



**Scanning the future landscape:
drivers and challenges facing small
businesses in the UK**

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Scanning the future landscape: drivers and challenges facing small businesses in the UK

1. Introduction

This paper is intended to demonstrate why scenario planning is important, to highlight some of the drivers and challenges facing businesses today and to provide some ideas for how you might begin to use scenario planning in your business.

Why, with all the other calls on your time, should you find time for scenario planning? Quite simply, it will help to keep you in business. At one extreme, it will help you to foresee calamities that might drag you down. At the other extreme, it will help you anticipate and take advantage of the opportunities.

2. 1824

To help me demonstrate this, let me go back to 1824, when Cadbury's was smaller than any of the businesses that you run. That was the year that John Cadbury, only 22 years old, opened his shop here in Birmingham.¹ From that small beginning, and with considerable hard work, determination and a degree of foresight, Cadbury's grew into the giant that we know today – with the world's second largest chocolate plant.

How did the company become so successful? Certainly not by staying the same. The history of Cadbury's is one of constant innovation to take advantage of the changing business environment, changing legislation and advances in technology – including the introduction of the first cocoa press into the UK. All of these could have put them out of business, but instead the family embraced them to gain competitive advantage.

The Cadbury family displayed foresight, coupled with considerable tenacity, and an understanding of the constant need to reinvent themselves.

3. 1983

In 1983, Yuri Andropov had just come to power in the USSR. It was the height of Ronald Reagan and Margaret Thatcher's cold war rhetoric. Shell² was reviewing demand for North Sea gas and whether to develop the Troll gas field. This would cost over \$6bn and sell gas to the whole of Europe. The other potential supplier of natural gas was the Soviet Union – and they could provide it far cheaper. The Europeans had agreed informally to limit supplies from the Soviet Union to 35 per cent of the market. Shell needed a decent return on their investment – and to get that return, they needed decent sales.

What, they asked themselves, might affect those sales? What circumstances might change the limit imposed artificially on the USSR's market share? What might cause the West to reduce or remove the limit? The planners concluded that a failing economy might force the USSR to change – and they concluded that their economy was failing.

One of the scenarios they developed envisaged an obscure official in the Communist Party, achieving power, massive economic and political restructuring, opening to the west, declining tension in the west, and major shifts in international relationships. That obscure official was Mikhail

¹ See www.cadbury.co.uk

² Peter Schwartz, "The Art of the Long View", Century Business, 1992

Gorbachev – who became General Secretary of the Communist Party in 1985. As the scenario became reality.

4. 1984

In 1984, the price of oil was \$28 a barrel. Shell wrote one scenario which envisaged oil falling to \$16 a barrel by April 1986. With some pushing, Shell executives devised plans to address this possible scenario. As it happened the price of oil did fall: from \$27 in January 1986 to \$17 in February and just \$10 in April. The fact that Shell had already considered what it would do – and had a plan on the shelf – helped considerably during that period.³

5. 2024

Now let's look forward: "In the Nevada desert, an experiment has gone horribly wrong. A cloud of nanoparticles – micro-robots – has escaped from the laboratory. This cloud is self-sustaining and self-reproducing. It is intelligent and learns from experience. For all practical purposes, it is alive. It has been programmed as a predator. It is evolving swiftly, becomes more deadly with each passing hour." This is not yet reality, but the introductory blurb to 'Prey', the new book from Michael Crichton.

This may not be as far fetched as it sounds. The Sunday Times has recently been speculating about tiny machines – nanobots – that could be injected into the human body to destroy cancers or repair damaged tissues.⁴

The new science of nanotechnology will be one of the next wave of new technologies. A nanometre is small – one thousand millionth of a metre. Scientists at Durham University have recently made a wire so thin that 400 of them would still only be the thickness of a human hair. They have been using these in a race track – which is just 20 millionths of a metre in length.⁵ Much of the research is aimed at building smaller, and therefore faster, micro-chips.

