jettisoned in the course of their development. They are not appropriate for organisations with scarce or limited resources.

Gambling stratégies that are aimed at reaping abnormally high returns from the émergence of a limited set of outcomes. Such stratégies are sensibly only adopted in the knowledge that if the desired scénarios do not émerge, then lasting damage will not resuit.

Scénarios and culture

Though scénarios shed a penetrating light on stratégies, one of the great benefits they offer is what Kees van der Heijden refers to as the stratégie conversation.

Organisations that develop scénarios to test their stratégies, by virtue of the itérative nature of the process, constantly revisit their stratégies. The process of strategy création is one that involves people at many levels of the organisation, and the scaffolding of thoughts brings people together to articulate their tacit knowledge. Ail of this entails broader involvement in formulating and testing stratégies than in those organisations where stratégies are declared at senior levels.

There is évidence to suggest that the process of articulating tacit knowledge is a strong component of organisational learning. Sharing the common view aids organisational cohésion and builds a culture that is adept at learning and observing. Not only does this improve the organisation^ ability to pick up and take action on weak signais - the early warnings that a previously rehearsed scénario is about to unfold - but it créâtes the environment for inventive thinking.

There are warnings attached to the scénario building approach, however. Without the appropriate controls and interventions, the organisation loses cohésion by developing increasingly fragmented views. At the other end of the scale, too much identity with one set of views leads to group thinking (see http://www.csbs.co.uk/articles/sh8106.html). with conséquent loss of inventiveness and diminishing levels of awareness.

Left to its own devices, an organisation will evolve towards one behavioural type or the other. The rôle of management is to sensé the drift and bring the organisation to a position where strong identification with stratégies is tempered with a désire to innova te. This is only possible in an environ-ment where expérimentation is nurtured and encouraged •

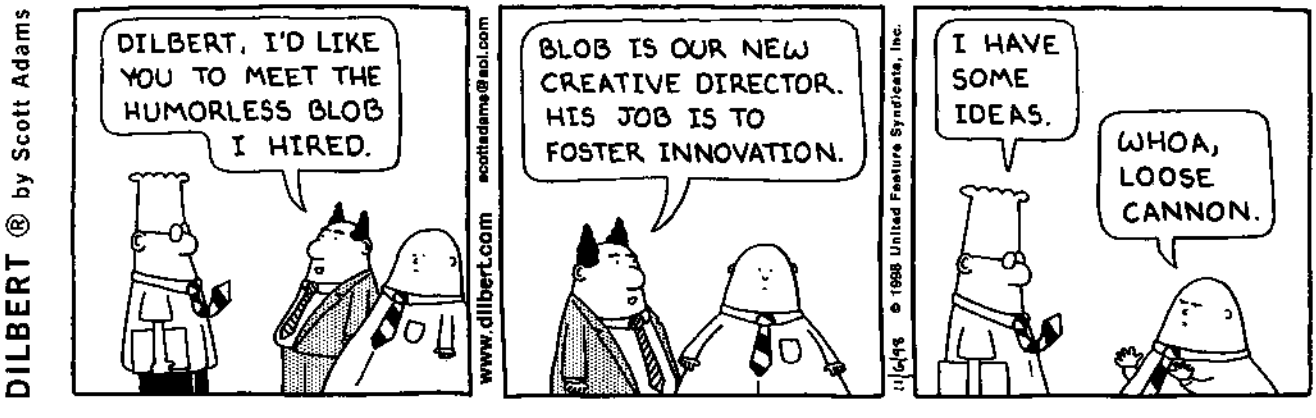
Références: *Kees van der Heijden, "Scénarios: The An of Stratégie Conversation", John Wïley and Sons Ltd, 1996, ISBN 0-471-96639-8, £19.99; Kees van der Heijden, "Scénarios, Stratégies and the Strategy Process", Nijenrode University Press, 1997,* www.nijenrode.nl/library/publications/nrp/1997-01/1997-01.html. *Steven Schnaars, "How to Develop Business Stratégies from Multiple Scénarios", in "Handbook of Business Strategy", W.D. Guth (ed), Warren, Gosham and Lamont Inc, 1986.*

COMMENT

As is évident from this Issue of The Antidote, the number of scénario methodologies and the literature on them abounds. In part, that is because there are consultancy fees to be earned. However, what few writers on the subject do is explain clearly what managers are expected to do with a set of *pi* scénarios.

It is this absence of best practice application that makes Kees *van* der Heijden's book so valuable. Here is someone who worked at Shell during the entire period in which scénario planning was introduced and continuously developed. And who, at the end of his career there, was in charge of first their internai strategy consultancy and then scénario development. His advice is therefore based on considérable knowledge and expérience. His concepts of wind tunnelling, strategy, and the *mêdal* for "stratégie conversations" are based on both.

For anyone wanting to avoid scénario création as a one-off exercise or who really needs to understand *what* scénario planning actually is, this is recommended reading. *But*, as no doubt van der Heijden would agree, nobody says that it is easy!



