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Executive summary

This paper proposes that RMIT trial the ‘scenario planning’ management tool with a view to incorporating scenario planning into annual faculty and departmental planning processes.

A number of different scenario planning models have been presented in academic and management journals. This paper proposes that RMIT adopt the most widely known and well-founded model of scenario planning, which is that developed by the Shell petrochemical company.

The paper concludes with a presentation of some example scenarios that are relevant to the tertiary education sector in Australia, and some example scenarios from other industries for comparison.
Definition of scenario planning

Scenario planning is a managerial tool used to anticipate structural change and plan for the consequences of structural change in the economic, social and industrial environment.

History of scenario planning

Scenario planning originated in the military field, becoming a discipline in its own right via the research institutes that were set up immediately after World War Two. Pioneers in the area include the Stanford Research Institute (SRI), founded in 1947, and the RAND Corporation, founded in 1948.1 A number of different planning techniques were considered or developed by these institutions, including:

- **Numerical forecasting** Predicting quantitative data by modelling and extending current trends;2
- **Resource allocation and project planning** These approaches are the more straightforward processes focusing primarily on allocating resources to tasks;3
- **Delphic methods** Asking a panel of experts to independently forecast the future, then attempts to reconcile the differing views;4
- **Boston matrix** This approach, also known as the “Growth-Share matrix”, identifies businesses in terms of market share and growth potential;5 and,
- **Scenario planning** This term describes a process whereby groups discuss and develop scenarios involving significant current trends, likely future developments and the consequences of those developments.

Early adopters of scenario planning for industry include Shell, IBM and General Motors;6 indeed, Shell’s approach to the methodology is widely accepted as the touchstone of good planning practice.7 This paper therefore proposes that RMIT should use the Shell approach to scenario planning as a template.

Recommended approach for RMIT: the Shell methodology

The description in this section is taken from Ringland (2001, pp.303-308). The description explains the four step scenario planning process that Shell uses as part of the company’s strategic planning.

1. **Select the issues.** This process is also known as the “environmental scan”. Its purpose is, as the name suggests, to scan the organisation’s environment to identify relevant issues for the future. Some issues will be common to all scenarios (for example, economic growth, product demand and energy prices appear in most Shell scenarios), while others will reflect changing events or particular concerns. A big challenge is to find those issues that will be of greatest value by the time the scenarios are being used.
2. **Analyse the areas of concern.** This will help determine the driving forces, predetermined elements, critical uncertainties, possible discontinuities and linkages with other areas of the business. That can include a range of factors such as energy, social change and the environment.

3. **Organise the scenario around a logical concept.** This helps define a scenario and makes sure all the elements are consistent. It also helps establish a basic message such as growing environmentalism.

4. **Focus on the scenario.** Establish defined boundaries for the scenarios in terms of time frames, geographic regions, industries, business sectors or major project to bring them into sharper focus. While decision-makers should see their concerns reflected in the scenarios, the scenarios should also enable them to further new understanding.

The aim of this scenario planning process is to improve decision-making by presenting managers with credible views of the future so that current decisions can be made on the basis of more information.

**RMIT’s environmental scan**

As Pierre Wack, former head of the Business Environment Division at Shell and co-developer of the Shell’s scenario planning methodology, observed: “Scenario analysis demands first that managers understand the forces driving their business systems”.

This means that the first task is to understand the range of current events and how they relate to each other – i.e., understanding of current environment forms the starting point for the subsequent scenario analysis.

Wack’s paper *Scenarios: shooting the rapids* (included as an attachment to this paper) describes a scenario analysis conducted in Shell in 1975, shortly after the oil price shocks of 1973 and 1974. That analysis characterised the environment at the time in the following terms:

- Record levels of historical economic growth;
- High inflation;
- Lower incomes as higher oil prices act as an OPEC-imposed income tax; and,
- Looming elections that led to a political requirement to swiftly reflate stagnating economies.

If the same environmental scan were applied to RMIT’s market environment in 2002, the following key factors might be considered “deterministic” (this analysis is based on the conclusions drawn in the recent *Case for change: scale, relevance and responsiveness* paper):

- Significant growth in demand for tertiary education;
- Declining government funding
- Changing expectations of tertiary education, with respect to relevance, utility and efficiency of educational outputs; and,
• Changing market structure in terms of increased numbers of providers (via overseas providers entering the Australian market as RMIT is entering overseas markets such as Vietnam) and in terms of the size of the providers against which RMIT must compete (larger consortia of educational providers are emerging which can achieve significantly better economies of scale).