6. Scenario planning

The use of scenarios first appeared after the Second World War as an aid to assist the United States Air Force to imagine what their enemies might do under certain circumstances and, more importantly, to plan their response.

Scenarios are not forecasts – they are just possible models of the future. Gorbachev did not cause the changes in the USSR; his achievement of power was a symptom of the underlying causes. Shell did not forecast that this would happen. It was simply one possible view of the future, which they used to help them understand the environment and how it might change. The thinking process highlights factors which can have a high impact but which are also highly uncertain. When you understand the possible changes, and can put them in context, you are in a far better position to protect yourself against possible threats and to exploit the opportunities. It is impossible to predict the future, but a good strategy is one that will work across several possible futures.

There are a number of steps in the process: you need to have a focal issue or decision; you need to have an idea of the driving forces so that you can construct your scenarios; then you need to think about the implications for your business.

³ Arie de Geus, "Planning as Learning", Harvard Business Review, Mar-Apr 1988.

⁴ The Sunday Times, February 2003

⁵ Journal, 8 March 2003

Scenario planning: key steps

- Identify focal issue or decision
- Consider key forces in the local environment
- Determine driving forces and critical uncertainties
- Rank by importance and uncertainty
- Select scenario themes
- Flesh out the scenarios
- Consider the implications
- Identify leading indicators and signposts

*"Victory in a game of chess
belongs to him who sees a little
further than his adversary"*

Emmanuel Lasker

7. Rehearsing the future

Once you have thought about the events, you can think about your response. You probably think through dozens of "what if..." questions every day. You may only think ahead a few minutes or a few hours. "If there's fog at the airport, can I catch the train instead?" These are not predictions, they are scenarios. We store the answers – Arie de Geus refers to them as 'memories of the future' – and then, if a particular future unfolds, we already know what we are going to do, so we just do it. Thinking about the future, and thinking about responses, enables us to be prepared. As Arie de Geus suggests, "we would have thought about our course and planned it out in our imagination. We would not have to try to predict the future, because we could rely on our memory of the many futures that we have already visited."

8. Crystal Balls

Developing scenarios requires some idea of the major drivers – all of which are rooted in the present. About the one thing we can say with certainty is that the future will be more complex than the present. We live in a time of unprecedented change.

One day's New York Times contains more information than the average person of the 17th century absorbed in their entire lifetime! A year's worth of growth in the US economy in 1830 happens in a single day today. All of world trade in the whole of 1949 happens in a single day today. The equivalent of all the science done in 1960 happens in one day today. All of the foreign exchange dealings around the world in 1979 happen in a day today. All the telephone calls made around the world in 1984 happen in one day today.

Having some idea about the future – some foresight – an awareness of what is happening in your market place and the wider environment – will be helpful. Foresight is not the same as second sight: it is not about predicting the future. But it does mean that:

- you will have a better idea of likely future influences and triggers on the market in which you operate;
- you will identify future events and trends which may impact on your business;
- you will be more likely to make contact with people and organisations who are attempting to identify those trends, widening your network and giving you advance notice of both opportunities and threats.
- you are able to look further into the future giving more time to assess your possible response and, if necessary, to reconsider your strategic direction.

Let me tell you about the way one person used foresight to achieve the apparently impossible. John Naber swam in the Olympics for the US relay team in 1972 – and determined that he would win the gold medal for his event, 100m backstroke, in 1976. He looked at the historic changes to best times between Olympics and forecast that the current world champion would improve to a time of 55.5 seconds. His problem was that his best time was 59.5 seconds – and taking four seconds off that looked impossible. But then he started to think:

- He had four years so that was one second per year
- He swam for 10 months of the year so that was one tenth of a second per month
- He swam four hours a day for 30 days a month, so that was 1/1200th of a second an hour. Apparently an eye blink requires about 5/1200th of a

second, so for each hour he swam, he had to shave one fifth of an eye blink off his time.