Pitfalls in Scénario Planning

A checklist of traps to be avoided

Paul Schoemaker has written extensively about scénario planning. He is currently Directorof Research, Emerging Technologies Management Research Program at The Wharton Business School in the US.

He has corne across 20 common pitfalls and divides them into two parts:
process - problems with the way the scenario-creating activities are conducted
content - problems with the quality of the input.

Tien process pitfalls

1. Failure to ensure top management support
Members of the top team will be the ones to détermine any significant change in strategy so they should be involved early on. Failure to do this is to risk a lack of real feeling for the alternative futures that émerge.

2. Not enough contribution from outside
In the early stages, when broad ideas about the future are being explored, outside experts - eg customers, suppliers, regulators, analysts, etc- can provide valuable knowledge. This diversity of input helps to give a fuller picture of the possible économie, technological and societal environments of the future.

3. Lack of balance between line and staff people
Staff personnel, typically from strategy, are often the ones charged with conducting the scénario project but they should 'enlist' line managers - they also hâve valuable knowledge and will be the ones to deliver strategy.

4. Unrealistic expectations
Managers need to understand: a) the extent to which scénario planning is concerned with the long term; b) that the future cannotbe extrapolated from the past; and c) that although basic trends can be identified, there are key uncertainties that cannot be predicted, only explored.

5. and 6. Poorly defined rôles and failure to keep on track
Letting go of assumptions about the future is unsettling. To prevent the process unravelling or drifting off course, rôles must be well defined. Create a core group who are tasked with keeping activities on track. Identify dates, assign tasks and responsibilities, and set milestones. Senior management's rôle is to sélect the key trends and uncertainties that need clarification.

7. **Too many scénarios**
Develop no more than five alternative scénarios, otherwise attention (and time) is diluted. A set of three or four is even better.

8. Not enough time allowed
Scénario planning is a learning process - learning what living and working in each of the possible environments would entail. Time mustbe allowed for this.

9. Failure to link to existing processes
Scénarios do not exist in isolation. They must be linked into existing organisational processes such as budgeting and planning (see page 29). Techniques such as risk assessment and real options analysis can be used to anchor them to the realities of costs, compétition and profit.

10. Failure to link to our everyday world
"Scénarios initially look at the world from the perspective of an orbiting satellite." To make thèse potentially nebulous stories spécifie to our world on the ground, devise imaginary headlines to act as mémorable "signposts". Thèse might announce provocative mergers, new products, bold moves from competitors, changes in régulations, etc.

Tfen content pitfalls

1. Failure to take the long view
Scénarios investigate opportunities five, ten, even 20 years ahead, the timeframe depending on the industry, the rate of technology change, regulatory environment, etc. Too often, says Schoemaker, organisations are short-sighted, focusing on existing products, markets, ways of working, etc.

2. Failure to take the wide view
Look beyond your own industry to see how factors such as globalisation, deregulation, new technology, etc, hâve affected other industries at home, and abroad. Organisations often fail to see how the turmoil of the past will go on affecting the future. Use imagination as well as knowledge to develop a wide range of outeomes.

3. Too much attention to trends
Focusing too narrowly on current trends leads to a limited range of outeomes. It means that the past is simply projected forward and unpredictable possibilities are ignored.

4. Too homogeneous a range of views
Companies tend to see the future "as if it were a T-shirt that only cornes in small, médium and large" - variations on the same thème. Capture the full range of opinions from inside and outside the industry: include the ones that shape the future differently.

5. Lack of internai logic
Check that the scénarios don't combine éléments that wouldn't happen together in the real world, for example full employment with zéro inflation. Scénarios may be stories but they do hâve to be crédible.

6. Failure to look at deeper-level causes
Instead of just concentrating on the immédiate factors that impinge on the organisation - interest rates or unemployment, for example - scénarios should explore the underlying drivers of such indicators.

7. Failure to challenge mindsets
"A scénario that merely confions conventional wisdom is of little use." But so is one that is too difficult to contemplate. There needs to be a

balance between the two - far-fetched views can be discussed and "reined in": butbeliefs mustbe challenged.

8. Failure to make the scénarios dynamic
A scénario is not a static snapshot. It tells a story, has a context and shows how that particular future came out of this particular présent.

9. Irrelevance
But the scénario stories hâve to be relevant. Décision makers must be able to identify with them, otherwise the scénarios will make no différence to their stratégies for the future.

10. Failure to create a real breakthrough
The aim of scénario planning is to generate new stratégie initiatives. But adopting fresh approaches ma}^ appear too risky to those who did not take part and who therefore may not understand the thinking behind the moves. Schoemaker advises companies to "view breakthrough insights about the future as valuable options. Such options, much like financial call options, give the firm the right to play in case one of the scénarios materializes." B

__Référence:__ Paul J.H. Schoemaker, "Twenty Common Pitfaïls in Scénario Planning", in "Learning from the Future: Compétitive Foresight Scénarios", (eds) Liam Fàhey and Robert M. Randall, John Wiley & Sons Inc, 1998, ISBN 0-471-30352-6, £29.95 HB.

