

A Process for Policy Development

Notes prepared by:

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Comments are welcomed.

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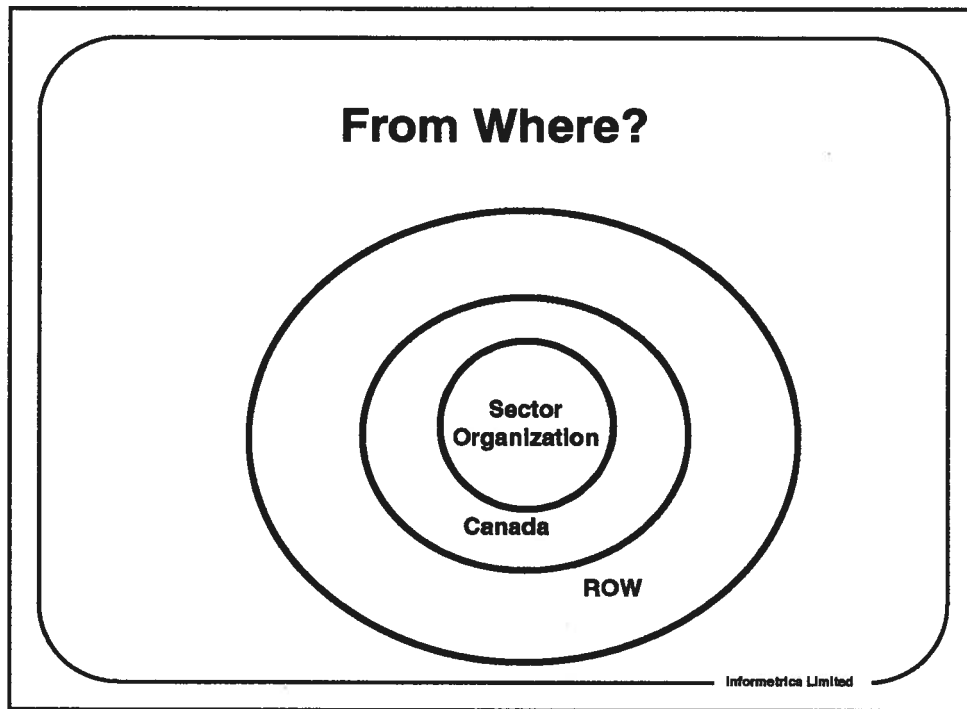
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Elements for Discussion

- **What are the Issues?**
- **What are the Impacts of the Technology?**
- **What might happen?**
- **What policies are needed ?**

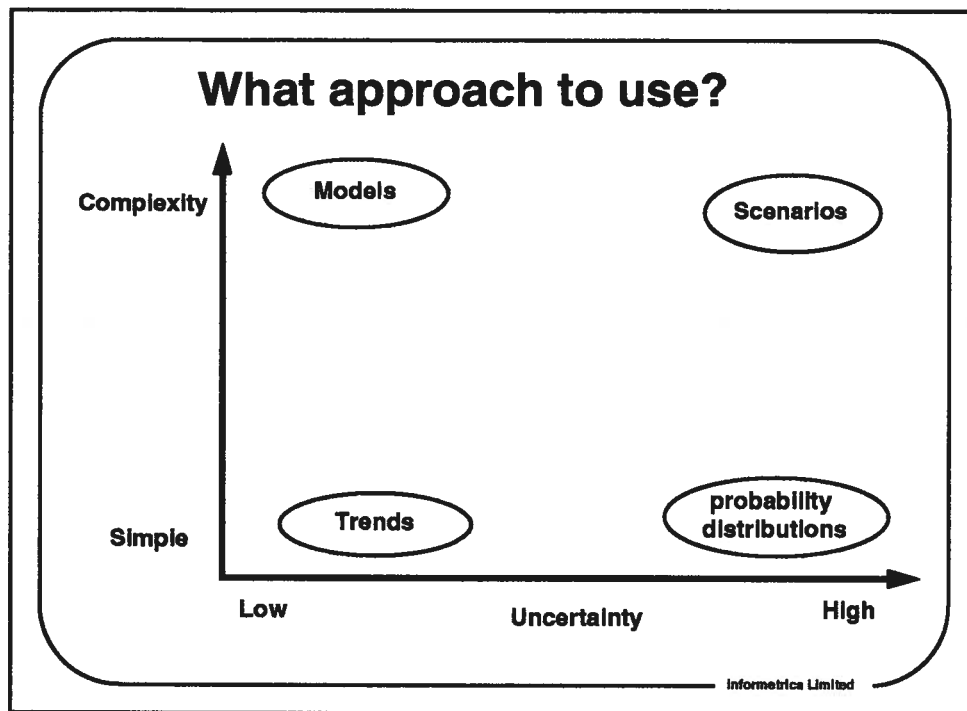
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The perspective for developing the scenario requires the “placement” of the sector or organization in its Canadian context and relative to forces from the rest of the world (ROW).