If the same environmental scan were applied to RMIT University’s economic environment in 2002, the following key factors might be considered “deterministic”:

• Declining economic growth; and,
• Rising prices.

These trends are shown in Figure 1 below.

**Figure 1: Australian macroeconomic indicators, 1987-2001**

This simple, initial analysis of the business environment would be a starting point for a more detailed environmental analysis to be conducted by the group(s) involved in the scenario planning itself.
Scenario planning: example scenarios for RMIT

A number of scenarios can be considered by groups within RMIT University: to a large extent, the scenarios to be considered will be determined by the outcomes of the business environment scan as described in the previous section. Notwithstanding this, caveat, however, four initial scenarios are presented here for consideration.

These scenarios incorporate considerations presented in the “Challenges for the [tertiary education] sector” section of the recent *Case for change: scale, relevance and responsiveness* paper.

Scenario 1: Nationalism, regulation, anti-globalism, protectionism

- Centre-left pressure groups lead to a right-wing revival
- Right-wing revival leads to nationalist mind-set, including regulation and protectionism
- Aus exports plummet, costs of imported and local goods increase, leading to a recession
- Globalism scapegoated for economic decline
- Anti-western and anti-capitalist pressures increase
- United States becomes isolationist and is happy to see conflict limited to “ally” (buffer) states such as Australia

Scenario 2: GATS doubles the number of universities in Australia

- Downward price pressure on student fees
- Australian unis expand offshore
- Productivity gains are forced (via “courseware” type software)
- Current “leading brand” unis are overtaken by new “brand leaders”

Scenario 3: “Green goes mainstream”

- Students boycott “non-green” universities
- Students boycott “non-green” disciplines
- Industry pressures government to allow more skilled migrants to replace the graduates who are rejecting “non-green” workplaces

Scenario 4: Economic meltdown in the US

- International trade falls as nations protect domestic industries
- In Aus, employment falls while mature age student demand rises as the retrenched try to re-train
- Uni costs rise with inflation while the real value of revenue falls
- Demand for non-commercial courses falls
- Industry funding for research falls
Scenario planning: other practitioners

A number of users have developed their own interpretations of how scenario planning should be applied in practice. There is no single generally accepted approach, and the field of scenario planning is characterised by the large number of “standard” approaches as each exponent of the technique attempts to achieve supremacy for their particular system. An overview of some of the alternative approaches to that proposed by Shell is provided in the following sections.

“Trend-impact approach” (Futures Group / Ringland p.223ff)

The Futures Group is a US-based management, marketing, research and strategic planning organisation founded in 1971.

1. **Define the focus** Essentially, this step asks the question “What planning or decisions issue are you trying to address?”

2. **Chart the driving forces** Identify the forces and developments which have the greatest ability to shape future developments.

3. **Construct a “scenario space”** The scenario space is a collection of scenarios which all represent credible alternative outcomes.

4. **Select the alternative worlds** This step involves identifying a range of major challenges and opportunities which may impact on the scenarios.

5. **Prepare the forecasts** List all the events required to bring each scenario about, and project a time-frame for indicator variables which predict each scenario.

The “Boston matrix” (ICL / Ringland)

ICL are a computer technology company whose origins lie in a business machines company founded in 1951.

1. **Identify the market characteristics** Is the market in which the company operates mature (low growth) or new (high growth?)

2. **Identify the market share** Does the company have a high or low market share in this market?

3. **Position the company on the Boston matrix** The Boston matrix shows four quadrants: market growth is typically shown on the vertical axis, and market share is typically shown on the horizontal axis. Companies are then characterised as “stars” (high market growth & high market share), “cash cows” (low market growth and high market share), “dogs” (low market growth and low market share) and “questions marks” (low market share and high market growth – these are the companies to divest if they cannot be upgraded to the status of “stars”).
**The art of the long view** (Global Business Network / Ringland p.227ff)

GBN is a California-based strategy consultancy founded by Peter Schwartz, formerly of Shell, and Jay Ogilvy, formerly of SRI, in 1987.

1. **Identify focal issue or decision** The approach should be “from the inside out”, ie identify a specific issue then build out towards the environment.

2. **Identify key factors in the local environment** These are the key factors which influence the success or failure of the focal issue.

3. **List and rank the drivers** These drivers impact on the key factors identified in step 2 and are ranked on two scales: firstly, according to how strongly they impact on the key factors, and secondly, according to how likely they are to occur.

4. **Select the scenario logics** The rankings in step 3 determine the key drivers: these are mapped onto a matrix and are used to determine the scenario outcomes (for example, if fuel prices are a key driver, the scenarios considered must all contain situations with the logical outcomes of high fuel prices).