And he won the gold medal in 55.49 seconds!⁶

9. Drivers

Before you can rehearse the future, you need to prepare your scenarios. This requires some effort – to paint a credible picture. You need to look at the drivers – the outcome of some will be pre-determined but other outcomes will be highly uncertain. The pre-determined elements will give you the framework for your scenarios. The critical uncertainties will put your imagination to work.

10. Pre-determined elements

10.1 Globalisation

Globalisation will become more important, though some commentators see this as 'Americanisation'.⁷ In the last 50 years, American companies have generated more wealth than the whole world had generated up to 1950. We shouldn't forget, though, that half the population of the world still lives on less than \$1 per day.

Consumerism has acquired a global identity. Teenagers around the world listen to much the same music, kitchens everywhere acquire the same appliances, transport is handled in broadly similar patterns.

We will see more international working. We're already beginning to see it even for small firms. When I was in Project North East, we had a client who was in software. They had their programmers mostly in Delhi, they had their co-located server in San Francisco. And they were geographically in the middle in Newcastle!

I was in Beijing in March – speaking at a conference organised by the State Economic & Trade Commission. They have decided that small businesses are the answer to their growing problems of unemployment and under-employment. It probably isn't, but we can still expect an explosion in the number of small businesses in China. Since getting back I have been amazed to find that the last three items that I bought at IKEA were all made in China.

They are going to be major competitors. It has been suggested that over the last few years, China, with average wages of around 40 pence per hour, has contributed as much to keeping down the UK's inflation as the Bank of England.⁸ China's share of world GDP (at purchasing power parity) is 12 per cent – but its share of world GDP growth last year was around one third.⁹ It's not just China – the countries of central and eastern Europe and most of South America are all making big strides in their productivity and competitiveness.

Richard Scase notes that, by 2005, India will have software sales of \$80bn per year (though, to put in context, it is about equal to Las Vegas' casinos annual turnover). Worryingly, India will also employ more people in software development than the entire population of the UK.

More manufacturing jobs will be exported. We will see increasingly competitive developing countries seeking more labour intensive work.

⁶ see www.usolympicteam.com/awaken/092702swim.html

⁷ Richard Scase speaking at the London Business Forum, March 2003

⁸ Sunday Times, 2 March 2003

⁹ Economist, 13 February 2003

10.2 Rise of the knowledge based economy

The k-economy is going to be a major driver. By 2010, fewer than 11 per cent of the UK's workforce will be employed in manufacturing. Increasingly, it will be our ideas and creativity – our intellectual property – rather than tangible assets that give us our competitive advantage.

The last few years have seen dramatic advances in technology – a BMW bought today has more computing power than the Apollo 11 moon rocket – and a Palm computer has more computing power than Apollo 11's mission control!

The advances will continue. BT, for example, is working on what they call "active skin" technology – which would allow tiny mobile phones to be embedded in a tattoo or sticker on the skin.¹⁰

Biotechnology will come into its own – not least by reducing the demand for oil by combining carbon dioxide and water to make fuel and plastics.¹¹ It is now possible to create enzymes that work much faster than their natural counterparts – and which will turn the production of ethanol into an industry that can pay its way. The plastics industry will be transformed. This year, expect to see plastics made entirely by bacteria go on sale.

Ensuring that our businesses are high technology, high added value presents some interesting challenges. All of a sudden, businesses' competitive advantage is being carried around in the heads of the owner managers and the heads of their staff. So how do businesses attract and retain and develop their staff? Perhaps, most importantly, how do they motivate their staff so that they want to stay with the business and not go off and work for someone else?

How do we nurture the creative thinking required? We cannot do it all through the internet. It requires social interaction. Scase argues that the biggest influence on Glaxo's creativity is the mood of the chef in the restaurant where the researchers have lunch. If his mood is good, the food is good and researchers all lunch together – and share ideas. But when his mood is bad, the food is bad, and the researchers stop using the restaurant.

