



# inseta

INSURANCE SECTOR EDUCATION  
AND TRAINING AUTHORITY

## LEARNER GUIDE

Unit Standard Title:	<b>Apply scenario planning to explain potential risk in a specified financial services context</b>
Unit Standard No:	<b>242580</b>
Unit Standard Credits:	<b>6</b>
NQF Level:	<b>5</b>

This outcomes-based learning material was developed by Masifunde Training Centre with funding from INSETA in July 2014. The material is generic in nature and is intended to serve as a minimum standard for the industry.

This material may be used and copied for your own personal use. This material may not be republished, nor may it be reverse engineered, translated, modified or used to make derivative information of materials without the express written permission of INSETA which can be obtained by contacting [insetacallcentre@inseta.org.za](mailto:insetacallcentre@inseta.org.za). Short excerpts from the material may be reproduced without authorisation on condition that the source is indicated.

### **Disclaimer**

Whilst every effort has been made to ensure that the learning material is accurate, INSETA and Masifunde Training Centre (Pty) Ltd take no responsibility for any loss or damage suffered by any person as a result of the reliance upon the information contained herein.

## **Apply scenario planning to explain potential risk in a specified financial services context**

### **Introduction**

"Scenario planning" or scenario thinking is a strategic planning method that some organizations use to make flexible long-term plans. It began as an adaptation and generalization of classic methods used by military intelligence; it has since been widely adopted and modified for use in the private sector.

Scenario planning is an alternative to standard strategic planning approaches that are based on extrapolation from the past. Although it uses information such as demographics, geography, military, political, and industrial information, it begins with the assumption that there are no known facts about the future. Its aim is to plot out the broadest possible "future space," the universe of all plausible alternative futures; to divide that space into mutually exclusive, collectively exhaustive "sectors;" and by analyzing these "alternative futures," to offer planner's early warning of the broadest possible array of potential future opportunities and challenges.

## **Module 1**

### **The relationships that operate in the broad financial services environment**

This Module deals with:

- Events in the macro environment in order to initiate the formulation of potential scenarios
- Potential scenarios contextualised within a specific financial services environment
- Likely responses to change for the potential scenarios

#### **1.1 Events in the macro environment in order to initiate the formulation of potential scenarios**

Macro-economic policy (the country's overall economic framework) is the major driving force behind economic activity and consequent environmental impacts.

Currently, in South Africa, macro-economic policy aims at:

- Economic growth
- Increasing employment
- A positive trade balance (increasing exports above imports)
- Combating inflation
- Equity

South Africa has increasingly high unemployment (the South African Institute for Race Relations estimated 24% of the economically active population were unemployed in 1996) and unemployment was growing at 2% per year. South Africa

is also showing a low but improving economic growth (GDP in 1998 was approximately R270 billion (1990 prices), an increase of 0.2% on 1997). Average per capita disposable income decreased from R4 637 in 1984 to R4 208 in 1997, a decrease of 9%. The phenomenon of jobless growth is not sustainable, and is contributing to the expansion of the informal sector (approximately 1.8 million people, or 12% of the labour force, contributing R32 billion annually, or 7% to GDP). By comparison, agriculture employs 1.2 million people, and contributes 4.5% to GDP). Jobless growth also encourages uneven distribution of wealth, i.e. the rich get richer and the poor become poorer, if benefits of employment are not distributed through the social welfare systems.

### **Interest rates**

Essentially, interest is nothing more than the cost someone pays for the use of someone else's money. Homeowners know this scenario quite intimately. They have to use a bank's money (through a mortgage) to purchase a home and they have to pay the bank for the privilege. Credit card users also know this scenario quite well - they borrow money for the short term in order to buy something right away.

Inflation is defined as a sustained increase in the general level of prices for goods and services. It is measured as an annual percentage increase. As inflation rises, every Rand you own buys a smaller percentage of a good or service.

The SARB (South African Reserve Bank) has been aiming to keep real interest rates fairly stable since 2004, with the real repo rate moving in a range of 2,6% to 3,6% (averaging 3,1%) since then. Should inflation stabilise at around 5%, it would imply a repo rate of approximately 8%, which is 2% lower than currently.

Recently, the SARB has especially been disappointed by the credit boom that has taken household debt to an all-time high of 76, 6% of disposable income, and rising to this level from 50% within a matter of four years. The aggressive reduction in interest rates from 2003 to 2005 played a major role in this development, although it was also supported by sharply rising household disposable income and a broadening in households' access to credit.

### **Inflation rates**

Interest rates directly affect the credit market (loans) because higher interest rates make borrowing more costly. By changing interest rates, the SARB tries to achieve maximum employment, stable prices and a good level growth. As interest rates drop, consumer spending increases and this in turn stimulates economic growth.

### **Inflation and investments**

When it comes to inflation, the question on many investors' minds is: "How will it affect my investments?" This is an especially important issue for people living on a fixed income, such as retirees.

### **Portfolios**

A portfolio is a grouping of financial assets such as shares in companies, government bonds and cash equivalents such as fixed investments and savings accounts, as well as their mutual, exchange-traded and closed-fund counterparts. Portfolios are held directly by investors and/or managed by financial professionals.

The impact of inflation on your portfolio depends on the type of investment assets you hold. If you invest only in shares, worrying about inflation shouldn't keep you up at night. Over the long run, a company's revenue and earnings should increase at the same pace as inflation. The exception to this is stagflation. The combination of a bad economy with an increase in costs is bad for stocks. Also, a company is in the same situation as a normal consumer - the more cash it carries, the more its purchasing power decreases with increases in inflation.

## 1.2 Potential scenarios contextualised within a specific financial services environment

Regardless of the sector of the financial services industry you work, the macroeconomic environment affects your clients and your business. When you are dealing with a client, you need to have a thorough understanding of the macroeconomic factors that will influence their decisions. When you are dealing with a client who needs your advice you need to sketch a number of possible options he can choose from. You can create a profile of your client with the intent to ascertain his needs. You do so asking him 3 main categories of questions:

- **Category 1: Risk identification**

This is an attempt to identify all possible events, situations, or activities that could cause or enhance losses.

- **Category 2: Affordability**

In order to reduce the risk of the client defaulting, you need to establish if he has a consistent source of income either through a salary or other sources that are sustainable in the long term.

- **Category 3: Possible solutions**

You need to employ knowledge of all of the above in order to provide a possible solution. Remember the client is calling on your expert knowledge to answer his questions and meet his needs.

## 1.3 Questions

In order to solve the customer's query and get it right the first time, you need to ask them what they actually need, not what you think they need.

This is done by:

- Asking the right questions about the issue at hand. Asking questions helps you to retain control of the situation and lets the customer see you are serious about assisting him.
- Listening to the customer's responses. Quality listening leads to quality advice and action.
- Co accompanying your understanding of the customer's needs in order to take the correct action.

Use questions to:

- Use questions to elicit answers that provide you with useful information.
- Use questions to test the other person, checking their honesty of testing what



they know.

- Use questions to involve people, retain their interest and encourage them to like you.
- Use questions to get other people to think and discover things for themselves.
- Use simple stock questions to start a conversation.
- Use tag questions (e.g. ..., aren't you? isn't it? won't they?) to turn statements into questions.

### Examples

- What are you looking for? (gathering information)
- Do you come here often? (starting a conversation)
- Would you believe that? How stupid can you get? (rhetorical question)
- You're ready, aren't you? (statement plus tag question)

Whereas the primary purpose of questions is to gain answers, they are often used for other purposes. Socratic questioning is a traditional method of using questions to get people to think for themselves. Socrates was a famous Athenian teacher who seldom directly told his pupils anything. Stock questions usually signal that you are being friendly. Their meaning is unambiguous and they offer the other person an easy answer. Rhetorical questions are not intended to be answered. They are, in effect, statements.

Using tag questions creates an element of surprise that can lead people to agreeing to things with which they otherwise might not agree.

### 1.3.1 The GROW model

The "GROW Model" is one such tool which can be used for scenario planning, problem solving, review and assessment, relationship issues; in fact, virtually any issue which arises in work or life in general. It is a process which elicits a positive response and generates and demands a more realistic perspective from others, both clients and colleagues.

But what does "GROW" mean?

The GROW Model focuses on four aspects which can be applied when asking question in practically any situation:

G = GOALS  
R = REALITY  
O = OPTIONS  
W = WILL

Goals:

- What is the goal of this discussion?
- What do you want to achieve?
- Is it an end or performance goal?
- If an end goal - what is the performance goal associated with it?
- When do we want to achieve our goal?
- (Positive - Challenging - Attainable)

**Reality:**

- Where are we now?
- Where did we come from?
- What is happening now?
- What results did that produce?
- What is happening internally and externally?
- Who is involved?
- What have you done about this so far?