5. **Flesh out the scenarios** This steps adds more detail to the scenarios under consideration.

6. **Discuss implications** At this point, the original issue or decision identified in step 1 is reviewed in light of the likely scenarios which have been identified.

7. **Select leading indicators** Once the various scenarios have been fleshed out and considered, the final step is to identify signposts which will give an early indication of which scenario is the most likely to come about.

**Scenarios as illustrations** (Coates & Jarratt Consulting / Coates)

Coates & Jarrett and a Washington DC-based consulting firm.

1. **Set the boundaries** In this stage, practitioners should define the limits of the problem they are considering, for example, the future of the automobile, worldwide, in 2015.

2. **Define the variables** This identifies only those variables that are relevant to the problem addressed in step 1.

3. **Identify the themes** This is a judgemental and creative step which depends to a degree on experience in the process. In general, 8 to 10 themes are enough: an example of theme would be “environmentalism dominates car design”.

4. **Create and review the scenarios** The scenarios are written as either reports, or in letter or memo format, and then reviewed, and ultimately circulated to stimulate thinking.
The “Prospective process” (Futuribles Group / De Jouvenal)

The Futuribles Group is an independent think tank based in France and founded in 1960. The Futuribles Group focuses on the current and future shape of society.

1. **Define the problem and time horizon** There are no fixed rules for defining the time horizon: De Jouvenal recommends “a heavy dose of common senses and pragmatism” as the guide.

2. **Define the key variables and construct the system** This means in practice a multidisciplinary team identifying a number of key variables, then drawing up a matrix showing how each variable impacts on the other variables (in terms of both strength and direction of causation).

3. **Draft hypotheses and gather data** This is, according to De Jouvenal, “the most cumbersome stage”: in practice it means identifying the past development of the variables, their current trends and factors which will impact on those trends.

4. **Explore possible futures** This implies canvassing a number of options: tree diagrams are often used to facilitate this process.

5. **Outline strategic choices** The exercise should not dictate what decision-makers should do, but rather shed light on the general direction to take and the major trends, uncertainties and challenges that may be encountered.

“The Stanford Research Institute (SRI) is a US-based think tank set up in 1947. Shell (Royal / Dutch Shell) is a multinational petrochemical company whose origins lie in a single store in London that opened in 1833.

1. **Strategic decision** Identify the strategic decision to be considered

2. **Influencing factors** Identify the key influencing factors which management would like to understand to make a good decision.

3. **Environmental forces** Identify the market and macro-level environmental forces which will shape the future business environment.

4. **Develop scenario logics** This step follows through likely scenario outcomes in the light of the influencing factors and environmental forces.

5. **Describe the scenarios** This stage presents the scenarios as “stories” with quantification of key outputs for consideration by decision-makers.
Scenario planning: example scenarios

This section presents some example scenarios from a number of sources.

**Accenture**

Accenture are a multinational consulting firm. Accenture were previously Andersen Consulting, and before that part of the Arthur Andersen accounting firm. The following four scenarios are taken from Accenture’s “Business in a fragile world” study and describe possible developments in international economics, international trade and international relations.

**Common ground**

- Economic growth slow; wealth shared more equally; greater tolerance of diversity; conflict is reduced; costs of tax and bureaucracy are high.

**Survival of the fittest**

- Free market ethos spreads; regulation and taxation are light; competition is fierce; inequalities widen; America and “big business” are resented.

**Tempestuous times**

- Economic liberalisation leads to greater tension; dialogue between governments, business and society ceases; some prosper, many left behind; much conflict and security is the major issue for business and individuals.

**Worlds apart**

- Countries withdraw into protectionism and partial reversal of market reforms; large countries cope better than small countries; living standards fall.

**McKinsey**

McKinsey are a multinational consultancy firm founded in 1926. The following four scenarios were created for an automobile manufacturer in America.

**Long drive Detroit**

- Traditional muscle cars thrive and traditional brand loyalties endure

**Engineer’s challenge**

- Increased demand for traditional cars with much greater fuel efficiency

**Green highways**

- Electric, fuel cell and hybrid cars become popular

**Foreign competition**

- Increased demand for lighter, sportier cars
The Australian National Training Authority (ANTA) is a Commonwealth body that focuses on vocational education and training. The following scenarios are taken from their “Focus on the future” report on future trends affecting Australia.

