

In 1980 IBM calculated that the world market for personal computers over the following ten years was 275,000 machines. The actual number became 60 million. IBM was caught not by its inability to foresee problems, but by its *inability to imagine greatness*. It does not take much to generate a disaster scenario. But *to envision success takes talent*. In this context scenario planning becomes crucial.

ON SCENARIOPLANNING

Compiled by Jan Verwijnen

Scenario planning is the methodical thinking of the unthinkable. It searches for wisdom in unusual places. It assumes that there will never be enough information on which to base a decision, if that decision requires certainty about the future. Therefore, it is important to prepare a wide range of possible decisions based on an entire range of possible futures. Never being wrong about the future is better than occasionally being right. Not only must one know what possible futures exist, but one must know how to recognise into which previously anticipated future one is entering (certain signs prefigure certain events).

For example the Mont Fleur scenarios in 1991 (South Africa) had such a compelling narrative power that they caused everyone to agree objectively that they were accurate descriptions of the possible future realities for South Africa:

- “The Ostrich scenario” (sticking your head in the sand). If the white power structure just stuck its head in the sand - did not face the world economic and political isolation, did not deal with internal black unrest except by repression, and did not conduct negotiations with the majority - the result would be massive internal resistance, international condemnation, violence, flight of capital and skills, and economic deterioration. Then things would get really ugly.
- “The Lame Duck Scenario”. Negotiations, but grudging transition in tiny steps. If negotiations did occur, but the result was a grudging transition to the new, in tiny steps and dragged out indefinitely, the country would be marked by indecision, lack of outside capital, lowest-common-denominator waffling, uncertainty and a resultant lack of outside capital infusions to either turn the economy around or solve social problems. Nobody would be truly satisfied
- “The Icarus Scenario” (fly now, crash later). Suppose negotiations occurred, and the transition to the new was rapid and decisive, but the result was a populist government that went on a huge spending spree to try to cure all the problems of generations overnight. As has happened so often in Latin America, deficit spending would cause a brief boom, but ultimately the country would become an economic basket case, and the poor as well as the wealthy would end up worse than before.
- “The Flight of the Flamingos Scenario” . Flamingos take off slowly, but fly high and together. In this scenario, negotiations and a quick transition lead to effective, sustainable, clean, inclusive government, generating the economic growth that allows social problems to be addressed. Everyone lives happily ever after.

The amazing thing about these scenarios was that they had such power. Scenario thinking basically allows people to tell each other stories about how the world might work. The key element is not whether they are ‘right’ or ‘wrong’, but the sort of literary criticism, in which people dig down to understand the assumptions and perceptions that underpin the imaginations in each scenario, and evaluate their plausibility, their credibility. This is not a linear, mechanistic, number driven process, but more of a dance and sufficiently intuitive. Such storytelling allows people to find the most pleasing scenario. Then they can start figuring out how to make it happen. It is all rather like the way a painter creates a new work. Indeed, the point is not to focus on outcomes so much as to understand the forces that would compel the outcome; less on figures, more on figure-ground (as a compositional relationship).

One wonders how this sort of touchy-feely séance plays back in the halls of power - sharing knowledge as a way to achieve profit. Isn't this all rather zen? The answer seems to be that so many top corporate managers around the world are so utterly shell shocked by change that nothing seems implausible anymore. They have absolutely no idea what their industry will look like in 20 years, much less how to educate and prepare their staffs for that future - all they know is that business-as-usual means death.

Global Business Network (GBN) as a think tank and strategic consulting firm combines through its members a rather unique set of competencies and connections that offers three things:

- Techniques
- Food on the Future (challenges to thinking about the future)
- Food on the Present (challenges to rethinking the present differently)

A company like GBN bases its success on the fact that people are hungry for new views. The current argot is outside-the-box thinking. By and large, people believe that systemic shocks will make or break companies, and that little curiosities today could be major trends soon. Environmentalism is one example. Thirty years ago a quirky movement - a superfund today!

(Joel Garreau: The Global Business Network, in Wired 2.11, 1994, p 98)

HOW TO BUILD SCENARIOS

Planning for “long fuse, big bang” problems in an era of uncertainty

Lawrence Wilkinson

How do we strike a balance between prediction - believing that we can see beyond the present uncertainties of society, when in fact we cannot - and paralysis - letting the uncertainties freeze us into inactivity. The senior managers of large corporations face this dilemma as well. For them its no longer enough to simply execute, to manage, 'to do things right'. They increasingly have to choose the right thing to do: set a course, steer through the strategic issues that cloud their companies' horizons. Do we or don't we buy that computer or house, build that new factory, replace the copper in our network with fibre? If we wait we might save a lot, but maybe also miss an opportunity. Questions like these are known as 'long fuse, big bang' problems. Whatever you decide to do will play out with a big bang - often a life or death difference to an organisation - but it can take years to learn whether your decision was wise or not. Worse yet, 'long fuse, big bang' questions **don't lend themselves to traditional analysis**; *it is simply impossible to research away the uncertainties on which the success of a key decision will hang*. Still a decision must be taken, because the rest of the stampeding world will not wait until certainty appears. Anything that can help make a decision in the midst of uncertainty will be valuable. One such tool is scenario planning.