10.3 Internet

The death of distance means that proximity to customers, distance and location are no longer barriers to where people want to work or how they work; ease of access to information about markets and potentially about competitors will drive down prices; and lower transaction costs will reduce barriers to entry and reduce the effect of economies of scale.

Already this has major implications for postal services. The Royal Mail delivers around 82m items every day to 27m addresses.¹² But according to NetValue, householders send twice as many messages by e-mail – and another 50m SMS text messages. Worldwide, over 1bn text messages are now sent every day.¹³

Although Wireless Broadband has been slow to take off in the UK, it will begin to have an impact. The future is here – at least in Mexico City – where a university that I visited last year had campus wide wireless broadband, allied with power points under every tree, and a private satellite TV channel.

¹⁰ Daily Telegraph, 20 April 2003

¹¹ Economist, 29 March 2003

¹² Sunday Times, 30 March 2003

¹³ Economist, 5 April 2003

10.4 Demography

The population is aging. How will this affect your business? By 2010, 40 per cent of the population of the UK will be over 50 – and 40 per cent will live in single person households. There is talk of people having to retire later, because of the fall in value of the stock market and pensions. On current trends, the average age of retirement will be 58, but life expectancy will have increased to 82. And, 1.5m people will be over the age of 85. There is evidence that the earlier people give up work, the longer they live, so they are unlikely to work longer – unless we can make work more fun. As Rolf Harris once said, “if you find something you enjoy as a job, you’ll never have to work another day in your life”.

People are having children later. Lifestyles are changing. People are acting younger. So the socio-economic groups created by the marketing people increasingly have less meaning. Will we be able to define market segments in the future? If so, how? And how do you market to many different groups of people?

By 2010, the world population of graduates will equal the number of people living in the industrial world – and be double the number by 2020.

There will be a continuing polarisation in educational attainment, with more people being educated to degree level (though the value of the degrees may be increasingly questionable) and more people effectively falling off the education ladder. There will be far fewer people with mid-education attainment, such as technicians. So skills shortages will continue.

Low unemployment will continue for the foreseeable future, making it difficult for businesses to find staff.

10.5 More demanding customers

We are going to continue to see customers who are ever more demanding. Partly because people like me have been going around for the last 10 years telling clients that they must delight their customers. Part of the problem now, of course, is that customers expect to be delighted. So merely satisfying their expectations is no longer enough. Businesses are having to do that little bit more for every customer all of the time.

10.6 Increasing pressure to be good corporate citizens

We are also seeing, and this too will grow in importance, increasing pressure on businesses of all sizes to be good corporate citizens. Businesses need increasingly not just to act within the law, but to act – and to demonstrate that they are acting – responsibly in relation to all of their stakeholders.

Societal pressure will lead to greater environmental awareness, and a need for businesses to demonstrate their environmental credentials. Businesses will need to demonstrate more effectively that they are acting responsibly in all aspects of their work. This won’t just affect big business – it will affect small businesses as well, since they will have to demonstrate to their large business customers that they too are responsible businesses.

11. Critical uncertainties

The pre-determined forces will be the same in every scenario. We are really interested in the critical uncertainties. These are the drivers whose outcomes are uncertain but which are critically important to your business. They need to be explored carefully. Here a few thoughts to get you started.

11.1 Globalisation

I have already mentioned a number of global pressures under the pre-determined elements, but there are more drivers whose outcome is uncertain. Globalisation may continue to change the way that businesses work and lead to both increased opportunities, particularly for developing international alliances, but also increased threats and increased competition. Will we see global fragmentation or will we see global cohesion? Will we see fiercer competition, leading to the breakdown of our society, with far greater separation between the 'haves' and the 'have-nots'? Or, will we see far more partnership working, more symbiosis between businesses? This may be characterised as the battle for inter-dependence (a world which increasingly relies on co-operation and goodwill) versus independence (a world in which countries are increasingly isolated and protectionist).