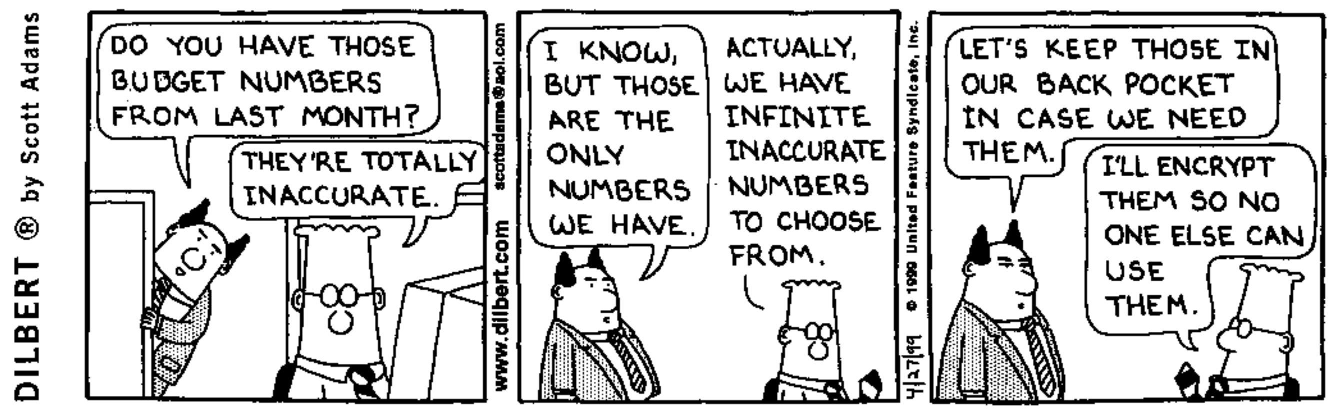
COMMENT
Paul Schoemaker spent arı extended sabbatical at Shell in the 1980s and worked closely with Kees van der Heijden (see page 29). Thèse pitfaïls are therefore written from a scenarios-as-learning viewpoint, on the Unes of Wack's and Schwartz's thinking outlined on pages 9 and 11. Having said that, many of thèse, pitfaïls are likely to occur in any scénario building or planning process. They therefore serve as a validlist of checkpoints to consider when embarking on such activities.

Other things to watch out for
As [illegible] prioritising managers with expérience oï scénarios, a nunïbèr of other - ratlier mor^ riitty-grit^ - problem arèas w'efè îdêrîtifilèd. Tlïëse tèlâtëâpârticularly to difficulties arising from within the senior management tèàm:

- a senior management view that a single scénario exercise nieàns 'we've clone that, soyou can put it away now' - ie neither commitment nor continuity
- persuading managers who like to work with certainty that they hâve to work with 'might be' and stilî take the exercise seriously
- their desife to argue about the detail, the numbers and quantification issues rather than address the real questions being raisedby the scénarios
- the move toward 'turf protection' if the scénario outeomes seem to threaten particular activities - ie défensive behaviour
- trie desire of a strategy-forming senior-management team to avoid perceived loss of faceby trying to show that their stratégies will work in ail scénarios
- the danger that a scénario which really challenges existing strategy may fece fierce rejection by those who created it in the first place
- finally, watch out for attempts to avoid having to confiront a future threat or danger^ Often noticeable when a senior management team seeks its comfort zone by dismissing scénarios as 'only something that may happen\

Two additional words of warning about scénario team composition emerged. Beware of mixing high and low levels of knowledge and expérience - the knowledgeable quickly become bored.

ALso, working with a group that is too large and cumbersome cânlead to loss of impact and lowered levels of involvement and commitment. Try to strike a good balance.



Putting scénarios to use

Scénarios corne in ail shapes and sizes and can be put to many différent uses

Typically, the effort involved in scénario création means that organisations are loath to make them public. This is even more the case if they provide important compétitive insights. However, examples can be found.

CORPORATE SCENARIOS

The following are now in the public domain:

Statoil - coping with sudden instability

In 1987 the Norwegian government-owned oil and gas company, Statoil, used scénarios to develop a long-term research and development strategy for its exploration and production division. It was a time of unstable oil prices and stock market crashes Worldwide and so scénarios were seen as a tool to help managers with the conséquent uncertainties.

The scénario team identified at least 60 micro and macro forces that impinged on their R&D planning. The high uncertainty-high impact factors were then clustered into three areas of uncertainty:

- the supply and demand structure of the energy market - would itbe a buyer's or seller's market?
- the Norwegian economy - would it be energy dépendent or become more diversified?
- technology - would it evolve in a fragmented or, an integrated manner?.

Thèse three "axes of uncertainty" helped structure the team's thinking and were the basis for four national scénarios:

A. Norway dominatedby the oil and gas economy
B. Norway using its oil and gas benefits to diversify
C. Norway struggling in a depressed world, using its energy resources for national économie survival
D. Norway driven from oil dependence by global restructuring

"Capsule narratives" were written for each scénario and their implications considered in détail. Scénario D was then elaborated as it was the most challenging potential environment for Statoil.