Scenario planning derives from the observation that, given the impossibility of knowing precisely how the future will play out, a good decision or strategy to adopt is one that plays well across several possible futures. To find that 'robust' strategy, scenarios are created in plural, such that each scenario diverges markedly from others. These sets of scenarios are essentially, specially constructed stories about the future, each one modelling a distinct, plausible world in which we might someday have to live and work. **The purpose of scenario planning is** not to pinpoint future events but **to highlight large-scale forces that push the future in different directions**. It's about *making these forces visible*, so that if they do happen, the planner will at least recognise them. It's about helping making better decisions today.

Scenario planning begins by identifying the focal issue or decision. There are an infinite number of stories that we could tell about the future; our purpose is to tell those that matter, that lead to better decisions. So we begin the process by agreeing on the issue that we want to address. Sometimes

the question is rather broad; sometimes it is very specific. Either way the point is to agree on the issues that will be used as a test of relevance as we go through the rest of the scenario-making process.

Driving forces

Since scenarios are a way of understanding the dynamics shaping the future, we next attempt to identify the primary 'driving forces' responsible for those dynamics that are already at work in the present. These roughly fall into four categories:

- Social dynamics: quantitative, demographic issues (how influential will a teenager generation be in 10 years from now); softer issues of values, lifestyle, demand, or political energy (Will people get bored with certain new things, online chatting?).
- Economic issues: macroeconomic trends and forces shaping the economy as a whole (How will international trade flow and exchange rates affect the price of a companies products?); microeconomic dynamics (What might my competitors, my neighbours do? How might the very structure of the industry, the city change?); and forces at work, on or within the company, the district, the unit itself? (Will we be able to find the skilled employees we need?).
- Political issues: electoral (Who'll be the next president or premier, the next mayor, leading party?); legislative (Will tax policies be changed?); regulatory (Will zoning rules, building permits allow dynamic mixes of living and working?); and litigative (court practice: Will the courts break up Microsoft?).
- Technological issues: direct (How will high-bandwidth wireless affect land-line telephony?); enabling (Will X-ray lithography bring in the next chip revolution?); and indirect (Will biotech allow easy 'body hacking' and thus compete with more traditional forms of entertainment?).

Of course these categories are only handles. Real issues contain a bit of all four driving forces. The point of listing the driving forces is to look past the every day crises that typically occupy our minds and to examine the long-term forces that ordinarily work well outside our concerns. It is these powerful forces that will usually catch us unaware. Once these forces are enumerated, we can see from our own viewpoint, some forces can be called 'predetermined' - not in a philosophical sense, but in that they are completely outside our control and will play out in any story we tell about the future. For instance, the number of high school students in 10 years from now is more or less predetermined by the number of children in elementary school now. Not all forces are so evident, or so easy to calculate, but when we build our stories, predetermined elements figure in each one.

Critical Uncertainties

After identifying the predetermined elements from the list of driving forces, we should be left with a number of uncertainties. We then sort these to make sure that they are *critical* uncertainties. A critical uncertainty is an uncertainty that is *key to our focal issue*. For instance, will the percentage of women in the work force continue to increase? Our goals are twofold - we want better to understand all of the uncertain forces and their relationships with each other. But at the same time, we want the few that we believe are both the most important to the focal issue and most impossible to predict to float up to the surface.

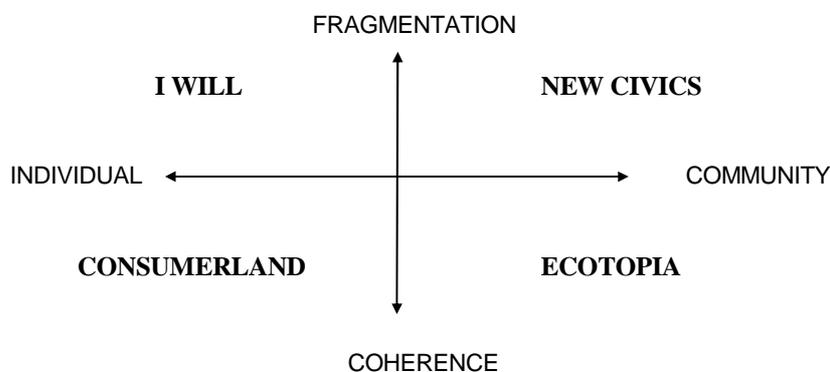
At first, all uncertainties seem unique. But by stepping back, we can **reduce bundles of uncertainties that have commonality to a single spectrum**, *an axis of uncertainty*. If we can simplify our entire list of related uncertainties into two orthogonal axes, then we can define a matrix (two axes crossing) that allows us to define four very different, but plausible, quadrants of uncertainty. Each of these far corners is, in essence, a logical future that we can explore. We could of course, spin hundreds of scenarios from combinations of our forces, but experience teaches us that fewer are better. The right one, two or three axes give a very effective framework in which to explore all of the other forces.