This context will vary depending on the source of markets, the policy concerns, etc. of a particular organization.

It also matters about the nature of the issues being addressed. In some cases the international or global forces will be the dominant consideration. In others, it may be a local driving force that influences the scenario choices.



Two dimensions - complexity and uncertainty that face the forecaster.

What to do about them?

Complexity is the notion that everything is connected to everything else. In economist's jargon it is the notion of interdependence or simultaneity.

The approach is to use a model or a collection of equations to represent these connections and to keep track of them in a forecast.

If there is not much complexity, then a more straight-forward method can be used such as trend extrapolation or other forecasting techniques.

Uncertainty is a different dimension. It describes the notion of a lack of information about the nature of the linkage between one variable and another, or a lack of information about future values of a factor or driving force. With uncertainty, the forecasting process becomes more complicated, with the introduction of terms like 'stochastic' modelling.

But for practical purposes, we can make some progress by recognizing in most real-life economic forecasting situations:

- We don't know the future values of a number of different things
- And we know that the linkages between different parts of the economy are not fixed and immutable laws of physics but rather continually evolving and complicated relationships.
- As a result we can resort to scenarios to make some progress.

What is a scenario?

- **A Perception device**
- **Not a forecast with probability distributions**
- **A set of reasonably plausible, but structurally different futures**
- **Developed through causal, not probabilistic thinking**
- **Different scenarios are treated as equally likely and should be given equal weight in decision-making**

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“Scenario planning is ... a natural thinking tool for use in a strategic conversation.” Kees van der Heijden, **Scenarios: The Art of Strategic Conversations** (Wiley, 1996), p.41

The notion of “equally plausible” is important, since it is this property that makes it necessary to consider all of the scenarios while developing organizational strategies.

Writing Scenarios

- **What are the Issues?**
- **Who are the Stakeholders?**
- **What Matters?**
- **What are the Drivers?**
- **Early Trends?**
- **Learning Scenarios**
- **Decision Scenarios**
- **What still needs to be identified?**

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In writing scenarios, it is usually best to start with the major concerns or issues facing the organization or group.

Identification of the Stakeholders can add to the story, including the consideration of varying reactions from different groups.

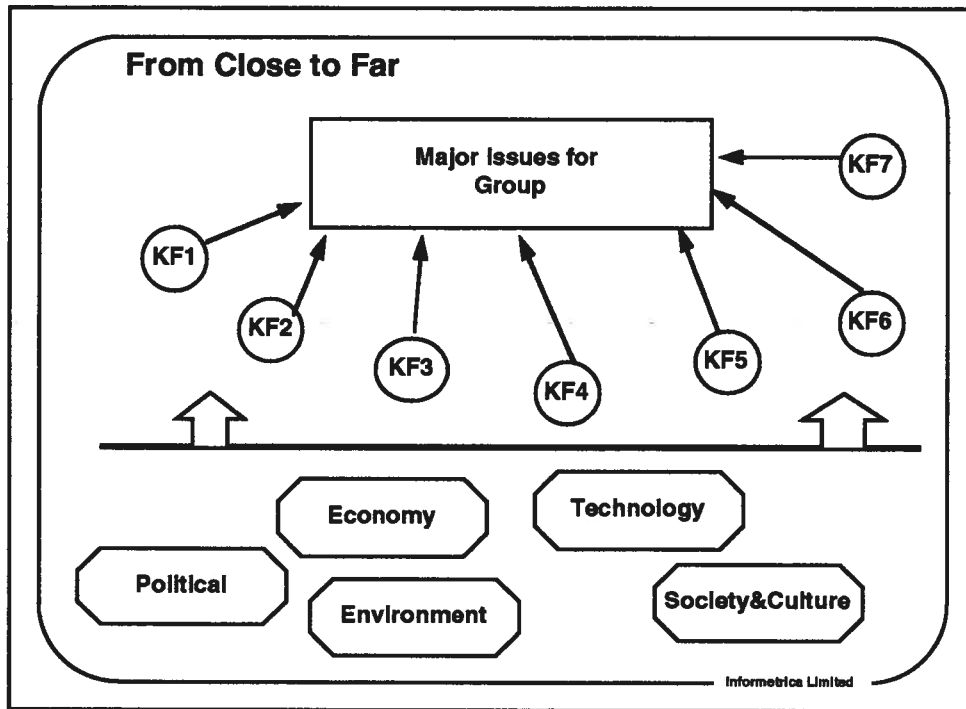
A certain consistency or thrust is helpful in a scenario, since it is unlikely that only one factor will move in the same direction. For example, rising unemployment is likely to be associated with more social assistance and rising disaffection of some with governments.