Digital Equipment Corporation - searching for new business models

DEC, the US-based IT company, faced considérable challenges in the early 1990s as it witnessed its segment of the mini-PC market (a large share of which it had captured in the 1980s) change dramatically. Now forced to compete with suppliers of new low-priced yet powerful PCs, and cope with advances in network technology, DEC used the future mapping method of scénario planning (see page 21) to consider the way ahead.

Managerial teams were challenged to define the séquence of events that might lead to one of five particular endstates or outeomes. Each endstate represented a différent perception of current realities in the form of business models, rather than long-term visions. The endstate models looked at DEC as a:

- commodity business
- architectural franchise or technology-driven business
- networking and utilities business
- systems-integration business
- "legacy" business

The scénarios formed the basis for a "common language" that DEC personnel could use in deciding when to shift from operating in one business model to another. DEC also used several methods to analyse and understand its situation better, including linking the scénarios to portfolio analysis, and probing into interdependencies between the différent business models. Once scénario planning's value came to be appreciated, its use spread throughout the company.

US Defence Industry - handling large-scale discontinuities

In the early 1990s, a group of US defence companies commissioned a set of scénarios to help them investigate the industry's future shape, following the end of the Cold War, the shift of économie power to the Pacific Rim, and the accompanying impact on demand.

The four key issues were boiled down to:

- the level of US diplomatie, économie and military involvement Worldwide
- the characteristics of the "countervailing military power"
- the strength of the US economy
- the level of world stability

Thirteen scénarios were developed from the combination of variables, ajthough three were subsequently discarded as illogical or implausible. Detailed forecasts were produced for six of the remainder, ail with plausible éléments. Thèse scénarios were entitled:

The US-Driven Market - US military forces ready to respond to instability
Dangerous Poverty - cost-conscious security-minded world, high instability, anti-US
Régional Markets - active non-traditional defence market, high instability
Peace and Prosperity - low military priorities, focus on économies, depressed defence market
Confused Priorities - poor economy, unfocused defence priorities, US defence spending erratic
Isolationist's Dream - low instability, strong economy, low demand for defence

Charting US defence expenditure in each scénario showed that there were serious implications that the defence companies had to consider.

US IT company (unnamed) - understanding new économie structures
In 1988 an American IT company used cross impact scénarios (see page 22) to help forecast changes in the European IT market. The company had a successful European opération but wanted to increase its market share for abroader range of IT products, in the face of considérable compétition.

Specifically, the company needed to know the likelihood of the European Commission (EC) achieving its stated goal of a single European market by the end of 1992. It also wanted to know whether an integrated EC would lead to a 'Fortress Europe' mentality about US products, and what effect (in terms of growth and compétition) a more integrated EC would hâve on the IT market.

The resuit was four scénarios:
EC 1992 works - deemed "most likely". Most market cohésion goals met, considérable intégration apart from currency and monetary policy. East-West relations friendly, no more or less protectionism than in the rest of the world. IT market growth medium/high.
EC 1992 disappoints - slower évolution of integrated market. Despite this, IT growth moderate.
EC fails - little progress towards intégration, EC declining, reduced protectionism, IT market growth low.
The US of Europe - 1992 goals reached/ exceeded. EC integrated into powerful state, protectionism no more or less than the rest of the world, IT market growth high.

The company concluded that momentum for EC cohésion was strong, an integrated European market was likely, but that a Fortress Europe, protected market was unlikely. Because the IT market growth in the EC was likely to be médium to high, with strong compétition from European-based IT companies in ail market segments, the company realised that it should establish a présence at the European customer end of the value chain.

PUBLIC POLICY SCENARIOS

The European Commission - understanding geo-political forces
In the mid-1990s, the EC Forward Studies Unit undertook a Shaping Factors-Shaping Actors study (see page 21) on the prospect for North-South relations. It concentrated on the évolution of North-South interdependencies in a changing geopolitical situation, and suggested parameters for a global EC strategy based on good governance and the promotion of sustainable social and économie development.

The study looked at how the deep underlying trends in population growth, poverty and environmental dégradation were likely to interrelate and influence the future of both the North and the South.

Two scénarios were developed:
Business as usual - highlighting the risks for North and South if the future was an extrapolation of current trends.
Graduai change to a sustainable future - illustrating possible gains for ail as a conséquence of a steady move to sustainable économie and social development.

The identification of actors highlights the rôle and influence of particular centres of power and of vested interests, which fits with the Commission's key fonction of "promoting the common interest". Scénarios such as thèse provide a backeloth for policy discussions and décisions.

GENERIC SCENARIOS

Industry associations increasingly develop scénarios for use by their members, but thèse can run the danger of reflecting conventional industry wisdom. Two UK-based organisations hâve recently produced publicly available reports on life in 2020. The approaches adopted by the Chatham House Forum and The Henley Centre illustrate the two ends of the continuum that is scénario planning - from a "context to think in" to a "forecast of the future" respectively.