**Options:**

- What options do we have?
- What else can we do?
- What if...?
- Would you like another suggestion?
- What are the benefits and costs associated with each of these options?

**Will:**

- What are you going to do?
- Will this meet your/our goal?
- What obstacles could you face?
- How will you overcome them?
- What support do you need?
- How will you get that support?
- When are you going to do it?

Effective questioning and effective listening are definitely indispensable skills for effective mentioning and feedback.

### 1.3.2 Types of questions

- **Open questions**

These are useful in getting another person to speak. They often begin with the words: What, Why, When, Who Sometimes they are statements: “tell me about”, “give me examples of”. They can provide you with a good deal of information.

- **Closed questions**

These are questions that require a yes or no answer and are useful for checking facts. They should be used with care - too many closed questions can cause frustration and shut down conversation.

- **Specific questions**

These are used to determine facts. For example “How much did you spend on that?”

- **Probing questions**

These check for more detail or clarification. Probing questions allow you to explore specific areas. However be careful because they can easily make people feel they are being interrogated.

- **Hypothetical questions**

These pose a theoretical situation in the future. For example, “What would you do if...?” These can be used to get others to think of new situations. They can also be used in interviews to find out how people might cope with new situations.

- **Reflective questions**

You can use these to reflect back what you think a speaker has said, to check understanding. You can also reflect the speaker’s feelings, which is useful in dealing with angry or difficult people and for defusing emotional situations.

- **Leading questions.**

These are used to gain acceptance of your view – they are not useful in providing honest views and opinions. If you say to someone ‘you will be able to cope, won’t you?’ they may not like to disagree.

You can use a series of different type of questions to “funnel” information. This is a way of structuring information in sequence to explore a topic and to get to the heart of the issues. You may use an open question, followed by a probing question, then a specific question and a reflective question.



## Module 2

### **Divergent thinking techniques to generate a variety of scenarios in a selected context**

This Module deals with:

- Appropriate divergent thinking techniques to generate a variety of scenarios in a selected context

When offering a possible solution to your client, you can employ a number of thought processes or problem solving techniques. There are 4 types of techniques that are commonly used and easy to follow.

#### **2.1 Appropriate divergent thinking techniques to generate a variety of scenarios in a selected context**

Divergent thinking questions are those, which represent intellectual operations wherein you are free to generate independently your own ideas, or to take a new direction or perspective on a given topic. Thought processes involved while asking and answering these questions are predicting, hypothesizing, inferring, or reconstructing.

Divergent thinking questions usually begin with these words or phrases:

- Imagine...
- Suppose...
- Predict...
- If..., then...
- How might...
- Can you create...?
- What are some possible consequences...?

Examples of divergent thinking questions:

- Can you imagine ways that soccer typifies Mexican culture?
- Suppose that Caesar never returned to Rome from Gaul. Would the Empire have existed?
- What predictions can you make regarding the voting process in Florida?
- How might life in the year 2100 differ from today?
- The computer corrects spelling. Is it then unnecessary for third graders to take spelling tests?

Based on: Ciardiello, Angelo. (1998). "Did you ask a good question today? Alternative cognitive and metacognitive strategies." *Journal of Adolescent & Adult Literacy*. 42, 210-219. Used and modified with permission, 2003.

##### **2.1.1 Brainstorming**

Brainstorming is a technique which involves generating a list of ideas in a creative, unstructured manner. The goal of brainstorming is to generate as many ideas as



possible in a short period of time. The key tool in brainstorming is "piggybacking," or using one idea to stimulate other ideas. During the brainstorming process, ALL ideas are recorded, and no idea is disregarded or criticized. After a long list of ideas is generated, one can go back and review the ideas to critique their value or merit.

### **Golden rules when brainstorming:**

- *No idea too stupid*

There is an ideal solution to your problem and brainstorming is the key to finding it. However, discussing, criticising or generally dismissing ideas as they come up reduces your chance of finding the secret treasure and render your brainstorming session useless.

- *Watch the clock*

A little time pressure is good for brainstorming, so agree a maximum time for brainstorming, say 10 to 20 minutes, and stick to it. Start and finish on time, and encourage a brisk pace to maximise the time invested in this activity. Maybe assign a time-keeper to own this task.

- *Record your progress*

All your good ideas are wasted hot air if they are not recorded methodically and more importantly, legibly. Consider using brainstorming software such as MindManager©, post-it notes, flip charts or other such methods for getting your ideas down. Whatever you choose, make sure you bring all the necessary tools and materials with you!

- *Quantity not quality*

The aim of brainstorming is to churn out as many ideas as you have time for BEFORE you do any reality check on their merits. Through quantity you will find quality, even though it might take some time and effort to get there. Ideas breed ideas.

- *Use both sides of your brain*

Most work activities use your left brain, so make your right brain do some work for a change and get more from brainstorming. Use coloured or scented pens, random props or anything that says "creative and fun" and not "stuffy and staid".

- *Encourage the right mindset and have fun*

Consider using an ice-breaker or creativity exercise to get group members into the right frame of mind and away from creativity blocking thoughts of unanswered emails, to-do lists and other priorities. And once brainstorming has started, remember performance anxiety will dry up creative juices quicker than a quick thing, so make sure the atmosphere is kept light and fluffy and above all, fun.

- *Let no good idea go unheard.*

Not everyone enjoys brainstorming and group problem solving. Shyness, fear of looking stupid or silly may keep people quiet. Brush up on your facilitation skills and avoid the risk of great ideas being un-spoken or unheard.

Group problem solving can be effective, especially if you follow these 7 brainstorming rules and techniques.

### 2.1.2 Journaling

Journals are an effective way to record ideas that one thinks of spontaneously. By carrying a journal, one can create a collection of thoughts on various subjects that later become a source book of ideas. People often have insights at unusual times and places. By keeping a journal, one can capture these ideas and use them later when developing and organizing materials in the prewriting stage.

### 2.1.3 Free-writing

When free-writing, a person will focus on one particular topic and write non-stop about it for a short period of time. The idea is to write down whatever comes to mind about the topic, without stopping to proofread or revise the writing. This can help generate a variety of thoughts about a topic in a short period of time, which can later be restructured or organized following some pattern of arrangement.

The technique further involves a predetermined period of time (often 5, 10, or 15 minutes). Writing is done without regard to spelling, grammar, etc., and no corrections are made. If the writer reaches a point where he or she cannot think of anything to write, then he or she writes that he or she cannot think of anything, until another line of thought is found. The writer allows himself or herself to stray off topic and to just let his or her thoughts lead wherever they may. At times, a writer may also do a focused freewrite where a chosen topic structures his or her thoughts. Expanding from this topic, the thoughts may stray to make connections and create more abstract views on the topic. This technique helps a writer to explore a particular subject before putting ideas into a more basic context.

Freewriting is often done on a daily basis as a part of the writer's daily routine. Also, students in many writing courses are assigned to do such daily writing exercises.

Free-writing is based on the presumption that everybody has something to say and the ability to say it, however the mental wellspring may be blocked by apathy, self-criticism, resentment, anxiety about deadlines, fear of failure or censure, or other forms of resistance. The accepted rules of free-writing enable a writer to build up enough momentum to blast past any blocks into uninhibited flow, the concept outlined by teachers in writing such as Louise Dunlap, Peter Elbow, Natalie Goldberg.

The essential rules that are often formulated for the beginners or students, often a paraphrase of Natalie Goldberg's "Rules for Free Writing," often referred as Natalie Goldberg's first four rules of writing:

- Give yourself a time limit. Write for one or ten or twenty minutes, and then stop.
- Keep your hand moving until the time is up. Do not pause to stare into space or to read what you've written. Write quickly but not in a hurry.
- Pay no attention to grammar, spelling, punctuation, neatness, or style. Nobody else needs to read what you produce here. The correctness and quality of what you write do not matter; the act of writing does.
- If you get off the topic or run out of ideas, keep writing anyway. If necessary, write nonsense or whatever comes into your head, or simply scribble anything to keep

- the hand moving.
- If you feel bored or uncomfortable as you're writing, ask yourself what's bothering you and write about that. Sometimes your creative energy is like water in a kinked hose, and before thoughts can flow on the topic at hand, you have to straighten the hose by attending to whatever is preoccupying you.
  - When the time is up, look over what you have written, and mark passages that contain ideas or phrases that might be worth keeping or elaborating on in a subsequent free-writing session.