The following matrix as an illustrative set of scenarios for the future has been developed. The (focal) issue that was addressed, the (key) question: what will be the general tenor of commercial life on a global scale in the year 2020?

The first (horizontal) axis of uncertainty is the character of our desire, an “I” or “We”, individual or community. This uncertainty about the quality of our individual hopes and intentions cuts at the most fundamental level: Will the energy of democratisation and the ascendance of the ultimate individualised “I” continue to prevail? Or will our social organisation and self-definition be rooted in a group - a nation, a tribe, a collection of users of a particular brand, a more communitarian “We”? The I or the We will never disappear, but which will come to the prevailing influence in our culture? It could go either way, and with a bang; that is the uncertainty.

The second (vertical) axis shows the uncertain character of social structure: Will society be a centre that holds and provides stability, or will it fragment? Here we stake out the extreme possibilities of social organisation: will social and political structures (either new or traditional) provide a society wide coherence and order? Or will society shatter into shards, the edges of which do not mesh into a coherent whole? Will there be a state to impose order, or will permanent fragmentation, increasing plurality, and unfettered free-marketism bring us to ‘bottom-up’ functioning anarchy?

The second uncertainty might seem at first an outcome of the first. But in fact, while they are related, they are separately uncertain. Indeed it is precisely the way they are intertwined that makes them interesting by giving us four scenarios, four very different ‘future spaces’ to explore.



In scenario making, we can create a matrix (two axes crossing) that defines four very different, but plausible futures. For instance, if the future is one characterised by communitarian desires but decentralised social structures, we get Ecotopia

Fleshing out the scenarios: We return to the list of driving forces that was generated earlier; these dynamics become ‘characters’ in the stories that we develop. **Our goal is not to try to tell four stories, one of which - we hope, as futurists - will be true.** Instead we recognise that the ‘real’ future will not be any of the four scenarios, but that it will contain elements of all the four scenarios. Our goal is to pin down the corners of the plausible futures. These corners are exaggerated - the outer limits of what is plausible. Thus our scenarios will have a near-caricature quality. A description of how the scenarios play out in each of the four corners follows:

I WILL is the quadrant where individualism (I-ness) meets fragmentary or marginal control by large organisations. It is a future in which you want to get the ability to make your life uniquely yours. The Net is the ubiquitous medium through which you realise your desires and discharge your few social duties. Government has withered in the face of privatisation, replaced by a largely electronic marketplace that connects and clears transactions of every type. Most large, centralised institutions have crumbled into a much more finely grained pattern, a many-to-many landscape on which each individual is alternately producer and user. In this future, you co-produce the products and experiences that you consume. Your loyalty is to your tools, knowledge, and skills.

CONSUMERLAND is the quadrant where individual desires meet a social and corporate centre. It is a future in which everyone is the ultimate consumer possessed of almost infinite choices. The Net is again a ubiquitous medium - but a medium through which corporations deliver marketing messages tailored directly to your unique preferences, via personal catalogues, personalised ads and coupons, and the like. The products, of course, are ‘mass customised’ to your desires. Government plays an active role, laying down the rules (standards, regulations) by which corporations play. Social organisations proliferate, but it is clear that they serve individual yearnings. The citizen becomes a consumer - served by society.

ECOTOPIA is the quadrant where a communal sense of “We” meets a strong social centre. It is the future where the centre holds. Government plays a large role in supporting the commonwealth, but more

important than government is the emergence of widely shared ecological values. These are not coercive values but a voluntary embrace of cohesion co-operation, and reduced consumption, backed by legislation and even corporate policies. The Net acts as replacement technology; it is maximised to eliminate the need to travel on business, to cut down on the amount of paper used, etc.

NEW CIVICS is a future in which values are shared, but in many small, competing groups. It is a decentralised world of tribes, clans, 'families', networks, and gangs. It is a future in which we want to build and enjoy the benefits of community, but without the help of a benevolent Big Brother government. The Net encourages each group to move most of its members' economic activity and their social services inside a closed group. Thus the government's role and influence are limited by the power of these emergent groups; small - often deadly - conflicts among groups pop up continually around the globe. Our primary concern is to be good members of our group. Our loyalty is to its membership, its mores, and its brands. While this future conjures visions of organised crime and sectarian strife, it is also a future of pride, heroism, and satisfactions of belonging.

Note that the scenarios do not fall neatly into 'good' and 'bad' worlds, desirable and undesirable futures. Like real life from which they are built, the scenarios are mixed bags.