The Chatham House Forum
This was established at the UK's Royal Institute for International Affairs in 1995, to assist forum members (mainly UK companies and government departments) to think about and plan for their future. The Forum's 1998 report, "Open Horizons", sets out three possible scénarios for 2020.

The Forum envisages a world facing great challenges. The governments of wealthy industrialised nations already hâve to cope with growing claims and declining revenues, while developing countries lack the institutions necessary for orderly growth. Resource constraints, security concerns, environmental *damage* and an unstable and unaccountable capital market will affect ail nations. On the other hand, human capacity to solve problems and seize opportunities will be greatly enhanced by advances in access to and use of knowledge. Educating and organising people to use their knowledge, though, will be critical.

"Mon will notflyfor 50 years."

WILBUR WRIGHT TO HIS BROTHER ORVILLE1901

"Who the hell wants to copy a document on plavn paperl"

LETTER TO CHESTER CARLSON, INVENTOR OF THE XEROX COPIER 1940. OVER 20 COMPANIES REJECTED THIS "USELESS" IDEA BETWEEN 1939 AND 1944

"640Koughttobe enough memory for anybody."

BILL GATES CHAIRMAN MICROSOFT, 1981.

The three scénarios are very différent:

Market Quickstep - complexity is largely left to manage itself. The free market and individualism are out of control. An increasingly fragmented society trades more and more frantically. Commercial returns are adéquate but not lasting, as new products and projects are constantly being devised. The rich nations become richer, but people are increasingly overwrought and need more and more skills if they are not to be treated as a cheap resource.

Atlantic Storrn - an even worse scénario for industrialised nations. Waves of "hot" money flow around the world's capital markets, making any attempt at corporate planning impossible. Unemployment rises steeply, the population of industrialised nations grows older and few governments hâve made proper provision for their welfare. National politics become skewed to extremist or claimant groups. Fragmentation occurs as the US becomes more market driven (but without accompanying économie growth), while an increasingly protectionist Europe expériences instability, ideological battles and introversion.

Wise Counsels - wise use is made of unprecedented wealth and knowledge. More and more people hâve access to the rapidly expanding pool of knowledge. They can react to events more quickly through their many informai personal links, and they understand the interaction of complicated Systems. As technology enables almost anything to be achieved, the critical skill becomes deciding what to do. Today's "knowledge management" develops into "the second invisible hand", ensuring good social outeomes from the market.

The Henley Centre

This UK consultancy spécialises in analysing the impact of économie, social, political, cultural and technological change on consumer markets. It calls its process "futurology", a product of analysis and judgement, extrapolation and spéculation. It involves making projections about the future and examining the assumptions behind the projection to judge the likelihood ofit happening.

In 1998 Henley was commissioned by Barclay s Life, the insurance arm of Barclays Bank, to provide a comprehensive study across a broad range of issues. The resuit, entitled "2020 Vision", provided three économie scénarios:

Paradisiac - (the most optimistic scénario, 20% probability of occurrence) A booming economy is fuelled by increasingly open world trade and strong growth in emerging markets. Growing affluence leads to higher income levels, with many more middle-class households Worldwide. Employment, productivity and wealth-creating benefits of new technology far outweigh the cost of future job losses. Pressure on the welfare state is reduced, low public borrowing and high personal saving resuit in low interest rates and strong investment. Incomes increase by two-thirds in realtermsby2020.

Mediocritas - (the middle scénario, 60% probability of occurrence) Real incomes hâve risen by 40% but growth in discretionary incomes is much lower as people hâve to fund their own personal welfare (pensions, healthcare, éducation etc). The electorate refuses to pay higher taxes because of a corporate squeeze on employées' gross incomes to ensurelrising profits. Globalisation and increasingly mobile capital also limit the ability of governments to raise taxes at the national level. New technology results in many new jobs but a skills mismatch leads to unemployment in geographical pockets and among the unskilled. Labour compétition from overseas workers leads to downward wages pressure.

Dégradation - (the worst scénario, 20% probability of occurrence) Some disastrous event exposes a fondamental problem (eg a stock market over-valuation) and the resulting économie collapse réverbérâtes around the world. Unemployment rises to 1930s levels, and although real incomes rise by about 10% there are significant différences between socio-economic groups. Birth rates fall, home ownership déclines, people reduce their standard of living, pressure for jobs puts paid to political commitment to environmental improvements, and on-line éducation booms as people try to improve their skills at low cost. The working génération objects to paying the pension costs of its parents, and there is a schizophrénie attitude to savings as people want to put money away but distrust financial institutions •

Références: *GUI Ringland, "Scénario Planning: Managing for the future", John Wiley &Sons Ltd, 1998, ISBN 0-471-97790-X, £19.99 HB; Mark A. Borough and Charles W. Thomas, "Alternative Scénarios for the Défense Industry after 1995", Planning Review, May-June 1992; European Commission, "The Future of Nonh-South Relations", Cahiers ofthe Forward Studies Unit, 1997, ISBN 92-827-7597-6; "Open Horizons: Three Scénarios for 2020", The 1998 Report from the Chatham House Forum, Royal Institute of International Affairs, 1998, ISBN 1-86203-094-4; "2020 Vision Report", avaïlable from Barclays Life, Tel 020 74891995.*

COMMENT

These (and some identified on page 37) are just a sample of the scenarios that can be found. Many, like British Airways' "Wild Gardens" and "New Structures" have been fairly widely publicised (as have many of Shell's scenarios. Interestingly, looking at examples gives us a highlight two of the natural responses that can impair the use of scenarios. We tend to check the older ones to see if they were accurate and the new ones to see which we believe will be right. This illustrates the human tendency to pick a scenario rather than allow our imaginations to have full rein (heavily aided and abetted when probabilities are given). Remember Pre-Wack's cautions on pages 9-10.