#### **2.1.4 Mind-mapping**

Mind or subject mapping involves putting brainstormed ideas in the form of a visual map or picture that shows the relationships among these ideas. One starts with a central idea or topic, and then draws branches off the main topic which represent different parts or aspects of the main topic. This creates a visual image or "map" of the topic which the writer can use to develop the topic further. For example, a topic may have four different branches (sub-topics), and each of those four branches may have two branches of its own (sub-topics of the sub-topic) \*Note\* this includes both divergent and convergent thinking.

A mind map is a diagram used to represent words, ideas, tasks, or other items linked to and arranged radially around a central key word or idea. Mind maps are used to generate, visualize, structure, and classify ideas, and as an aid in study, organization, problem solving, decision making, and writing.

The elements of a given mind map are arranged intuitively according to the importance of the concepts, and are classified into groupings, branches, or areas, with the goal of representing semantic or other connections between portions of information. Mind maps may also aid recall of existing memories.

By presenting ideas in a radial, graphical, non-linear manner, mind maps encourage a brainstorming approach to planning and organizational tasks. Though the branches of a mindmap represent hierarchical tree structures, their radial arrangement disrupts the prioritizing of concepts typically associated with hierarchies presented with more linear visual cues. This orientation towards brainstorming encourages users to enumerate and connect concepts without a tendency to begin within a particular conceptual framework.

The mind map can be contrasted with the similar idea of concept mapping. The former is based on radial hierarchies and tree structures denoting relationships with a central governing concept, whereas concept maps are based on connections between concepts in more diverse patterns.

#### **Contents**

- 1 History
- 2 Uses
- 3 Effectiveness in learning
- 4 Tools
- 5 Trademarks
- 6 See also
- 7 References

## 8 Further reading

## 9 External links

### History

Mind maps (or similar concepts) have been used for centuries in learning, brainstorming, memory, visual thinking, and problem solving by educators, engineers, psychologists, and others. Some of the earliest examples of mind maps were developed by Porphyry of Tyros, a noted thinker of the 3rd century, as he graphically visualized the concept categories of Aristotle. Philosopher Ramon Llull (1235 - 1315) also used mind maps.

The semantic network was developed in the late 1950s as a theory to understand human learning and developed into mind maps by Allan Collins and M. Ross Quillian during the early 1960s. Due to his commitment and published research, and his work with learning, creativity, and graphical thinking, Collins can be considered the father of the modern mind map.

British popular psychology author Tony Buzan claims to have invented modern mind mapping. He claimed the idea was inspired by Alfred Korzybski's general semantics as popularized in science fiction novels, such as those of Robert A. Heinlein and A. E. van Vogt. Buzan argues that while 'traditional' outlines force readers to scan left to right and top to bottom, readers actually tend to scan the entire page in a non-linear fashion. Buzan also uses popular assumptions about the cerebral hemispheres in order to promote the exclusive use of mind mapping over other forms of note making.

The mind map continues to be used in various forms, and for various applications including learning and education (where it is often taught as 'Webs', 'Mind webs', or 'Webbing'), planning, and in engineering diagramming.

When compared with the concept map (which was developed by learning experts in the 1970s) the structure of a mind map is a similar radial, but is simplified by having one central key word.

### Uses

Rough mindmap notes taken during a course session. A mind map is often created around a single word or text, placed in the center, to which associated ideas, words and concepts are added.

Mind maps have many applications in personal, family, educational, and business situations, including note taking, brainstorming (wherein ideas are inserted into the map radially around the center node, without the implicit prioritization that comes from hierarchy or sequential arrangements, and wherein grouping and organizing is reserved for later stages), summarizing, revising, and general clarifying of thoughts. One could listen to a lecture, for example, and take down notes using mind maps for the most important points or keywords. One can also use mind maps as a mnemonic technique or to sort out a complicated idea. Mind maps are also promoted as a way to collaborate in color pen creativity sessions.



Mindmaps can be drawn by hand, either as 'rough notes' during a lecture or meeting, for example, or can be more sophisticated in quality.

Mind mapping software can be used effectively to organize large amounts of information, combining spatial organization, dynamic hierarchical structuring and node folding. Software packages can extend the concept of mind mapping by allowing individuals to map more than thoughts & ideas with information on their computers and the internet, like spreadsheets, documents, internet sites and images.

## Module 3

### Appropriate scenarios for a specific purpose or context

This Module deals with:

- Criteria for selecting appropriate scenarios to enable evaluation of the scenario and the range of scenarios evaluated against the criteria and ranked for best fit
- The most appropriate scenarios for further development and analysis and the probability of the occurrence tested in each proposed scenario
- Risk mitigation techniques for the various scenarios, factors that could lead to a scenario becoming the next scenario and an indication of any potential sensitivities relating to the different outcomes

#### **3.1 Criteria for selecting appropriate scenarios to enable evaluation of the scenario and the range of scenarios evaluated against the criteria and ranked for best fit**

Before we look at how to develop scenarios, it is useful to understand what scenario planning is not. Scenario planning is not an attempt to predict the future. While it is tempting to view it as such and to try to write scenarios that forecast what the future will be, such efforts are doomed to fail. Our perceptions determine what we think is "reality." Any prediction of the future is shaped almost totally by our perceptions. Organizations are typically unprepared for future events because of the limitations of their perception, not a lack of effort at trying to forecast what the future might be. Thus, scenarios do not predict the future; they highlight our perceptual limitations thus allowing us to spot issues, trends, and developments that we would be otherwise unaware.

Additionally, scenario planning is not an attempt to develop possible scenarios for every potential development that might occur. Not only is this typically a waste of time, it leads to superficial analysis and we still fall victim to our perceptions. After all, if we fail to perceive something as possible, we would not develop a scenario for it. So attempting to develop scenarios for all possible developments are not only impossible, but leads to false confidence.

The scenario planning process starts with a focal point: an issue on which it is important to develop insight. The focal point is future oriented, by looking out sometime in the future. It is often phrased as a question. Typically, the focal point does not predict a result ("how can we get more funding" or "how would we get more support for this initiative"). Instead, the focal point looks at particular issues ("how will



technology shape libraries" or "what will information center needs look like in the future").

Once we have a focal point, we next identify an organizational mental model that exists. A mental model is a series of deeply held beliefs, assumptions, and blind spots around a particular issue. As organizational learning theorists Peter Senge and Chris Argyris have noted, deeply held mental models prevent learning and lead to perceptual blindness. Organizations and even countries become oblivious to the obvious because of deeply held mental models. By determining what mental models exist that are relevant to the focal point, the scenario planners will be able to determine easily what beliefs and assumptions the scenarios need to challenge. It is by challenging these sacred beliefs and assumptions that organizational and individual learning takes place. Thus, the success of the scenarios is dependent mostly on the ability to identify and then challenge the prevailing mental models that exist within the organization. There are a variety of ways to identify organizational mental models. One good hint is to look at themes that emerge in missed opportunities. Is there a particular issue or sector on which the organization seems to always "miss the boat?" Often times, outsiders, competitors, or former associates can be great resources on this issue because they now have a broader perspective than do people within the organization.

Next, the scenario planners conduct an environmental scan to determine what forces and trends are likely to be relevant to this issue. Some of this information will have been gleaned already during the mental model analysis. There are a number of tools for this part of the process: SWOT analyses (strengths, weaknesses, opportunities, and threats) or SEPT studies (social, economic, political, and technological trends or forces). Once a comprehensive list has been developed, the participants in this process can either identify key themes among all the forces or vote to pick the two most important trends.

The next stage of the process is to flesh out each of these. Given what we already know about the organization's mental models, this element of the process is relatively easy. Generally speaking, there is an inherent tension within each scenario. As scenario planner Kees Van Der Heijden (formerly of Shell) points out, we need to ground the scenario sufficiently in the participant's beliefs and mental models so they don't reject it out of hand, we don't want too much "stretch" or the scenario will have no credibility. But we must add elements to the scenario that challenge the prevailing thought and belief systems. Additionally, each scenario should read a little like an emotional roller coaster. No scenario should be totally positive or negative in tone. Instead, each scenario should have elements that participants view as good news and other elements of the story that are seen as bad news. Finally, each scenario should accurately depict how the system actually functions. For instance, a scenario that describes the economic crash of a country should be an accurate description of the sequence of events that would have to happen for a particular outcome to occur. This part of the process can often be a very powerful one as participants gain a richer understanding of how key systems function and why they sometimes "break down" or deliver unintended consequences.