The implications of our scenarios: If we do not know which scenario will unfold, what do we do to prepare? Some of the decisions we make today will make sense across all of the futures. Others will make sense only in one or two. Once we have identified those implications that work in all of the scenarios, we get on with them in the confidence that we are making better robusiter plans. The decisions that make sense in only one or some of the scenarios are tricky. For these we want to know the 'early warning signs' that tell us those scenarios are beginning to unfold. Sometimes, the leading indicators for a given scenario are obvious, but often they are subtle. It may be some legislation, or technical breakthrough, or gradual social trend. Then, of course, it is important to monitor these critical signs closely.

Ultimately, the power of scenario planning is that it **helps to understand the uncertainties** that lie ahead and what they might mean. Scenario planning helps to 'rehearse' our responses to those possible futures and it helps to spot them as they begin to unfold.

(Lawrence Wilkinson: How to Build Scenarios, in Wired Scenarios Special Issue, October 1995, Wired 3.11, 1995, p 74)

The Art of the Long View

Planning for the Future in an Uncertain World.

Peter Schwartz (1991). Doubleday, New York. (258 p)

This summary of the book highlights the development of the scenario methodology and offers practical steps for absorbing it into your decision-making process. How do scenarios become strategies? They must become a part of an ongoing strategic conversation. Scenarios do not lead to a single, clear set of strategies because effective strategies also must adapt to change. Rather, scenarios encourage better thinking and learning, thereby enabling decision makers to assess and reassess their strategic options, and act with confidence amidst great uncertainty.

What are scenarios? Scenarios are stories which describe different, though equally plausible, futures. Multiple scenarios together are a tool for ordering one's perceptions about alternative future environments in which one's decisions might be played out. Planners need to recognise hidden forces that are present in the world today. They need to uncover their own assumptions in order to 'reperceive' the future and be able to affect the mental maps of decision makers (or clients): a set of scenarios must focus on the futures and forces which are significant and meaningful to the decision makers. This process is not used to find the most probable future, but to make a sound strategic decision for all plausible futures. Scenarios provide stories which draw the listener into the narrative to help them see that the unthinkable may be quite plausible. **Good scenarios embody the myths of a society**, its groups and institutions, and project them into the future. In this way, scenarios help us come to grips with what we feel, hope, expect, and fear for the future.

What filters keep you from seeing the future clearly? The most effective scenarios challenge the hidden agendas. Our cultural mind-set can be so powerful that we do not see alternatives. Is the future seen as optimistic, pessimistic, or as more of the same? Normally we use each of these models at different times, depending on hopes and fears. In addition to the process of self-examination, you need also to be aware of the relationship between narrow, local concerns and the wider world around us. Frequently people develop scenarios for a small, focused situation and discover that it is affected by much larger issues.

In scenario planning one starts with uncovering and isolating the most important decision an organisation faces today. Uncovering the decision may feel like a huge step toward making it, but it is only the beginning. Where are the gaps in your knowledge? What do you need to learn about? Has anybody else already looked into these issues? Throughout this research the question or decision will gradually be refined. At the same time as you refine your questions and uncover assumptions through research think about the key factors that will affect the decision. Key factors or forces that are critical to the outcome of your decision will begin to take shape and will meet them later as driving forces.

Why do scenarios work? Because people recognise the truth in a description of future events. The story resonates in some ways with what they already know, and then leads from that resonance to re-perceive the world. Observations from the real world must be built into the story and the only way that happens is by sampling evidence from the world. The scenario process thus involves research - skilled hunting and gathering of information. This should be practised both narrowly - to pursue facts needed for a specific scenario - and broadly - to educate yourself, so that you will be able to pose more significant questions. Research and investigation is not just a useful tool for gathering facts. It sharpens your ability to perceive. Even if every scenario requires specific research certain subjects emerge again and again:

Science and Technology, Perception-Shaping Events, Music, Fringes.

New knowledge develops at the fringes (what is happening outside the mainstream). People and organisations often organise knowledge concentrically, with the most cherished, vital beliefs at the protected centre. At the outer edge are the ideas which the majority rejects. A little closer to the centre are the fringes - areas not yet legitimised but not utterly rejected by the centre either. Innovation is the centre's weakness. The structure, the power, and the institutional inertia all tend to inhibit innovative thinking and drive them to the fringes. At the social and intellectual fringes, thinkers are freer to let their imaginations roam, but are still constrained by a sense of current reality. The tactics for discovery and learning of new things consist of :

- Seeking out people with remarkable ideas and sharing insights with them.
- Visiting libraries, bookstores, and news stands to skim widely and reading closely what surprises you
- Immersing oneself in challenging environments through travel
- Joining the electronic network