Surf ing around the subject: scénarios

For speed go to our live links at: www,theantidote-co-uk/artic[es/surf22,htmi

Two things can be gained by surfîng the web for scénarios. The first is to find worked examples, some in quite good détail, that illustrate the many uses to which scénarios can be put. The second is to discover just how much they challenge our own current views of the world!

First, although not referred to in this Issue, there is a fascinating interview with Betty Flowers, Professor of English at the University of Texas, who was invited to become editor of Shell's 1993 global scénarios at http://www.systems.org/HTML/fsj-v01/rd-f/shell-1 .htm. There are real insights hère, for instance the lobbying that develops as people try to influence scénario outcomes. A good read. Elsewhere, if you want to see what Peter Schwartz (pages 11-13) means by 'driving forces', an analysis of the Asia-Pacific région provides examples in *From Siïk Road to Silicon Road* at http://www.gbn.org/scenarios/Silk/Silk.html. Also, if the use of probabilities in the scénario process interests you, there is an extended debate on the subject available at http://www.gbn.org/scenarios/Probabilities/Note.html. Many of the participants are Shell alumni but the debate contains contrary viewpoints. As Kees van der Heijden says at one point, there is a danger that semantics get in the way, but it provides interesting insights *- however esoteric.

As for scénarios themselves, don't forget that the ones we created for Issue 20 of *The Antidote,* in April 1999, are being updated at http://www.theantidote.co.uk/y2k/scenario.html. But there are many more to find. For example, there are two sets of scénarios, loosely based on the same subject, that merit comparison. The first set contains three scénarios created by the IDEA group to help their sponsor, Vancouver City Crédit Union (Vancity), plan its future stratégies in an e-commerce world. Entitled "Corporations Rule", "Crypto-Anarchy" and "Third-Sector Ecotopia", they can be found at http://edie.cprost.sfu.caA; idea. Remarkably their recommendations, based on thèse scénarios, are also publicly available on http://edie.cprost.sfu.ca/~idea/recommend.html and, to see how well they hâve been followec^, you can check out their sponsor's website: http://www.vancity.com.

While Vancity's scénarios are company and country spécifie, the second set of thought-provoking scénarios, also looking at life in the information society, is global in nature. "Civic Islands", "Cyber Woodstock", "Blade Runner" and "Money Islands" hâve been produced by Futurescape, a small, interdisciplinary group within Siemens tasked with identifying long-term 'megatrends' and discontinuities that will influence information and communication technology. Ail four are available in web format or as downloadable pdf files at http://www, siemens.de/sbs/en/company/activities/futurescape/scenarios/index.html.

A single scénario looking at the world in 2015, "New World Disorder", was written by Peter Schwartz for the first issue of *Wired magazine.* It can be found at http://www.gbn.org/scenarios/Disorder and provides interesting reading, not least because some of its story lines hâve already failed to matérialise (eg 'Président' Robert Dole and the break-up of NATO because of German récognition of Serb nationalism). If *Wired* is your scène, then you can check out a set of four pretty zany scénarios at http://www.wired.com/wired/scenarios/build.html. Called "I will", "Consumerland", "Ecotopia" (heard that one before somewhere) and "New Civics", they présent worlds far removed from where we are today.

The Global Business Network website •(http://www.gbn.org/home.html) contains lots of interesting things. For instance, the Destino Columbia project provides four scénarios about the future of Colombia, created by a team of 43 influential leaders drawn from almost ail sectors of Colombian society (http://www.gbn.org/scenarios/colombia). There is also a set of scénarios about Japan. Named "The Long Hollowing", "Crash and Rebirth" and "Hercules Départs", they can be found at http://www.gbn.org/scenarios/japan.

In the mid/late 1980s, Anglo-American Corporation, the largest company in South Africa, asked Pierre Wack (see pages 9-10) to develop a set of scénarios about the future of apartheid. Two particular scénarios emerged: "low road" and "high road". The first showed the conséquences of continuing apartheid policies, while the second showed a différent vision - a South Africa in which apartheid^could end without the blacks driving out the whites. Senior Anglo-American executives gave a séries of public speeches, based on thèse scénarios, and a book about them became a bestseller in South Africa. It is believed that F. W. de Klerk, who became South Africa's président in 1989, took thèse scénarios seriously and that they may hâve helped to open the way for Nelson Mandela's release in 1990.