At this point (once the scenarios have been developed and refined), there is some form of discussion and analysis. Typically, discussion themes around the scenarios

can be broken down into three areas: that which is surprising to us about each scenario (which really gets into what the scenario teaches us about our perspective and mental models), what data or knowledge gaps did we discover (the areas in which we need more research), and what follow-up actions or strategic revisions do we need to make (how our plans stack up and the changes we need to make). Organizations that are serious about scenario planning will often have several stages of discussions, during which initial reactions and insights are included in subsequent conversations that examine applications and actions.

There are a number of ways that financial planners can use scenario planning. The most obvious fashion is to facilitate discussion within the client. Additionally, they can use scenario planning for financial planning efforts to check assumptions about portfolio structure, processes and priorities, to develop insightful strategy, and to better understand their clients and their needs.

### **3.2 The most appropriate scenarios for further development and analysis and the probability of the occurrence tested in each proposed scenario**

#### **Types of scenario planning**

- **Quantitative models**

Some notion of “scenarios” is found in nearly all forms of mathematically based market forecasting and financial models. (Microsoft Excel itself contains a “scenario” function, which allows users to input alternative assumptions to generate alternative results). In such modeling and forecasting functions, “the answer” is expressed in mathematical terms, such as revenue projection, return on invested capital, market share, etc.

Among the most common “strategic” uses of this tool is in the field of investment banking, and, in particular, mergers and acquisitions, where an integrated financial representation of two independent businesses models is examined for synergies, costs, and – for publicly traded companies – share price accretion or dilution. These financial models are said to enable scenario analysis when they allow for the presentation of “Base Case”, “Best Case”, and “Worst Case” versions of the model outputs based on altering a limited number of variables that can be readily manipulated. These versions are referred to as “scenarios,” as in “this is the best case scenario for this transaction.” In the world of investment banking, such a model is considered strong or elegant to the extent that changes in the driving variables dynamically alter all of the model’s outputs allowing for rapid “scenario analysis”.

“Quantitative scenarios” are also widely used to develop annual business forecasts. These models implicitly assume that (a) the key variables are known, and that (b) the relationships between them are fixed.

- **Applications**

Many companies have quantitative cultures and are comfortable only when they see a hard number attached to an option or goal. Since most of the inputs to quantitative models are also the variables used in daily business activities (cost of capital, cost of product distribution, competitor spending on R&D, taxes, etc.), company leadership

typically embraces the results with little argument. Results tie well into operating plans and provide an aura of accuracy.

Also, there is a definite need to create dynamic financial statements to meet financial reporting requirements – for example, pro forma financial statements. Thus, these models are a necessary and powerful tool for managing the financial intricacies of the modern corporation.

Engineering companies and utilities have tended to be the principal users of probability-based scenarios, although this form of scenario planning has been little used since the 1980s. They are drawn to the quantitative expression of business futures and find that this approach can make use of quantitative trends and business statistics that they use in their daily work.

The effort taken to make decisions about each trend cross-impact stimulates participants' thinking about unlikely combinations of events that may form their future operating environment. In industries such as utilities, where (at least before deregulation) just a handful of numbers actually did define the critical business parameters, this is a comfortable method of planning that seems companyly rooted in "business realities."

Gaming can bring the competitive landscape to life. With proper referees and rules, the game can mimic the future market conditions that the company may face and executives can gain important tactical insights. Gaming can also be a valuable training tool. If the competition is "played," then the scenario can contain the give and take of the marketplace and decision-makers can see the results of their decisions in near-real time. Once the game is developed, it can be run with many different players or with slightly different assumptions – all options offer the opportunity for learning more about the sensitivity of a decision to be taken. Regardless of the nominal reason for the game, players often find that they have gained a greater degree of understanding about their business and about the qualities of the other players. They can also develop the ability to respond more nimbly to competitor initiatives.

Event-driven scenarios tend to be tied directly to "real-world" problems and narrow ranges of uncertainty. There is seldom any dispute among executives that the scenario is relevant and that the decisions taken as a result will be executable. Since event-driven scenarios are typically near term and the subject matter is usually the industry sector in which the company operates, specialized expertise in larger global forces for change is not required. Therefore, companies can choose to do this using internal resources and in-house expertise. Event-driven scenarios are generally easy to produce once the "event" is agreed upon; therefore, project scheduling and budgets are seldom an issue.

### **3.2.1 Normative scenarios**

Normative scenarios can provide a useful "story" that brings alive the vision and goals of a company – in that sense they are an excellent communications tool. As an adjunct to a vision statement, a normative scenario can focus attention on those things in the external environment that are within corporate "reach" and will have an impact on realizing the vision. It can also help focus an organization's lobbying



efforts. Normative scenarios can be developed easily with internal resources and, indeed, only a few people.

Strategic management scenarios are the best scenario approach for challenging the conventional assumptions of an organization or for dealing with high levels of uncertainty and ambiguity. They offer the planners the greatest opportunity for creativity within a rigorous analytical setting. Since they are written about the macro-level forces for change, they remain a relevant planning tool for many years and because they say as little as possible about the industry, they can be customized to many different uses. In almost all ways this type of scenario planning is the most flexible.

Strategic management scenarios make an excellent companion to event-driven scenarios (previously discussed). Let us say you have an event-driven scenario about the merger of two competitors. You can stress test that “event” within all of your strategic management scenarios. In that way you are not locked into assuming today’s operating setting. You can look for the implications of that merger in a future scenario with a sluggish economy and heavy regulation, a war economy with significant security challenges, a hot economy with little regulation, etc. The combination of the two types of scenario planning can give you a far greater and more in-depth understanding of strategic issues. Generally, strategic management scenario planning can be extended to cover many of the purposes and goals behind war gaming and event-driven scenario planning.

### **Limitations**

Even the best, most sophisticated quantitative models make assumptions about the future state (or values) of key independent variables. For many short-term forecasting activities (for instance, up to a few fiscal quarters), these assumptions are often reasonable to make. But farther out in time (or even in some near-term situations), when complexities increase and discontinuities grow more likely, quantitative models tend to grow less reliable. Most mathematical models simply cannot reliably handle unanticipated market discontinuities, such as a new consumer fad, an unprecedented financial event, or a natural disaster. Therefore, these kinds of “scenarios” do not challenge conventional wisdom or force you to consider new business models or new or unprecedented customer needs.

Additionally, quantitative models tend to take on a life of their own, with hidden assumptions and inner workings known to, or understood by, just a few individuals who most frequently interact with the models, and not necessarily all those involved in making the decisions the models are intended to support. As such, overextending the application of this approach and lack of transparency with its use can both give rise to flawed assumptions about future market dynamics, and result in a false sense of confidence about model precision and reliability.

Probability-based scenarios contain most of the weaknesses of quantitative or spreadsheet models (but do a better job of mitigating the over-simplifications of pure extrapolation). The quantitative output often masks the plethora of subjective qualitative judgments involved in setting the probabilities. In addition, executing a trend cross-impact matrix can be a time-consuming and somewhat mechanical process that is at odds with energized creative thinking. The process relies on the

assumption that many of the trends of today are the important trends of the future and therefore the cross-impacts will unearth all critical challenges. Because probabilities are assigned to the scenarios, there is a tendency to assume that the highest-scoring scenario is the most likely future and to place uneven bets on the characteristics of that one image of how the future will turn out. Finally, there is seldom a narrative developed with the scenarios. Without the power of a story to carry the scenarios it can be very difficult for people not involved in the cross-impact assessments to understand or believe the scenarios.

Games are about interactions within an existing marketplace or “mission space.” “Played” in a vacuum, they tend to miss consideration of potential shifts in the broader operating environment. Games do not always make a good foundation for strategic thinking. If games are to be repeatable and rigorous, then they have to have a well-developed rules structure that is followed carefully each time. Game players, however, often find that memorizing the rules is more work than the game and the rules tend to destroy the sense of “reality” that the games hope to mimic. Games are typically complex. To make them more manageable, there is a tendency to limit the amount of uncertainty the players will face. That means that the gamers are relying on a base of common knowledge about how the business works today. In other words, just making the game work often means that you cannot introduce significantly challenging interpretations of your background operating conditions. (Note: These “weaknesses” apply to gaming as “strategy scenarios.” These same weaknesses do not apply to the use of gaming for more operational or tactical decision making and analysis, for which games are often superb tools.)