It is a common belief that serious information should appear in tables, graphs and numbers. But important questions about the future are usually too complex or imprecise for the conventional languages of business and science. Instead, we use the language of stories and myths. Stories have a psychological impact that graphs and equations lack. Stories are about meaning; they help explain why things could happen in a certain way. They give order and meaning to events - a crucial aspect of understanding future possibilities. Stories are an old way of organising knowledge, but their place in the world has been less visible since the rise of scientific philosophy during the Enlightenment. Since complexity has emerged as a driving force in the way the world works, the dominant belief in a deterministic and quantifiable truth has begun to disappear. Stories open people to multiple perspectives, because they allow them to describe how different characters see in events the meaning of those events. Moreover stories help people to cope with complexity. Scenarios are stories that give meaning to events; they are myths of the future. Myths are 'the way things are' as people in a particular society believe them to be; and they are models people refer to when they try to

understand their world and its behaviour, of belief, and of perception - which people have in common. Myths are not deliberately or necessarily fictitious.

The process of building scenarios starts with the looking for driving forces, the forces that influence the outcome of events. Every enterprise, personal or commercial, is propelled by particular key factors. Some of them are within the enterprise: the workforce and goals. Others come from outside. Identifying and assessing these fundamental factors is both the starting point and one of the objectives of the scenario method. The driving forces are the elements that move the plot of a scenario - they determine the story's outcome. Without driving forces, there is no way to begin thinking through a scenario. The driving forces are a device for honing your initial judgement, for helping you decide which factors will be significant and which factors will not. Often identifying driving forces reveals the presence of deeper, more fundamental forces behind them. Driving forces may seem obvious to one person and hidden to another, which is why scenarios should be composed in teams.

Example of the Pacific Gas and Electric (PG & E) company, California. PG & E was considering a power utility question: Should they invest in more power plants or should they instead try to reduce the need for more power by promoting energy-efficiency? Both paths would cost the same, and result in the same amount of available energy. But they needed to know which driving forces existed, to make one choice or the other preferable. Some factors were obvious. The company's executives were keenly aware of the twenty-year-old environmental resistance to nuclear power in California. After years of bitter antagonism, PG & E were now coming to accept the fact that the movement would not go away, and that it would have long-lasting political impact.

Less obvious was the force of immigration - the fact that California was becoming a more multicultural society. If the company were to promote energy-efficiency, it would depend more on the nature of its customers than on the economics of nuclear technology. Promoting energy-efficiency would mean communicating with millions of Philippine, Vietnamese, and El Salvadoran homeowners. That meant the human capital of the company would have to change. There was not a single Tagalog speaker, for example, among PG & E's executive ranks - so far. If the company chose energy-efficiency, it might need to hire some.

Another driving force was economic volatility. Everyone could see the signs of distress: the stock market turbulence, the U.S. budget deficits, increasing danger of inflation. As large borrowers of capital, big power projects are keenly sensitive to inflation and interest rates. The economic volatility increased the risk of massive investments - it made the energy-efficiency side look better. Finally the company's own growing appreciation of the greenhouse effect was another driving force. PG & E had come to realise that a large-scale investment in energy-efficiency - in which it would help customers make individual investments in, for example, insulation - would not only help its public relations, but would stabilise California's energy demands. Whatever in future happened to oil prices or nuclear power, the state would be able to manage. Ultimately, PG & E decided that it could handle the necessary cultural change in the company. The effects of this decision will increasingly change California. In other words, PG & E's decision will itself become a driving force.

When looking for driving forces first run through the following categories:

1.Society 2.Technology 3.Economics 4.Politics 5.Environment

In nearly every situation there are forces from each of these arenas, which make a difference in the story. Having identified the driving forces, it becomes necessary to sort through them. Which are significant and will actually influence events? Which are unimportant? Some forces are clearly significant, but their effects may be ambiguous. To learn which effects they will have, you will have to return to the hunting and gathering phase and research more. As individuals or as companies, we have little control over driving forces. Our leverage for dealing with them comes from recognising them, and understanding their effect.

After 'identifying and exploring the driving forces'(A), one must uncover the predetermined elements (B) and the critical uncertainties (C). These **three types of conceptual building blocks** are not separate, but there are overlaps between them. In weaving together these conceptual building blocks you deepen your understanding of the world by considering the elements of your scenarios. Once your understanding of the dynamics and patterns of the situation is clearer, then you go on to write

the scenarios. But scenario creation is not a reductionist process, in which definitions can be slavishly followed - it is an art, as is story-telling. Instead of focusing on definitions, study how to perceive elements in various situations. *It is difficult to distinguish driving forces from predetermined elements, and those from uncertainties.*

Predetermined elements (what we know, we know) do not depend on any particular chain of events. If it seems certain, no matter which scenario comes to pass, then it is a predetermined element. Identifying such elements builds confidence in your own decisions: you can commit to certain policies and feel sure about them. There are several useful strategies for looking for predetermined elements:

- slow changing phenomena (the growth of population, demographics)
- constrained situations
- in the pipeline (e.g. we know almost exactly how large the teenage population of a country will be in ten years from now. All of them have been born already)
- inevitable collisions (e.g. traffic gridlock by looking at the amount of cars per person)

Critical uncertainties exist in every plan. They are intimately related to predetermined elements. You find them by questioning your assumptions about predetermined elements. For example, in the 1970s, futurists said that oil reserves would be exhausted by the 1990s. They were right about the predetermined elements: population growth and an on-going level of energy consumption at the current price. There was, however, an uncertainty that few futurists considered: would people (and institutions) be willing to change their habits if the price of oil rose? People and institutions did, and that change made a critical difference.