11.2 Changes in the nature of work

We're going to see a major change in the nature of work over the next few years. Individuals are increasingly independent (and want more control over their lives), increasingly mobile, increasingly self-centred and increasingly confident in their own abilities. Young people increasingly travel round the world and so are far more comfortable with working in different sorts of ways. People are far more IT literate. But what will the company of the future look like?

Will we see a break down of company structures – and a change in the relationship between larger firms and the people who work for them. Not everyone will be an employee; out-sourcing is already beginning to happen, for example, in the Health Service. Will we see more long term partnership sourcing.

At the same time, we will probably see large firms continue to downsize, focusing on their core competences, making far more use of sub-contracting, making far more use of out-sourcing.

11.3 Number and nature of small businesses

Many more young people expect to start a business At Harvard University, 10 years ago, when they asked the undergraduates on day one, where they expected to be 10 years after graduating, running their own business hardly featured on the list. Last time they did the survey, running their own business was top. Young people no longer think that they will have a 'job for life' – and many more are likely to start their own business. The 'Britain in 2010' report has estimated there may be as many as 4.5 million small businesses by 2010.

But how will those businesses operate? We may see much more amoeba like formation and dissolution – people coming together for specific contracts, in much the same way as happens in the film industry. We may see more "portfolio" working – sometimes working for yourself, sometimes working for other people, but simultaneously.

If that happens, networking and managing personal relationships becomes critically important – where trust and confidence is far more important than contracts. How will you rise to that challenge?

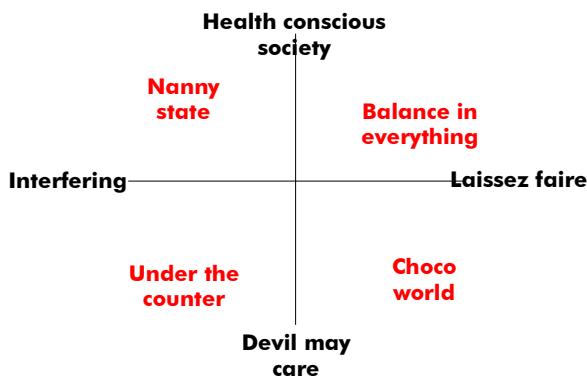
11.4 Societal expectations

More people with more capital, more insight and better connections will draw on a huge pool of knowledge and capability. Accelerating commercial change will bring with it yet more social change, and yet more challenges to

governance. It is possible that traditional family forms will no longer be the "foundation" of society. More of the population will live alone in single person households. This trend will affect both lifestyles and work patterns. It will have consequences for health and welfare systems, housing and retailing. Individuals, freed from traditional obligations and enjoying greater mobility, will value their personal independence. This will lead to more self-centred, self-indulgent and hedonistic philosophies. A focus upon self-interest and individuality will encourage personal creativity. This will generate a more innovative, but possibly more polarised, society.

With declining family obligations, individuals will exercise greater choices in terms of where and how they live and work. This will lead to a greater diversity of personal lifestyles. Individuals will be more mobile in all spheres of life including work and employment, personal relations and residence. Future lifestyles will be based upon mobility rather than stability.

12. A scenario for chocolate



Imagine, for a moment, that you are a chocolate manufacturer. Imagine that you have decided that your two most critical uncertainties are whether society will become more or less health conscious, and whether the government will become more or less regulatory.

You can then construct a number of scenarios.

In **Nanny state**, the government reacts to pressure about problems of obesity and tooth decay. Rather than educating the public about the need for more exercise, it decides to hit the soft target. It regulates more – to cut down the fat content of chocolate and to restrict advertising.

In **Balance in everything**, the government does not feel the need to regulate, but relies on education. The population, generally, becomes more aware of the need to follow a healthy diet. People become more choosy about the content of their food, and aim for a more balanced diet.

In **Choco world**, society becomes more hedonistic, reacting to the economic pressures, and trying to enjoy themselves while they can.

And in **Under the counter**, government tries to regulate but is thwarted by those who are determined to enjoy themselves in spite of the government.