Event-driven scenarios are not always well suited to be strategic tools; yet, because the implications of the work can be strategic, they are often used to help formulate strategy. There is a critical pitfall with this practice. Event-driven scenarios cannot provide overlapping coverage of the uncertainties and ambiguities required to capture the full range of future uncertainty. They cannot do this because they are typically selected to illuminate one familiar (albeit difficult) problem. Mistakenly, some companies believe that using five or six event-driven scenarios will “cover the strategic waterfront.”

Event-driven scenarios tend to operate within the organization’s “comfort zone.” That is not to say that the problems addressed are comfortable ones, but rather that the scenarios do not challenge conventional assumptions about how the industry works. (Note: the limitations discussed here refer to the use of event-driven scenarios for strategic planning purposes only. Event-driven scenarios have had a long and successful history in the tactical/operational arena. However, most of those uses are confined to military, public health and public safety organizations. Their use can provide a decision maker with a set of potentially applicable pre-digested policy and operational options.)

It is difficult to make anyone not part of the initial scenario development take normative scenarios as a serious planning tool. There is no “objective” mechanism or process to co-opt others into the vision. One person’s very serious normative scenario is another person’s silly fantasy and it is hard to get over that hurdle. Normative scenarios are about articulating the “what.” They have very little to contribute to the “how” or “why.”



Strategic management scenarios tend to take the most fully challenging look at the uncertainties and ambiguities of your business environment. Therefore, they may cause considerable discomfort as they stretch and alter your understanding of what is critical to your growth and success. (Strategic management scenarios are usually an inappropriate planning tool for companies struggling with short-term survival issues.) Many companies find strategic management scenarios difficult to use because of the leap of faith involved in accepting the premise of the planning technique – that a portfolio approach to strategic thinking is better than a forecast.

Furthermore, the initial investment in strategic management scenarios is high. The scenarios take more time to develop and usually require significant consulting help. And even with consulting support, the need for a dedicated client “core team” to partner with the consulting team represents a significant commitment of executive time. The scenarios cannot be used piecemeal. If a company stays true to the premise of the technique, then only when all scenarios are used can it be certain of capturing the range of potential opportunities and challenges.

### 3.2.2 Probability-based scenarios

Assigning probabilities to “scenarios” is unusual in the business world and is found only with quantitative models and with scenarios in this category. Probability-based scenarios are a hybrid form of scenario planning whose foundation is a mathematical treatment of all variables; yet a deliberate effort is made to identify all assumptions and to force a wide variability on the key trends and variables.

This approach uses a large cross-impact matrix to form the scenarios. All the key business drivers are listed as both row and column headings. Every cell of the matrix is examined for likelihood and for the business impact of the business driver cross-impact that forms that cell. If there are 50 business drivers, then there are 50 columns in the matrix and 50 potential “scenarios” to be summed. Each column is made up of slightly different sets of trend cross-impacts. The columns are “summed” for the highest probability combinations and the top four or five are used in subsequent analysis.

- **Interactive (“War Gaming”) Scenarios**

This version of scenario planning is more commonly referred to as “war gaming” or simply, “gaming.” In its purest form, gaming does not so much describe a potential future as it does the rules of interaction among select variables or actors that help shape the future. Games tend to be highly “action oriented.” There are two sides or opponents (often playing in separate rooms), there are referees who moderate the game, and both follow a play book that sets the initial conditions of the game – the scenario – and unanticipated events that are introduced to the players throughout the game. Each team acts and reacts to defeat the other team. The military and intelligence communities tend to use gaming more extensively than does the business community.

A game is generally based on one description of a single future operating environment. Typically, gaming scenarios are only a few years out (sometimes a few months out) and are used to examine a narrow strategic, operational or tactical set of

issues. Therefore, they tend to be narrow in scope, although not always. Over several years, many different gaming scenarios may be developed and thus over time many interpretations of the future may be used to challenge thinking. In some applications, a set of strategic management scenarios (described in following pages) might set the backdrop for situational gaming scenarios.

The most common use of games in the private sector, however, is not in strategic planning, but in the marketing, business intelligence or competitor analysis arenas. A company intends to introduce a new approach to product distribution next year, for example. Before launch, even before the new approach is finalized, it may develop a set of games to better evaluate how the competition, the consumer, or perhaps the government will respond. Game results might steer the company to do things in a slightly different way that might, for example, foreclose a competitor's response options.

### **3.2.3 Event-driven (or operational) scenarios**

Event-driven scenarios are among the most common form of scenario planning that organizations undertake without external assistance. Event-driven scenarios and strategic management scenarios (see below) can be easily confused in discussion and literature; yet they are profoundly different. Event-driven scenarios fall in the gap between gaming and strategic management (and alternative futures) scenarios and share common elements with both. Event-driven scenarios tend to be about the impact of an event, action or dilemma within the context of the immediate or near-term business setting. However, the impact of that event may have definite strategic implications.

The operational context of event-driven scenarios is typically near term, but the strategic context can be long term. For example, an event-driven scenario might be crafted about the merger of two rival companies or the marketing of a new technology-based product by a competitor. In the public setting, an event-driven scenario might be, "What happens if a class five hurricane hits New Orleans?" The intent of this approach tends to be about how to anticipate, prepare for, react to, or prevent such an event. The questions asked can be, "How do we react if such an event happens to us?" or "What are the implications for our products if this event happens?" As long as the time horizon for action is short (that is, as long as you can reasonably assume that fundamental business conditions will remain as is), this can be a very valuable decision-making tool.

### **3.2.4 Normative scenarios**

Normative scenarios are less frequently used today than was the case in the 1960s and 1970s. In some ways a normative scenario can be thought of as a cross between a scenario environment and a vision statement. Normative scenarios describe what an organization wants to be or the environment that emerges. Normative scenarios are less of an objective planning document than a goals statement. However, instead of the internal company goals in a vision statement, the goals are usually cast in terms of the changes in the operating environment that the organization would like to see come about.

A normative scenario provides a target list of activities for manipulating the organization's operating environment. Sometimes companies will combine some other form of scenario planning with normative scenarios. When an organization thinks it has learned (from other types of scenario planning) where the leverage points are in their business setting, it may craft a normative scenario that provides a kind of summation document of the changes that it might be able to influence.

### **3.2.5 Strategic Management (or alternative futures) scenarios**

This is, by far, the most comprehensive form of scenario planning used in the private sector and among military and other government organizations. Strategic management scenarios are alternatively used to create strategy, stress test existing strategic plans, and/or serve as a learning tool and framework to infuse a sense of "strategic intent" in an organization.

Strategic management scenarios are developed out of permutations of the macro-level forces for change that define the boundary conditions of an organization's operating environment. In other words, the scenarios are typically defined by trends and forces that are outside the control of the company.

Ideally, for planning purposes, these scenario "stories" say as little as possible about the company or its industry. For example, if the planning company is an automotive manufacturer, the scenarios will discuss the role of personal transportation in the consumer's life. They will discuss the attitude of regulatory bodies. They will discuss other modes of transportation. They will not mention cars or trucks. Then, the scenarios are used in planning workshops in which it is up to the participants to imagine how their products/services and their company will accommodate a surprising and unanticipated set of future business conditions. "What must our products and services be like to answer consumer demand in this future?" Or "What must our business model look like to compete successfully?"

These are the most challenging scenarios to construct since they must allow the planners full freedom of decision and invention and yet describe a business setting that is meaningful to them.

### **3.3 Use of scenario planning by managers**

The basic concepts of the process are relatively simple. In terms of the overall approach to forecasting, they can be divided into three main groups of activities (which are, generally speaking, common to all long range forecasting processes):

- Environmental analysis
- Scenario planning
- Corporate strategy

The first of these groups quite simply comprises the normal environmental analysis. This is almost exactly the same as that which should be undertaken as the first stage of any serious long-range planning. However, the quality of this analysis is especially important in the context of scenario planning.

The central part represents the specific techniques - covered here - which differentiate the scenario forecasting process from the others in long-range planning. The final group represents all the subsequent processes which go towards producing the corporate strategy and plans. Again, the requirements are slightly different but in general they follow all the rules of sound long-range planning.