Driving forces, predetermined elements, and critical uncertainties together give structure to an exploration of the future.

A New Driving Force: The Global Teenager

There will be over 2 billion teenagers in the world in the year 2001. One sees these new global teenagers everywhere. Do these signs portend the emergence of a global culture in the coming decades? Or are they merely superficial symbols of a global consumer society masking a deeper and more enduring cultural diversity. *We know the numbers, but we just don't know their meaning.* How can we develop scenarios by exploring driving forces, predetermined elements, and critical uncertainties.

The impact of the baby boom has shown the power of driving forces. The mountain of 40 million teenagers born in the post-war decade and a half (the late forties and fifties) was one driving force. The unprecedented post-war affluence in the United States was another. The two forces combined with the explosion in automobiles to create post-war suburbia - a new type of community - to house this new middle-class children. Dependent minors, for the first time in recorded history, became an influential economic force: arguably the *most* influential, if only because it changed existing businesses the most. The impact of these two driving forces on global politics, culture, and corporate life is still going on so powerfully that no one can fully assess it yet. The demographic trends predict a new global baby boom of such a size as to make the American baby boom seem like a dress rehearsal. *Its fate is linked with other factors - technological, political, and economic forces, some predetermined and some wildly uncertain.* The implications will be exhilarating to some; already they have led to some of the success stories of the 80s such as clothing retailers Benetton and Esprit.

The 2 billion 'Global Teenagers' is fifty times the number of teenagers in America in the peak years of the baby boom. All of these teenagers are already born. Most of them live in Asia and Latin America. The 'Global Teenager' is not just a world-wide baby boom, but also far more interconnected than the previous one. Satellite communication, videocassette recorders, and the ubiquitous Walkman have penetrated even poor countries. What will be the interplay between this new adolescent community and the evolution of the new electronic media? As the baby boom has appeared as a factor in every scenario of U.S. behaviour in the 1950s, 1960s, 1970s, and 1980s, so the wave of global teenagers

will be a factor dwarfing other demographic factors in scenarios from 1990, through the next fifty years or more. The pressure of their numbers will be so immense that it will reshape the world.

Composing a Plot

How do the different forces become a plot? Each of the three different levels of activity in history - political, economic, social (daily life activities of people) - has its own version of what scenario planners call 'logics': the plot which ties together the elements of the system. All cycles of things have a similar plot, a plot of rising and falling fortunes. To explain the future, scenarios use the same sorts of logics. These logics describe how the driving forces might plausibly behave, based on how those forces have behaved in the past. To find plausible plots you use the uncertainties that have seemed so important. What factors might lead to success or failure for the main decision?

What is finding a plot really like? Here is how it works in nearly every scenario situation. After gathering a team who are aware of the main decision, each member does his or her research. Then they sit together developing ideas in response to the following questions:

- What are the driving forces?
- What do you feel is uncertain?
- What is inevitable?
- How about this or that scenario?

This results in driving forces and rough plots. There are only a few plots relevant in scenarios. Most are derived from the behaviour of real-life economies, political systems, technologies, and social perceptions. In most good scenarios, several plot lines intersect, just as a good film often includes several subplots. The scenario-planner looks at converging forces and tries to understand how and why they might intersect - then extends that imagination into coherent pictures of alternative futures. That is what gives texture to scenarios. **Most plots start with a perception: a motive** that propels the characters (which are driving forces or institutions, rarely individuals). There are three main plots that show up constantly in modern times. They should be considered for every set of scenarios.

Winners and Losers: This plot starts with the perception that the world is essentially limited, that resources are scarce, and that if one side gets richer, the other side must get poorer. This is called the 'zero sum game'.

Challenge and Response: Certain events happen that bring an organisation to the brink of collapse, but the system itself will not fail. Instead, it will evolve further with each new challenge and response. The term 'challenge and response' refers to adventure stories, in which an individual faces one expected test after another. Each time, as a result, the tested person emerges different from the way he was before. Overcoming the test is important for the effect on the hero's character.