These are very short. You would need rather longer, more detailed scenarios if they are to be useful.

But what might be your responses if faced by these possible futures? You may decide that some of the scenarios are unrealistic. This can be helpful, as it is best to have no more than two, or perhaps three, scenarios. If this is the case, though, look carefully at your critical uncertainties. Are they really uncertainties?

So what does our chocolate manufacturer do? You could sell chocolate in different ways – perhaps as biscuits or ice creams – or you could diversify. You could aim to increase your proportion of sales of Fair Trade chocolate. You could start your own education programme – to head off the government. You could aim to sell more chocolate to countries that don't have interfering governments.

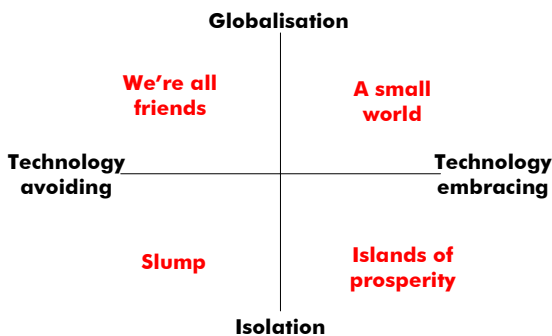
13. Facing the challenges

Let's look at another example. I mentioned one uncertainty covering independence versus inter-dependence. My other uncertainty considers the question of whether businesses in general understand the need to be part of the knowledge based economy, illustrated as the difference between businesses which are technology embracing and technology avoiding.

In a **small world**, countries become increasingly inter-dependent, relying on trade to drive their economies, reducing barriers to trade, and encouraging the formation of international alliances amongst businesses. Many of those businesses embrace the new technologies, using them to increase opportunities to trade and actively looking for international partners as well as ceasing to worry about the location of their customers. The businesses that

succeed are those who aspire to become world class. The challenges will include:

- What businesses need to do in order to become world class and benefit from the greater inter-dependence
- How to identify potential business partners all over the world. Businesses will also need to become better at seeking customers all over the world rather than simply expecting to sell into the local community – and even businesses that think that they are immune from international competition (such as tailors) may find that advances in technology increase the competitive threat to them. All of this means that they will need far greater access to information on world markets.



- How to find staff with the right skills and then retain and develop those staff
- How to exploit the technology effectively
- Businesses that do begin to look more widely will have to cope with harder logistical problems – both for sourcing raw materials and for delivering finished products. Quality assurance will become more important as customers become ever more demanding. Languages, too, may become an issue, though the internet is rapidly driving many businesses towards English as the language of trade
- Businesses will need to spend more time innovating. Despite the fact that many innovations come from small businesses, overall more effort will be needed to continue innovating. Businesses need to be creative continually, not just occasionally. They will need to invest far more in R&D if they are to grow
- Legal issues, regulation and red tape, and trade barriers will all require time from the entrepreneur who will not be able simply to ignore them, though support agencies could perhaps provide better advice and back up.

In **islands of prosperity**, there will be fewer countries which see the advantages to be had from stimulating greater inter-dependence. More countries will want to go it alone, perhaps increasing barriers to trade and becoming more isolationist. It is unlikely that every country will take this path, at least initially. And in any event, within regional trade groups, there will still be a strong desire to promote trade. Businesses will have a smaller world in which to operate, but they will still be able to be successful. It may be harder to spot the opportunities and the competition may be greater.

Fast commercial change forces action on businesses. Many outsource activities to nations which are not ready to take on the task. Pragmatic

accommodations, corrupt practice and misreporting develop rapidly. Trust is weakened, friction between the US and European interests grows.

Firms that had bet on greater internationalisation are confronted by trade barriers, untrustworthy supply chains, renewed terrorism and by the theft of intellectual property.

This will lead to an international division of labour with greater global segregation – the under-developed and developed economies; the Islamic and Christian societies; Russia, central Europe and Euroland – but also to the "specialisation" of national economies.