**Oz Inc**
- Economic boom of late 1990s continues, with increasing privatisation
- Government’s usefulness questioned
- Majority of Australians pursue share portfolios
- Over 65s have too little super and re-enter the workforce
- Boom in personal services industries
- Public education replaced by “user pays” private education
- Some courses automated and delivered via the internet
- The VET providers which survive are those which have allied themselves with companies

**Universal training**
- Economic boom as third world debt is cancelled (excluding Africa)
- Australia does away with company taxes, GST rises to 30%
- Australia is one of the top “quality of life” countries in the world
- Work becomes “tele-work” and largely short-term contractual
- The boundaries between VET and unis disappear, private-public partnerships are the dominant education funding model
- Learning providers can be located in any country
- “Education brokering” (ie mixing and matching units) replaces most of the traditional “fixed format” teaching courses

**A community of learning**
- Economic boom continues though warning signs appear
- Privatisation and de-regulation (incl. the education sector) continue
- Free trade conflicts marginalise small players (ie Australia)
- Australia becomes poorer, protectionist and spends less on education
- Australia pursues “self-sufficiency” and concentrates education funding on basic schooling only. This strategy apparently leads to a “platform on which a sound economic and educational future can begin to be constructed”. The logic for this is: “the only way is up”.


**Australian Business Foundation**

The Australian Business Foundation (ABF) is an Australian private sector think tank that aims to foster support and research for Australian industry.

**First global nation**
- Theme: Australia leverages a place in the global market and affairs of nations despite its small size and distant location.
- World events: Competition rises, competitive advantage declines as knowledge becomes more accessible, globalisation continues; a networked economy promotes the free flow of goods, capital, people and information; social cohesion declines and elites emerge; biotech becomes the technology driver; companies outsource all but the client-facing activities (brand, marketing, etc.); no-one saves, they shop and travel and “live for now”; the rise of the entrepreneur challenges traditional industries; world peace & environmental harmony arrive.
- Australian events: Aggressive privatisation and outsourcing continue; this makes government efficient and frees resources to invest in high-tech infrastructure; Australian outsourcing expertise in demand overseas; immigration increases; urban males previously employed in skilled manufacturing now unemployed; income-elites happy to pay the unemployed for personal security reasons.

**Sound the retreat!**
- Theme: worldwide retreat from globalisation, trade barriers revived and resurgence of nationalism.
- World events: WTO loses credibility; protectionism returns; IT companies fail as global markets are closed to competition; stock prices crash; American foreign policy polarises the world, creating a China / India / Russia alliance.
- Australian events: reducing tariffs caused job losses; protectionism was re-introduced; politically, Australia attempted the “do nothing” neutrality of Switzerland (except for compliance with America on security issues); exports and the IT industry plummet, immigration is capped to try and reduce unemployment; right-wing protectionism and nationalism follow.

**Brave old world**
- Theme: worldwide globalisation continues but Australia’s “laissez faire” approach leaves it on the sidelines.
- World events: markets become borderless and consumer choice increases; comparative advantage and information ownership are short-lived; businesses become more mobile.
- Australian events: equivocation on economic and social policy leads to inactivity, industrial decline and unemployment; protectionism returns and “economic reform fatigue” sets in; the remaining significant companies relocate overseas.
Green is gold

- Theme: the urge to protect the natural environment in the face of a globalised economy leads to a new focus on achieving sustainability.

- World events: coal is replaced by gas; competition drives down energy prices; suppliers cut safety to protect margins; reliability of supply falls and emissions rise; “reactive” and ad hoc environmental policies are replaced by “proactive” policies, led by the UN; ethical NGOs become stronger.

- Australian events: survival via healthy bottom line is replace by survival via sustainable environmental policies; pollution increases; extreme weather events increase; environmental scare campaigns proliferate; companies and government become green and Australia becomes the preferred location for companies seeking a green image.
References

ABS (2002) Ausstats database
Accenture (undated) Business in a fragile world
ANTA (undated) Focus on the Future of Vocational Education and Training – Scenario Planning Project
Calderon & Webster (2002) The case for change: scale relevance and responsiveness
Coates (2000) Scenario planning, Technological forecasting and social change, 65, 115-123
Ringland (2001) Scenario planning: managing for the future
Van der Heijden (1999) Scenarios: the art of strategic conversation
Notes

5 Ringland (2001, p.17).
7 “Shell is the most widely admired, and certainly the best known user of corporate scenarios in the world”. Coates (2000, p.119).
8 Wack (1985, p.3).
10 Accenture (undated) Business in a fragile world
12 ANTA (undated) Focus on the future of vocational education and training: scenario planning project.