This first scénario process was foliowed up in 1991 when a team led by Adam Kahane (also from Shell in London) put together four scénarios for South Africa's future between 1992 and 2002. Called the Mount Fleur scénarios, they were published in 1992 as a spécial report in South African newspapers and also presented to political parties and institutions across the whole of South African society. The background to them and the results they created can be found at http://www.gbn.org/scenarios/fleur/fleurlntro.html. The four scénarios themselves, "Ostrich", "Lame Duck", "Icarus" and "Flight of the Flamingos", canbe found at http://www.gbn.org/scenarios/fleur/fleur.html.

Meanwhile, elsewhere...

The work/life balance is tipping towards the wrong side of the scales, affecting peoples' health, relationships and family life, according to a highly publicised survey "The Price of Success" from the *magazine Management Today and* the work/life consultants Ceridian Performance Partners. The survey, covering 2,000 managers across the UK, has prompted calls for organisations to introduce a 21st century manifesta for improving the workplace.

Britain's senior managers are sacrificing their personal lives to keep up with the rat racè in which 55% face fréquent stress at work with 50% admitting to having too little time to build relationships outside work. To ease the "strain drain", as it has been labelled, 20% sometimes drink to ease the pressure and 8% hâve turned to therapy or counselling, although on the more positive side the majority of respondents partake in exercise/sport and regular holidays. Even so, three in ten péople say their health and sex life are suffering because of work.

On the bright side, two out of three managers are happy in their jobs. Those in smaller organisations were even more positive, with higher levels of trust, satisfaction and morale than larger organisations. Rétention of staff is a problem as 40% of men and 50% of women will look for a new job in the next 12 months, and 70% say they would seriously consider an approach from a headhunter. But when asked what would make them actually leave their jobs, 44% stated lack of challenge, 36% money, with the work/life balance coming only third at 35%. Worryingly, it appears the UK manager equates working long, pressurised hours at a desk with feeling challenged: 48% of managers feel guilty if they leave work on time. As one maie respondent stated in a similar survey from the UK's National Work-Life Forum: "Where I work there is also a culture of'you mustbe seen to work late or unsociable hours and weekends to be part of the team' which is very sad."

Sad it is indeed, if this outlook is having an adverse affect on health and family life. The inability to balance work and life is by no means a UK phenomenon. An international study from Gemini Consulting entitled "International Workforce Management Study: Capitalising on the Workforce Révolution" covered 13 industrialised nations across the world including Russia, Japan, the United Kingdom and the United States. Far from there being major différences between workers in <, différent countries, the global workforce shares a common set of desires and beliefs, with "balancing the needs of work and family or personal choice", as one of the top three choices. It may help to remember the old maxim that no one ever lay on his deathbed saying that he wished he had spent more time at the office.

Stress-related physical illness is the most important new area of research since smoking and cancer were linked 40 years ago, according to a major new médical study from the US Harvard Médical Institute. Heart disease and ulcers, as well as anything from an immunity dysfunction to colds and flu, diabètes, obesity and even brain damage, hâve been linked to stress. People who experienced regular stress at work or at home were up to five times more likely to fall sick than those who did not, according to a 1998 study from the Carnegie Mellon Institute.

The costs and implications for business are high. Ill-health and dysfunctionality directly impacts on the motivation and commitment of the workforce. Organisations who say that introducing flexible working practices would mean an increase in costs hâve no excuse. An analysis by Professor Shirley Dex of Cambridge University showed that there are almost no additional financial or organisational costs incurred by introducing flexible working practices, only benefîts, primarily through an increase in productivity. As Bill Cockburn, Group Managing Director of BT UK says: "We ail hâve to adapt to social and technological change if we are to succeed. Making full use of technology is one way of helping to get a better balance in our lives. Let's work smarter - not longer - and hâve more fun."

Copies ofthe research report, "The Price of Success", are avaïlable from Ceridian Performance Partners, tel: +44(0)20 7420 3800, priced£45 + VAT For copies ofthe report, "Looldngfor Balance", The National Work-Life Forum, contact Ben Hewitt at Hobsbawm Macaulay Communications Ltd, tel: +44 (0)20 7292 6504.

Hâve fun at work! "We don't employ people to hâve fun," as the chairman of a German company retorted to the suggestion that 'fun' be added to the company's *new* statement of corporate values. Needless to say, the resulting statement of values had very little impact on the staff or the company ("Big following for the fun factory", *Financial Times,* 16 July 1999). But if you are looking for fun at work - and don't we ail deserve it - how about a new form of bingo? Lingo Bingo is pure jargon glory for those who want to slip as many buzzwords as possible into their meetings. Print out the card for yourself, and several colleagues, and try to include as many buzzwords as possible in your discussion without attracting too much puzzled attention. The first person to use ail the words in the line wins (see sample below). The ultimate jargon accolade has to go to the person who can include 'negaholic', 'cathedral' and 'technoplegic' in the same sentence! Get the cards on: http://www. workunlimited.co.uk/ Playtime/Lineo_Bingo/1,1870,40980.00.html

adaptive	value-added	proforma	brain fart
operationalise	stand-alone	team building	market segment
cathedral	upgrade	manageability	irritainment
negaholic	flesh-it-out	ergonomically	future-proof

A Lingo Bingo card

"Worldwide demand for cars will never exceed one million, primarïly because ofa limitation in the number ofavailable chauffeurs."