The challenges are likely to include many of the same challenges as a small world, but it will also include:

- A far greater need for businesses to keep looking ahead. They will need to be aware of the business environment and how it is changing – and how it is likely to change in the future.
- Part of that foresight will be the need for a greater awareness of the competition and how it is likely to affect the market for their products and services.
- Finding customers, suppliers and partners in an increasingly hostile world... especially difficulties in sourcing raw materials.... Increasing costs... getting paid... pressure to be good corporate citizens
- Identifying similar or complementary businesses and exploring how to work together.

You can probably imagine for yourselves the kind of world if we enter a "slump" or "we're all friends".

14. Conclusion

I stated at the outset that businesses constantly need to reinvent themselves – imagining a future and then ensuring that you are part of it. Your scenarios – and your decisions – will all be different. But they will help you change to face that future. And incremental change is preferable to a big bang. I know that people are frightened of change - it was Mark Twain who said "I'm all for progress; it's change I don't like".

Big businesses find change very hard, because they lack the agility and speed of the entrepreneur. So that leaves the market place wide open for you. If you want to learn more about scenario planning, there is a step by step guide in the appendices together with some suggested websites.

Let me leave you with the words of Bill Bryson¹⁴ "the average species on earth lasts for only about 4m years, so if you wish to be around for billions of years, you must be as fickle as the atoms that made you. You must be prepared to change everything about yourself – shape, size, colour, species affiliation, everything – and to do so repeatedly". If you can imagine the future, and are comfortable with the changes that you need to make, then you will be able to face the future with confidence.

¹⁴ Sunday Times, 11 May 2003

Appendix 1: Steps to developing scenarios

A1.1 Step one: Identify focal issue or decision

Scenario planning can be used effectively by small businesses as well as large ones. Begin from within the business rather than from the wider environment. That is, begin with a specific, critical decision or issue. What will decision-makers in your company be thinking hard about in the near future? What are the decisions that have to be made that will have a long-term influence on the fortunes of the company? In particular, aim to ensure a common understanding of the important features which influence your business. The objective is not to forecast specific events, but to consider the driving forces – the ones that will push us all along.

Scenarios that are developed on the basis of differences in the macro-economy – high growth versus low growth, say – may not highlight issues that make a difference to a particular company. A graphic design business will be interested in whether customers will continue to use printed catalogues or will migrate to the internet. A business selling ISDN modems will be interested in the increased use of electronic communications by large companies. A business selling roof windows will be interested both in the forecast of new housing starts and also in forecasts of people likely to engage in loft conversion. A person buying a home will want to think about interest rates and the housing market.

Begin with important decisions that have to be made “Shall we invest in a proposed joint venture?” “Shall we start to export?” “Shall I start a new business?” “Most of all, what is it that keeps me awake at night?” Define the scope and timescale for the scenario - ideally looking ahead at least three to five years.

A1.2 Step two: Key forces in the local environment

This is where you begin to develop a model of how things work. List the key factors influencing the success or failure of the decision is the second step - facts about customers, suppliers, competitors, etc. 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?

A1.3 Step three: Driving forces and critical uncertainties

The third step involves listing the driving forces in the macro-environment that influence the key factors already identified. What are the PEST factors (looking at society, technology, economics, politics and environment)? What are the forces behind the micro-environmental forces identified in step two? Some of these forces are predetermined (say, demographics) and some are highly uncertain (say, public opinion). It is helpful to know what is inevitable and necessary and what is unpredictable and still a matter of speculation.

It can be useful to imagine oneself in the future saying, “If only I had known that” inflation would fall, or that a new competitor would emerge from another country, or that regulations would change drastically.

This is the most research-intensive step in the process. In order to define the driving forces adequately research is usually required. Research may cover markets, new technology, political factors, economic forces, and so on, searching for the major trends and the trend breaks.

A1.4 Step four: Rank by importance and uncertainty

Next comes the ranking of key factors and driving trends on the basis of two criteria: first, the degree of importance for the success of the decision identified in step one; second, the degree of uncertainty surrounding those factors and trends. The aim is to identify the two or three factors or trends that are most important and most uncertain.