Environmentalism offers such a test for society. For many years, the most widely perceived relationship between economics and the environment was a zero sum winners and losers logic: you could either have growth or environmental safety, but not both. If you were pro-growth, it meant you opposed environmentalism. People were locked into polarised positions by the logic of the debate. Today the logic of 'sustainable development' suggests that both economic growth and environmental quality are possible - if people tackle the challenge of satisfying both criteria. That means developing new technologies which cut waste and save energy.

Evolution: Most evolutionary changes are biological in nature. They always involve slow change in one direction - usually either growth or decline. Evolutionary changes are hard to spot, because they take place so slowly. Once spotted, however they are easy to manage, precisely because they don't suddenly jump upon you. The most common evolutionary plot in the world today is technology. New innovations grow in a biological fashion - sprouting slowly from earlier technologies. Further new technological tools have to fit within an existing system and by nature the process becomes evolutionary. The competitive dynamics of business tend to obey rules very much like the competition of nature. Mergers, acquisitions, diversification all have their counterparts in nature. Capitalism, by its nature, follows an evolutionary plot.

These three plots are the most common in scenarios, but they do not cover all situations. Other plots have to be added such as:

Revolution: Every now and then there are sudden dramatic changes, usually unpredictable in their nature. They can be called discontinuities. Revolutions are important for their aftermath. People perceive possibilities differently.

Cycles: Economic matters often occur in cycles (up and down); for that reason it is good to be familiar with some economic theory. The timing of cycles is important (when does it go up again, how long will it continue to go down?), and unpredictable unless you look for clues. An individual's only weapon with cycles is awareness; the cycles swing independently of anyone's attempt to control them. A result of cycles is that it often looks that the plot leads to scarcity, and therefore a winners and losers plot.

Infinite possibility: It starts with the public perception that the world will expand and improve, infinitely. It is a seductive perception; under its influence, many things happen that would not otherwise take place. People spend money instead of saving for the future (as they would in the plot of challenge and response). But seduction is not always with a bad result. It makes certain things possible that otherwise would not happen.

The Lone Ranger: It is mainly a plot of social logic, driven by street sensibility that emerges in a incoherent fashion. It says that the order and principles of politics, trade and technology cannot reach the basic individuality of our souls. Therefore we need a lonesome hero (David vs. Goliath, James Dean) that will win over a corrupt system.

My Generation: Scenarios should always include the influence that the culture has on people's values - particularly the culture of large generations of people. The traditional ways of living ruled by class has made way for an amazing diversity of lifestyles through the experimentation (hippies etc.) of the baby boomers. In 1963 one could foresee that the world would be forever different, when looking at demographics, because the youth of the post-war era were not only large in number, but were growing up with experiences different from those that any generation had encountered before: affluence, peace, and freedom. With their basic material needs satisfied, they could now think about self-expression, status, and meaning of life.

You undoubtedly recognise these plots from books, movies and myths. Sometimes an alternative plot spices up the scenario set and effectively alters perceptions. Be aware of your own assumptions and be careful of the *Unbroken Line* : do not extend your plot line from the past into the future - denying every system's capacity for response and self-correction.