### 3.4 Scenario planning

The part of the overall process which is radically different from most other forms of long-range planning is the central section, the actual production of the scenarios. Even this is though, at its most basic level, relatively simple - as derived from the approach most commonly used by Shell - requiring just six steps:

- Decide drivers for change/assumptions
- Bring drivers together into a viable framework
- Produce 7-9 initial mini-scenarios
- Reduce to 2-3 scenarios
- Draft the scenarios
- Identify the issues arising

#### Step 1 - Decide assumptions/drivers for change

The first stage is to examine the results of environmental analysis to determine which are the most important factors that will decide the nature of the future environment within which the organisation operates. These factors are sometimes called 'variables' (because they will vary over the time being investigated, though the terminology may confuse scientists who use it in a more rigorous manner). Users tend to prefer the term 'drivers' (for change), since this terminology is not laden with quasi-scientific connotations and reinforces the participant's commitment to search for those forces which will act to change the future. Whatever the nomenclature, the main requirement is that these will be informed assumptions.

This is partly a process of analysis, needed to recognise what these 'forces' might be. However, it is likely that some work on this element will already have taken place during the preceding environmental analysis. By the time the formal scenario planning stage has been reached, the participants may have already decided - probably in their sub-conscious rather than formally - what the main forces are.

In the ideal approach, the first stage should be to carefully decide the overall assumptions on which the scenarios will be based. Only then, as a second stage, should the various drivers be specifically defined. Participants, though, seem to have problems in separating these stages.

Perhaps the most difficult aspect though, is freeing the participants from the preconceptions they take into the process with them. In particular, most participants will want to look at the medium term, five to ten years ahead rather than the required longer-term, ten or more years ahead. However, a time horizon of anything less than ten years often leads participants to extrapolate from present trends, rather than consider the alternatives which might face them. When, however, they are asked to consider timescales in excess of ten years they almost all seem to accept the logic of



the scenario planning process, and no longer fall back on that of extrapolation. There is a similar problem with expanding participant's horizons to include the whole external environment.

## **Step 2 - Bring drivers together into a viable framework**

The next step is to link these drivers together to provide a meaningful framework. This may be obvious, where some of the factors are clearly related to each other in one way or another. For instance, a technological factor may lead to market changes, but may be constrained by legislative factors. On the other hand, some of the 'links' (or at least the 'groupings') may need to be artificial at this stage. At a later stage more meaningful links may be found, or the factors may then be rejected from the scenarios. In the most theoretical approaches to the subject, probabilities are attached to the event strings. This is difficult to achieve, however, and generally adds little - except complexity - to the outcomes.

This is probably the most (conceptually) difficult step. It is where managers' 'intuition' - their ability to make sense of complex patterns of 'soft' data which more rigorous analysis would be unable to handle - plays an important role.

There are, however, a range of techniques which can help; and again the Post-It-Notes approach is especially useful. Thus, the participants try to arrange the drivers, which have emerged from the first stage, into groups which seem to make sense to them. Initially there may be many small groups. The intention should, therefore, be to gradually merge these (often having to reform them from new combinations of drivers to make these bigger groups work).

The aim of this stage is eventually to make 6 - 8 larger groupings; 'mini-scenarios'. Here the Post-It Notes may be moved dozens of times over the length - perhaps several hours or more - of each meeting. While this process is taking place the participants will probably want to add new topics - so more Post-It Notes are added to the wall. In the opposite direction, the unimportant ones are removed (possibly to be grouped, again as an 'audit trail' on another wall). More important, the 'certain' topics are also removed from the main area of debate - in this case they must be grouped in clearly labeled area of the main wall.

As the clusters - the 'mini-scenarios' - emerge, the associated notes may be stuck to each other rather than individually to the wall; which makes it easier to move the clusters around (and is a considerable help during the final, demanding stage to reducing the scenarios to two or three).

The great benefit of using Post-It Notes is that there is no bar to participants changing their minds. If they want to rearrange the groups - or simply to go back (iterate) to an earlier stage - then they strip them off and put them in their new position.



### **Step 3 - Produce initial (seven to nine) mini-scenarios**

The outcome of the previous step is usually between seven and nine logical groupings of drivers. This is usually easy to achieve. The 'natural' reason for this may be that it represents some form of limit as to what participants can visualise.

Having placed the factors in these groups, the next action is to work out, very approximately at this stage, what is the connection between them. What does each group of factors represent?

### **Step 4 - Reduce to two or three scenarios**

The main action, at this next stage, is to reduce the seven to nine mini-scenarios/groupings detected at the previous stage to two or three larger scenarios. The challenge in practice seems to come down to finding just two or three 'containers' into which all the topics can be sensibly fitted. This usually requires a considerable amount of debate - but in the process it typically generates as much light as it does heat. Indeed, the demanding process of developing these basic scenario frameworks often, by itself, produces fundamental insights into what are the really important (perhaps life and death) issues affecting the organisation.

During this extended debate - and even before it is summarised in the final reports - the participants come to understand, by their own involvement in the debate, what the most important drivers for change may be, and (perhaps even more important) what their peers think they are. Based on this intimate understanding, they are well prepared to cope with such changes - reacting almost instinctively - when they actually do happen; even without recourse to the formal reports which are eventually produced!

There is no theoretical reason for reducing to just two or three scenarios, only a practical one. It has been found that the managers who will be asked to use the final scenarios can only cope effectively with a maximum of three versions! Shell started, more than three decades ago, by building half a dozen or more scenarios - but found that the outcome was that their managers selected just one of these to concentrate on. As a result the planners reduced the number to three, which managers could handle easily but could no longer so easily justify the selection of only one! This is the number now recommended most frequently in most of the literature.

#### **Complementary scenarios**

As used by Shell, and as favoured by a number of the academics, two scenarios should be complementary; the reason being that this helps avoid managers 'choosing' just one, 'preferred', scenario - and lapsing once more into single-track forecasting (negating the benefits of using 'alternative' scenarios to allow for alternative, uncertain futures).

This is, however, a potentially difficult concept to grasp, where managers are used to looking for opposites; a good and a bad scenario, say, or an optimistic one versus a pessimistic one - and indeed this is the approach (for small businesses) advocated by Foster. In the Shell approach, the two scenarios are required to be equally likely, and between them to cover all the 'event strings'/drivers. Ideally they should not be

obvious opposites, which might once again bias their acceptance by users, so the choice of 'neutral' titles is important. For example, Shell's two scenarios at the beginning of the 1990s were titled 'Sustainable World' and 'Global Mercantilism'[xv]. In practice, we found that this requirement, much to our surprise, posed few problems for the great majority, 85%, of those in the survey; who easily produced 'balanced' scenarios. The remaining 15% mainly fell into the expected trap of 'good versus bad'. We have found that our own relatively complex (OBS) scenarios can also be made complementary to each other; without any great effort needed from the teams involved; and the resulting two scenarios are both developed further by all involved, without unnecessary focusing on one or the other.

### Testing

Having grouped the factors into these two scenarios, the next step is to test them, again, for viability. Do they make sense to the participants? This may be in terms of logical analysis, but it may also be in terms of intuitive 'gut-feel'. Once more, intuition often may offer a useful - if academically less respectable - vehicle for reacting to the complex and ill-defined issues typically involved. If the scenarios do not intuitively 'hang together', why not? The usual problem is that one or more of the assumptions turn out to be unrealistic in terms of how the participants see their world. If this is the case then you need to return to the first step - the whole scenario planning process is above all an iterative one (returning to its beginnings a number of times until the final outcome makes the best sense).

### Step 5 - Write the scenarios

The scenarios are then 'written up' in the most suitable form. The flexibility of this step often confuses participants, for they are used to forecasting processes which have a fixed format. The rule, though, is that you should produce the scenarios in the form most suitable for use by the managers who are going to base their strategy on them. Less obviously, the managers who are going to implement this strategy should also be taken into account. They will also be exposed to the scenarios, and will need to believe in these. This is essentially a 'marketing' decision, since it will be very necessary to 'sell' the final results to the users. On the other hand, a not inconsiderable consideration may be to use the form the author also finds most comfortable. If the form is alien to him or her chances are that the resulting scenarios will carry little conviction when it comes to the 'sale'.

Most scenarios will, perhaps, be written in word form (almost as a series of alternative essays about the future); especially where they will almost inevitably be qualitative which is hardly surprising where managers, and their audience, will probably use this in their day to day communications. Some though use an expanded series of lists and some enliven their reports by adding some fictional 'character' to the material - perhaps taking literally the idea that they are stories about the future - though they are still clearly intended to be factual. On the other hand, they may include numeric data and/or diagrams - as those of Shell do (and in the process gain by the acid test of more measurable 'predictions').