Identification of tension between social groups or highlighting of tradeoffs is also helpful in a scenario.

Early trends - Is there any evidence that suggests that some elements of a scenario are already underway? This is not necessary, but it can be helpful in creating interest and focuses attention on determining whether certain trends are consistent with one or more scenarios.

An iterative process is likely, given the need to refine the scenarios or to tailor them to the needs of a particular group. That is why we mention the notion of learning scenarios followed by decision scenarios that are developed in subsequent iterations.

As well, there will be unknown elements which require further investigation.



To bring these concepts together, consider the following diagram, and starting with the “major issues” box.

Important issues are for the group to identify. As a starting point we have taken several dimensions of economic performance as the major issues.

Key factors (KF) are those that directly impinge on the major issues. Usually there is some possibility of affecting the way in which the key factor affects the issues, or even in choosing different levels of the key factor.

Driving forces in turn affect one or more of the key factors, either directly or in a more roundabout manner. Some of the obvious groupings of driving forces can be considered under the labels of economic, society & culture, political, environmental, and technology,

Other **driving forces** could include international agreements, actions outside of Canada by international organizations, globalization of business decisions, etc.

Major Biotech Issues

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Major Biotech Stakeholders

- **Governments**
 - Federal - Health, Industry, Agriculture, Forestry, DFO, Environment
 - Provincial - consumer, health, environment
 - Local - Water treatment, health
- **Publics - Consumers, citizens**
- **Industries - biotech, pharmaceutical, ag, fo, fs, mi, ma,**
- **Health Care**

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Driving Forces

- **Society**
- **Culture**
- **Economy**
- **Politics**
- **Environment**
- **Technology**

Distinction between “outside” and “inside” communities

**Predetermined versus uncertainties
(Hopes and fears for the future)**

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A general set of categories that help to organize the various driving forces are as follows.

Let's look at each category more closely.

Biotech Driving Forces

- **Intellectual property laws**
- **R&D**
- **Human Genome Project**
- **Global research regime**
- **Public perceptions of bio-hazards**
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Model Uncertainties

- **Snippets**
- **Agreed-on linkages**
- **Contested linkages**
- **A model is a collection of many snippets**

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The Scenario Steps- I

- **What are the major issues?**
 - Time frame
- **Who are the stakeholders?**
- **What matters?**
 - Identify the "Key Factors"
- **What are the "drivers"?**
 - What goes together?
 - What clashes?

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There are some additional steps that we will cover later..

The Scenario Steps - II

- **New Key Factors**
- **New Driving Forces**
 - **Uncertainties**
 - **Trends**
- **Most important**
 - **Key Factors**
 - **Driving Forces**
- **Estimates and ranges for major Uncertainties**
- **Most important and most uncertain Driving Forces:**
 - **What defines the scenarios ?**

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Emerging Scenarios

From Learning to Decision Scenarios

- **Name changes**
- **New elements**
- **More than two?**
- **Not three?**

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The Scenario Steps - III

- **Fleshing out the scenarios**
 - **Specific activities or decisions that affect the story**
 - **Key government decisions**
 - **Actions by other stakeholders**
 - **Other events and actions**
- **Early Trends?**
- **Remaining research questions?**
- **Plan to refresh scenarios**

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Other Events and Actions

- **Other Driving Forces**
- **Context of Trends**
- **Organizational and Institutional changes**
- **Others**

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Context - even trends are part of the story. For example, continued growth of the underground economy might be part of both scenarios and would affect some sectors more than others.

Devolution of federal responsibilities in other areas may also be part of both scenarios.