RESEARCH PRÉDICTION IN 1900 FOR MERCEDES-BENZ

CONFERENCES

The 1999 Strategie Reward Convention The Berners Hotel, London on 29-30 September 1999. The convention aims to inform organisations how to use strategie up reward to drive organisational vision and objectives. Oxfam discuss how they link reward strategy to corporate culture and organisational development, and the Employee Share Ownership Centre will present the challenges of implementing the new government all-employee share plan. Twenty-one leading reward experts from Asda, Oxfam, Barclays Bank pic, PricewaterhouseCoopers, ING Barings, William M Mercer and Warner Lambert will present their reward programmes. *Antidote* subscribers get a 10% discount off the conference price. *Contact IQPC tel: +44 (0)20 7430 7300, fax: +44 (0)20 7430 7301 or e-mail: reward@iqpc.co.uk*

Restructuring Organisational Learning through a Corporate University The Alexander Hotel, Dublin on 29-30 September 1999. Hear case studies from Motorola, Sears and Roebuck and Unipart with virtual educational and development programmes presented by DaimlerChrysler, Manpower and British Aerospace. The conference aims to address the question of which organisational learning model for your business - virtual, classroom style, top-down training or individual bottom-up programmes. *Antidote* subscribers receive a 10% discount. *tel: +44 (0)20 7430 7300, fax: +44 (0)20 7430 7301 or e-mail: corporateuni@iqpc.co.uk*

In keeping with the subject of this Issue of *The Antidote*:

Scénario Planning for Competitive Advantage Kingsway Hall, London on 26-27 October 1999. Gil Ringland, whose excellent book 'Scenario Planning: Managing for the Future' is referenced on pages 20-24 and 34-36, will be discussing the challenges of the knowledge society and global economy, and how to 'pattern' of rapid and dramatic change. Ged Davis, vice-president of Global Business Development at Shell International, will discuss scenario building and use, whilst Tim Bolderson and Richard O'Brien, principals of Global Business Network, will chair an interactive masterclass on dealing with uncertainties and linking with business ications. *Contact Ark Conferences Ltd., tel: +44 (0)20 8785 2700, fax: +44 (0)20 8785 9373, e-mail: info@ark-group.com*

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Forthcoming themes...

MANAGING IN A DIGITAL ECONOMY

The digitisation of the global economy in the last ten years has vast implications for all organisations. In a networked, interconnected and interdependent world, speed and volume of communication have made time zone more important than distance. Dissemination of news and information is instant, small companies can now compete with large, and currencies are exchanged as bytes. Beyond the hype, what are the real facts and practical issues? Two consecutive Issues of *The Antidote* will look in depth at the best of current management thinking on both e-commerce and e-business.

MANAGING GLOBALISATION

For years a driver of economic activity, aided and abetted by new technology, deregulation, privatisation and falling trade barriers, the outcome has not been enrichment for all. What will it mean for business if, as predicted, only 10% of the world's population lives in the developed West by 2025? What are the management implications of this gradual transition? How are new currency and trading blocs working? How strong is the urge for protectionism? How should you be positioning your business now?

THE FUTURE OF WORK

People, not processes and technologies, make businesses work. If your people are committed your business will work better. It can be seriously damaging for any organisation to ignore the human element and people's need for self-respect, motivation and a creative environment. What is the current thinking about stress, personal fulfilment, the balance between work and home, long working hours? As organisations change, how can incentives and rewards track and support those changes? What are the attractions of teleworking? What are the cultural and human implications of rapid corporate change?

CHAOS AND COMPLEXITY

Chaos and complexity theories have become increasingly high profile in recent years, but how to use them in business is less well understood. Yet fascinating work has been going on in academia, consulting and industry to understand how the new sciences can be used for business. Every aspect of accepted management thinking and practice – from organisational equilibrium to long-range planning – is being challenged. How can your business benefit ?

TODAY'S EFFECTIVE MANAGER

Often under-resourced and frequently stressed, managers are nevertheless supposed to be paragons of virtue – but what makes for effective management? A review of many aspects of managing, from delegation and empowerment to retaining authority and good decision-taking, from showing leadership and initiative to working in teams and coaching others, all highlight the many, often conflicting abilities needed. What is the current best thinking?

ETHICS AND THE ENVIRONMENT

Cronyism, corruption and sleaze are increasingly pounced on by the media. In some areas, public expectation of ethical behaviour is outstripping legal or regulatory requirements. Concerns range from the treatment of minorities to the export sale of arms, from links with countries whose human rights records are poor to product testing. Environmental damage and degradation is also increasingly tracked around the world and powerful lobby groups are quick to respond. Once publicly pilloried, it can be difficult to regain a tarnished corporate reputation. What is the current thinking on these issues?

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