## Step 6 - Identify issues arising

The final stage of the process is to examine these scenarios to determine what are the most critical outcomes; the 'branching points' relating to the 'issues' which will have the greatest impact (potentially generating 'crises') on the future of the organisation. The subsequent strategy will have to address these - since the normal approach to strategy deriving from scenarios is one which aims to minimize risk by being 'robust' (that is it will safely cope with all the alternative outcomes of these 'life and death' issues) rather than aiming for performance (profit) maximization by gambling on one outcome.

### 3.5 Use of scenarios

It is important to note that scenarios may be used in a number of ways:

#### a) Containers for the drivers/event strings

Most basically, they are a logical device, an artificial framework, for presenting the individual factors/topics (or coherent groups of these) so that these are made easily available for managers' use - as useful ideas about future developments in their own right - without reference to the rest of the scenario. It should be stressed that no factors should be dropped, or even given lower priority, as a result of producing the scenarios. In this context, which scenario contains which topic (driver), or issue about the future, is irrelevant.

#### b) Tests for consistency

At every stage it is necessary to iterate, to check that the contents are viable and make any necessary changes to ensure that they are; here the main test is to see if the scenarios seem to be internally consistent - if they are not then the writer must loop back to earlier stages to correct the problem. Though it has been mentioned previously, it is important to stress once again that scenario building is ideally an iterative process. It usually does not just happen in one meeting - though even one attempt is better than none - but takes place over a number of meetings as the participants gradually refine their ideas.

#### c) Positive perspectives

Perhaps the main benefit deriving from scenarios, however, comes from the alternative 'flavours' of the future their different perspectives offer. It is a common experience, when the scenarios finally emerge, for the participants to be startled by the insight they offer - as to what the general shape of the future might be - at this stage it no longer is a theoretical exercise but becomes a genuine framework (or rather set of alternative frameworks) for dealing with that.

### **3.6 Risk mitigation techniques for the various scenarios, factors that could lead to a scenario becoming the next scenario and an indication of any potential sensitivities relating to the different outcomes**

A statement of risk appetite provides the reference point against which to benchmark all risk taking and risk mitigation activity within the organization, defining boundaries within which risk-based decision making can occur.

A new model focusing on diversification may incorporate a broader mix of investments to help more effectively manage wealth during retirement. One product can't do everything. The challenge is to integrate the upsides and downsides of a variety of products and come up with a well-blended and harmonious mix. This approach is traditionally used in investments, but can also be used to reduce organisational risk.

This approach would balance the resources and incorporate risk mitigation, asset allocation and income distribution. Business involves market risk, including possible loss of principal. Asset allocation does not guarantee a profit and does not protect against a loss.





## Module 4

### **The effect of each of the selected scenarios on potential risk**

This Module deals with:

- Information introduced into each scenario to synthesise the risk
- Research and own personal knowledge and insight to anticipate a potential outcome
- The potential impact of the anticipated outcomes on risk

#### **4.1 Information introduced into each scenario to synthesise the risk**

Traditional forecasting techniques often fail to predict significant changes in the company's external environment, especially when the change is rapid and turbulent or when information is limited. Consequently, important opportunities and serious threats may be overlooked and the very survival of the company may be at stake. Scenario planning is a tool specifically designed to deal with major, uncertain shifts in the company's environment.

Scenario planning has its roots in military strategy studies. Herman Kahn was an early founder of scenario-based planning in his work related to the possible scenarios associated with thermonuclear war ("thinking the unthinkable"). Scenario planning was transformed into a business tool in the late 1960's and early 1970's, most notably by Pierre Wack who developed the scenario planning system used by Royal Dutch/Shell. As a result of these efforts, Shell was prepared to deal with the oil shock that occurred in late 1973 and greatly improved its competitive position in the industry during the oil crisis and the oil glut that followed.

Scenario planning is not about predicting the future. Rather, it attempts to describe what is possible. The result of a scenario analysis is a group of distinct futures, all of which are plausible. The challenge then is how to deal with each of the possible scenarios.

Scenario planning often takes place in a workshop setting of high level executives, technical experts, and industry leaders. The idea is to bring together a wide range of perspectives in order to consider scenarios other than the widely accepted forecasts. The scenario development process should include interviews with managers who later will formulate and implement strategies based on the scenario analysis - without their input the scenarios may leave out important details and not lead to action if they do not address issues important to those who will implement the strategy.

Some of the benefits of scenario planning include:

- Financial advisors are forced to break out of their standard world view, exposing blind spots that might otherwise be overlooked in the generally accepted forecast.
- Decision-makers are better able to recognize a scenario in its early stages, should it actually be the one that unfolds.
- Managers are better able to understand the source of disagreements that often occur when they are envisioning different scenarios without realizing it.

- **The Scenario Planning Process**

The following outlines the sequence of actions that may constitute the process of scenario planning.

1. Specify the scope of the planning and its time frame.
2. For the present situation, develop a clear understanding that will serve as the common departure point for each of the scenarios.
3. Identify predetermined elements that are virtually certain to occur and that will be driving forces.
4. Identify the critical uncertainties in the environmental variables. If the scope of the analysis is wide, these may be in the macro-environment, for example, political, economic, social, and technological factors (as in PEST).
5. Identify the more important drivers. One technique for doing so is as follows. Assign each environmental variable two numerical ratings: one rating for its range of variation and another for the strength of its impact on the company. Multiply these ratings together to arrive at a number that specifies the significance of each environmental factor. For example, consider the extreme case in which a variable had a very large range such that it might be rated a 10 on a scale of 1 to 10 for variation, but in which the variable had very little impact on the company so that the strength of impact rating would be a 1. Multiplying the two together would yield 10 out of a possible 100, revealing that the variable is not highly critical. After performing this calculation for all of the variables, identify the two having the highest significance.
6. Consider a few possible values for each variable, ranging between extremes while avoiding highly improbable values.
7. To analyze the interaction between the variables, develop a matrix of scenarios using the two most important variables and their possible values.

Each cell in the matrix then represents a single scenario. For easy reference in later discussion it is worthwhile to give each scenario a descriptive name. If there are more than two critical factors, a multidimensional matrix can be created to handle them but would be difficult to visualize beyond 2 or 3 dimensions.

Alternatively, factors can be taken in pairs to generate several two-dimensional matrices. A scenario matrix might look something like this:

### Scenario Matrix

		VARIABLE 1	
		Outcome 1A V	Outcome 1B V
V A R I A B L E 2	Outcome 2A -->	<i>Scenario 1</i>	<i>Scenario 2</i>
	Outcome 2B -->	<i>Scenario 3</i>	<i>Scenario 4</i>

One of these scenarios most likely will reflect the mainstream views of the future. The other scenarios will shed light on what else is possible.

At this point there is not any detail associated with these "first-generation" scenarios. They are simply high level descriptions of a combination of important environmental variables. Specifics can be generated by writing a story to develop each scenario starting from the present. The story should be internally consistent for the selected scenario so that it describes that particular future as realistically as possible. Experts in specific fields may be called upon to develop each story, possibly with the use of computer simulation models. Game theory may be used to gain an understanding of how each actor pursuing its own self interest might respond in the scenario. The goal of the stories is to transform the analysis from a simple matrix of the obvious range of environmental factors into decision scenarios useful for strategic planning.

Quantify the impact of each scenario on the company, and formulate appropriate strategies.

An additional step might be to assign a probability to each scenario. Opinions differ on whether one should attempt to assign probabilities when there may be little basis for determining them.

Business unit managers may not take scenarios seriously if they deviate too much from their preconceived view of the world. Many will prefer to rely on forecasts and their judgement, even if they realize that they may miss important changes in the company's environment. To overcome this reluctance to broaden their thinking, it is useful to create "phantom" scenarios that show the adverse results if the company was to base its decisions on the mainstream view while the reality turned out to be one of the other scenarios.

## 4.2 Synthesis

The term synthesis (from the ancient Greek σύνθεσις σύν [with] and θεσις [placing]) is used in many fields, usually to mean a process which combines two or more pre-existing elements and results in something new.

In terms of risk this activity would entail combining current risk factors in an effort to minimise them. Because of the nature of risk management processes, risk synthesis provides a wide variety of ways to mitigate risk.

## 4.3 Risk Management

Risk management is a structured approach to managing uncertainty related to a threat, through a sequence of human activities including: risk assessment, strategies development to manage it, and mitigation of risk using managerial resources.

The strategies include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk.

Some traditional risk managements are focused on risks stemming from physical or legal causes (e.g. natural disasters or fires, accidents, death and lawsuits). Financial risk management, on the other hand, focuses on risks that can be managed using traded financial instruments.