Summary: Steps to Developing Scenarios

1. **Identify Focal Issue or Decision:** When developing scenarios, it is a good idea to begin 'from the inside out' rather than 'from the outside in'. Begin with a specific decision or issue, then build outward the environment. What are the decisions that have to be made that will have a long-term influence on the fortunes of a company, an organisation or a city. Scenarios that are developed on the basis of differences in the macro-economy - high growth versus low growth - may *not* highlight differences that make a difference to a particular organisation. How can you be sure that the differences that distinguish your scenarios will really be crucial for an organisation or business? The best way is to begin with the important decisions that have to be made and to study the mind-set of the people making those decisions.
2. **Key Forces in the Local Environment:** If the identification of a focal issue or decision is the first step, then listing the key factors influencing the success or failure of that decision is the second step. What will decision-makers want to know when making key choices? What will be seen as success or failure? What are the considerations that will shape those outcomes?
3. **Driving Forces:** Once the key factors have been listed, the third step involves listing driving trends (in the macro-environment) that influence the key factors identified earlier. Follow the checklist of (1) social, (2) technological, (3) economic, (4) political, and (5) environmental forces. Another path to the relevant aspects of the macro-environment is the question: What are the forces behind the micro-environmental forces which were identified in step 2. Some of these forces are predetermined (often demographics) and some are highly uncertain (e.g. public opinion). It is very useful to know what is inevitable and necessary and what is unpredictable and still a matter of choice. In order to define the driving forces is the most research-intensive step in the process, which may cover the fields of new technology, political factors, economic forces, etc. *The scenario planner is searching for the major trends and trend breaks* (novelty is difficult to anticipate).
4. **Rank by Importance and Uncertainty:** Next comes the ranking of key factors and driving forces or trends on the basis of two criteria:
 - 1) the degree of importance for the success of the focal issue or decision (identified in step 1);
 - 2) the degree of uncertainty surrounding those factors and trends.
 The point is to identify the two or three factors or trends that are most important *and* most uncertain. Scenarios cannot differ over predetermined elements (like the ageing of baby boomers), because predetermined elements are bound to be the same in all scenarios.
5. **Selecting Scenario Logics:** The results of this ranking exercise (in step 4) are, in effect, the *axes along which the eventual scenarios will differ*. Determining these axes is among the most important in the entire scenario-generating process. The goal is to end up with just a few scenarios whose differences make a difference to decision-makers. If the scenarios are to function as useful learning tools, the lessons they teach must be *based on issues basic to the success of the focal decision*. And those fundamental differences - or 'scenario drivers' - must be few in number (do not develop more than 4 scenarios). The process of getting the logic down to the directions of a very few variables is not at all simple or mechanical. You have to reshape *and regroup the set of issues in such a way until a logic emerges and a story can be told*. Once the fundamental axes of crucial uncertainties have been identified, it is useful to present them as a spectrum (along 1 axis), or a matrix (2 axes), or a volume (3 axes) in which different scenarios can be identified and their details filled in. The logic of a given scenario will be characterised by its location in the matrix of most significant scenario drivers.
For example, if an automobile company determines that fuel prices and protectionism are two of the most important scenario drivers, there will be four basic scenario logics: (1) high fuel prices in a protectionist environment - where domestic suppliers of small cars will have an advantage; (2) high fuel prices in a global economy - where fuel-efficient import cars may capture the low end of the market; (3) low fuel prices in a protectionist environment - where American gas guzzlers will have a good market at home but not abroad; (4) low fuel prices in a global economy - where there will be intense global competition for fuel-efficient models, but larger cars may enjoy strong foreign markets.
 The scenario will usually want to be extended beyond such simple logics. Thus the resulting scenarios will find their core of logic less in the variations of the cells in a matrix and more in the themes and plots of a story. The challenge is to identify the plots (see page 9) that can organise a

scenario, that can (a) best capture the dynamics of the situation and (b) communicate the point effectively.

6. ***Fleshing Out the Scenarios:*** While the most important forces determine the logics that make each of the scenarios different, fleshing out these skeletal scenarios can be solved by returning to the list of key factors and trends that were identified in steps 2 and 3. Each key factor and trend should be given some attention in each scenario. Then weave the pieces together in the form of a narrative. How would the world get from here to there? What events might be necessary to make the end point of the scenario plausible?
7. ***Implications:*** Once the scenarios have been developed in some detail, then it is time to return to the focal issue or decision identified in step 1. How does the decision look in each scenario? Is the decision or strategy robust across all scenarios, or does it look good only in one or two of the scenarios? If a decision looks good only in one of several scenarios, then it qualifies as a high-risk gamble - especially if the organisation in question has little control over the likelihood of the favourable scenario coming to reality. How could that strategy be adapted to make it more robust if the desired scenario shows signs of not happening?
8. ***Selection of Leading Indicators and Signposts:*** It is important to know as soon as possible which of several scenarios is closest to the course of history as it actually unfolds. Sometimes the direction of history is obvious, but sometimes the leading indicators for a given scenario can be subtle. Once the different scenarios have been fleshed out and their implications for the focal issue (see step 7) determined, then it is worth spending time and imagination on identifying a few indicators to monitor in an ongoing way. If those indicators are selected carefully and imaginatively, the organisation will gain in knowing what the future holds for a given (industry) sector and how that future is likely to affect strategies and decisions in that sector. If the scenarios have been built according to the previous steps, then the scenarios will be able to translate movements of a few key indicators into an orderly set of industry-specific implications. The logical coherence that was *built into* the scenarios will allow logical implications of leading indicators to be *drawn out* of the scenarios.

Additional Considerations for Creating Scenarios

Some rules of thumb from much experience with scenario development in many settings:

1. Beware of ending up with three scenarios, though in practice we often do. People not familiar with scenarios or their use will be tempted to identify one of the three as the 'middle' or 'most likely' scenario, and then will treat it as a single-point forecast, and all the advantages of multiple-scenario methodology will be lost. But also avoid having too many scenarios. When one is working with more than four scenarios, they begin to blur and lose their meaningful distinctions as decision-making tools.
2. Avoid making your scenarios different in probability, because then only the one with the highest probability will be taken serious. It may make sense to develop a pair of equally highly probable scenarios, and a pair of potentially high-impact 'wild card' scenarios.
3. Pay a great deal of attention to naming your scenarios. Names should reflect the scenario logics. If the names are memorable, the scenarios will have a much better chance of becoming part of the decision making within an organisation.
4. The scenario development team should have support from the highest levels of management. A broad range of functions and programmes should be represented. Look for imaginative people with open minds who can work well together in a team.
5. You can tell you have good scenarios when they are both plausible and surprising; when they have the power to break old stereotypes.