Scenarios cannot differ over predetermined elements, say, the inevitable ageing of the baby boomers, because they are bound to be the same in all scenarios.

A1.5 Step five: Selecting scenario themes

The results of this ranking exercise are, in effect, the axes along which the eventual scenarios will differ. Determining these axes is among the most important steps in the entire scenario-generating process. The goal is to end up with just two or three 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 in order to avoid a proliferation of different scenarios around every possible uncertainty.

Once the fundamental axes of crucial uncertainties have been identified, it is sometimes useful to present them as a spectrum (along one axis), or a matrix (with two axes), or a volume (with three 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 a graphic design business determines that pricing and use of electronic communications are the most important scenario drivers, there will be four basic scenario logics - because price can be high or low and use of electronic communications can be high or low.

The challenge is identifying the plot that best captures the dynamics of the situation and communicates the point effectively. For example, one scenario might be built around the logic of challenge and response: the challenge of foreign competition through increased use of electronic communications and closeness to the customer. Other plots might be based on winners and losers, evolution, revolution or cycles.

Pay attention to naming your scenarios. Names should succeed in capturing the scenario logics. If the names are vivid and memorable, the scenarios will have a much better chance of making their way into the decision-making and decision-implementing process across the company.

A1.6 Step six - Fleshing out the scenarios

While the most important forces determine the logics that distinguish the scenarios, fleshing out the bones can be accomplished by returning to the lists of key factors and trends identified in steps two and three.

Each key factor and trend should be given some attention in each scenario. Sometimes it is immediately apparent which side of an uncertainty should be located in which scenario, sometimes not. If two scenarios differ over protectionist or non-protectionist policies, then it probably makes sense to put a higher inflation rate in the protectionist scenario and a lower inflation rate in the non-protectionist scenario. It is just such connections and mutual implications that scenarios should be designed to reveal.

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?

A1.7 Step seven: Implications

Once the scenarios have been developed in some detail, it is time to return to the focal issue or decision identified in step one to rehearse the future. How does the decision look in each scenario? What vulnerabilities have been revealed? Is the decision or strategy robust across all scenarios, or does it look good in only one or two of the scenarios? If a decision looks good in only one of several scenarios, then it qualifies as a high-risk gamble - a bet-the-company strategy - especially if the company has little control over the likelihood of the required scenario coming to pass. How could that strategy be adapted to make it more robust if the desired scenario shows signs of not happening? How might your competitors react to each scenario? The results of your impact analysis may be helpful here. Use the scenarios to help with contingency planning.

A1.8 Step eight: Selection of leading indicators and signposts

It is important to know as soon as possible which of several scenarios is closest to the actual future as it unfolds. Sometimes the direction is obvious, especially with regard to factors like the health of the overall economy, but sometimes the leading indicators for a given scenario can be subtle. How, for example, should one calibrate the speed of economic restructuring from a smokestack economy towards an information-intensive economy?

Once the different scenarios have been fleshed out and their implications for the focal issue determined, then it's worth spending time and imagination on identifying a few indicators to monitor. If those indicators are selected carefully and imaginatively, the company will gain a jump on its competition in knowing what the future holds for a given industry and how that future is likely to affect strategies and decisions in the industry.

Adapted from Peter Schwartz, "The Art of the Long View", Century Business and used with permission in "Make Your Business Grow", David Irwin, ITPUK, 1998

Appendix 2: Further reading

If this has whet your appetite to do your own scenario planning, here are some good websites that will give you much more food for thought:

Chatham House Forum:	www.chforum.org
Hot Wired:	www.wired.com/wired/scenarios/build.html
MIT:	ccs.mit.edu/21c/21CWP001.html
Global Business Network:	www.gbn.org
Which World?	mars3.gps.caltech.edu/whichworld/
Foresight Institute	www.nanodot.org