The objective of risk management is to reduce different risks related to a preselected domain to the level accepted by society. It may refer to numerous types of threats caused by environment, technology, humans, organizations and politics. On the other hand it involves all means available for humans, or in particular, for a risk management entity (person, staff, organization).

In ideal risk management, a prioritization process is followed whereby the risks with the greatest loss and the greatest probability of occurring are handled first, and risks with lower probability of occurrence and lower loss are handled in descending order. In practice the process can be very difficult, and balancing between risks with a high probability of occurrence but lower loss versus a risk with high loss but lower probability of occurrence can often be mishandled.

Intangible risk management identifies a new type of risk - a risk that has a 100% probability of occurring but is ignored by the organization due to a lack of identification ability. For example, when deficient knowledge is applied to a situation, a knowledge risk materialises.

Relationship risk appears when ineffective collaboration occurs. Process-engagement risk may be an issue when ineffective operational procedures are applied. These risks directly reduce the productivity of knowledge workers, decrease cost effectiveness, profitability, service, quality, reputation, brand value, and earnings quality. Intangible risk management allows risk management to create immediate value from the identification and reduction of risks that reduce productivity.

Risk management also faces difficulties allocating resources. This is the idea of opportunity cost. Resources spent on risk management could have been spent on more profitable activities. Again, ideal risk management minimizes spending while maximizing the reduction of the negative effects of risks.



## 4.4 Risk Management process

Establishing the context involves:

1. Identification of risk in a selected domain of interest
2. Planning the remainder of the process.
3. Mapping out the following:
  - the social scope of risk management
  - the identity and objectives of stakeholders
  - the basis upon which risks will be evaluated, constraints.
4. Defining a framework for the activity and an agenda for identification.
5. Developing an analysis of risks involved in the process.
6. Mitigation of risks using available technological, human and organizational resources.

### Potential risk treatments

Once risks have been identified and assessed, all techniques to manage the risk fall into one or more of these four major categories:

- Avoidance (elimination)
- Reduction (mitigation)
- Retention (acceptance)
- Transfer (buying insurance)

Ideal use of these strategies may not be possible. Some of them may involve trade-offs that are not acceptable to the organization or person making the risk management decisions. Another source, from the US Department of Defense, Defense Acquisition University, calls these categories ACAT, for Avoid, Control, Accept, or Transfer.

- **Risk avoidance**

Includes not performing an activity that could carry risk. An example would be not buying a property or business in order to not take on the liability that comes with it. Another would be not flying in order to not take the risk that the airplane was to be hijacked. Avoidance may seem the answer to all risks, but avoiding risks also means losing out on the potential gain that accepting (retaining) the risk may have allowed. Not entering a business to avoid the risk of loss also avoids the possibility of earning profits.

- **Risk reduction**

Involves methods that reduce the severity of the loss or the likelihood of the loss from occurring. Examples include sprinklers designed to put out a fire to reduce the risk of loss by fire. This method may cause a greater loss by water damage and therefore may not be suitable. Halon fire suppression systems may mitigate that risk, but the cost may be prohibitive as a strategy.

Modern software development methodologies reduce risk by developing and delivering software incrementally. Early methodologies suffered from the fact that they only delivered software in the final phase of development; any problems encountered in earlier phases meant costly rework and often jeopardized the whole project. By developing in iterations, software projects can limit effort wasted to a single iteration.

Outsourcing could be an example of risk reduction if the outsourcer can demonstrate higher capability at managing or reducing risks. In this case companies outsource only some of their departmental needs. For example, a company may outsource only its software development, the manufacturing of hard goods, or customer support needs to another company, while handling the business management itself. This way, the company can concentrate more on business development without having to worry as much about the manufacturing process, managing the development team, or finding a physical location for a call center.

- **Risk retention**

Involves accepting the loss when it occurs. True self insurance falls in this category. Risk retention is a viable strategy for small risks where the cost of insuring against the risk would be greater over time than the total losses sustained. All risks that are not avoided or transferred are retained by default. This includes risks that are so large or catastrophic that they either cannot be insured against or the premiums would be infeasible. War is an example since most property and risks are not insured against war, so the loss attributed by war is retained by the insured. Also any amounts of potential loss (risk) over the amount insured are retained risk. This may also be acceptable if the chance of a very large loss is small or if the cost to insure for greater coverage amounts is so great it would hinder the goals of the organization too much.

- **Risk transfer**

Means causing another party to accept the risk, typically by contract or by hedging. Insurance is one type of risk transfer that uses contracts. Other times it may involve contract language that transfers a risk to another party without the payment of an insurance premium. Liability among construction or other contractors is very often transferred this way. On the other hand, taking offsetting positions in derivatives is typically how companies use hedging to financially manage risk. Some ways of managing risk fall into multiple categories. Risk retention pools are technically retaining the risk for the group, but spreading it over the whole group involves transfer among individual members of the group. This is different from traditional insurance, in that no premium is exchanged between members of the group up front, but instead losses are assessed to all members of the group.

#### **4.5 Enterprise risk management**

In enterprise risk management, a risk is defined as a possible event or circumstance that can have negative influences on the enterprise in question. Its impact can be on the very existence, the resources (human and capital), the products and services, or the customers of the enterprise, as well as external impacts on society, markets, or the environment. In a financial institution, enterprise risk management is normally thought of as the combination of credit risk, interest rate risk or asset liability management, market risk, and operational risk.

In the more general case, every probable risk can have a pre-formulated plan to deal with its possible consequences (to ensure contingency if the risk becomes a liability).

From the information above and the average cost per employee over time, or cost accrual ratio, a project manager can estimate:

- the cost associated with the risk if it arises, estimated by multiplying employee costs per unit time by the estimated time lost (cost impact, C where  $C = \text{cost accrual ratio} \times S$ ).
- the probable increase in time associated with a risk (schedule variance due to risk,  $R_s$  where  $R_s = P \times S$ ):
- Sorting on this value puts the highest risks to the schedule first. This is intended to cause the greatest risks to the project to be attempted first so that risk is minimized as quickly as possible.
- This is slightly misleading as schedule variances with a large P and small S and vice versa is not equivalent. (The risk of the RMS Titanic sinking vs. the passengers' meals being served at slightly the wrong time).
- the probable increase in cost associated with a risk (cost variance due to risk,  $R_c$  where  $R_c = P \times C = P \times \text{CAR} \times S = P \times S \times \text{CAR}$ )
- sorting on this value puts the highest risks to the budget first.

#### 4.6 Risk management and business continuity

Risk management is simply a practice of systematically selecting cost effective approaches for minimising the effect of threat realization to the organization. All risks can never be fully avoided or mitigated simply because of financial and practical limitations. Therefore all organizations have to accept some level of residual risks. Whereas risk management tends to be preemptive, business continuity planning (BCP) was invented to deal with the consequences of realised residual risks. The necessity to have BCP in place arises because even very unlikely events will occur if given enough time. Risk management and BCP are often mistakenly seen as rivals or overlapping practices. In fact these processes are so tightly tied together that such separation seems artificial. For example, the risk management process creates important inputs for the BCP (assets, impact assessments, cost estimates etc). Risk management also proposes applicable controls for the observed risks. Therefore, risk management covers several areas that are vital for the BCP process. However, the BCP process goes beyond risk management's pre-emptive approach and moves on from the assumption that the disaster will realize at some point.

##### Bibliography

Merill E Douglass and Donna N Douglass, *Manage your Time, Manage your Work, Manage Yourself*: (New York: AMACOM 1980), P14 – 72, 109 – 121  
 Covey, Stephen R, *First Things First* (New York: 1994), P79 – 101  
 Chew, I.K. & Chong, P. (December, 1999). Effects of Strategic Human Resource Management on Strategic Vision. *International Journal of Human Resource Management*. 10(6), p.1031-1045.  
 Grazier, P. (2005). Team Motivation. World Wide Web ([www.teambuildinginc.com/article.htm](http://www.teambuildinginc.com/article.htm))  
 Harris & Sherblom. *Small Group and Team Communication*. World Wide Web ([www.jasonlind.com/126Chap11.htm](http://www.jasonlind.com/126Chap11.htm))  
 Hargie, O., Dickson, D. & Tourish, D. (2004). *Communication Skills for Effective Management*. Palgrave MacMillan: New York.  
 South African Qualifications Authority, (SAQA), World Wide Web, [www.saqa.gov.org](http://www.saqa.gov.org), Qualifications and Unit Standards  
 Imfundo material developed with funding from INSETA.