CRITICAL SUCCESS FACTORS FOR GOVERNMENT LED FORESIGHT

Jonathan Calof and Jack E. Smith

Professor Jonathan Calof, Telfer School of Management, University of Ottawa; calof@telfer.uottawa.ca;
Jack Smith, Senior Advisor Federal Foresight and Innovation Strategy, Defence R&D Canada; Jack.Smith@drdc-rddc.gc.ca;

Summary

Between 2005-2007, a team of researchers coordinated by Canada's Office of the National Science Advisor and the Telfer School of Management at the University of Ottawa and supported by Agriculture Canada and The Smart Economy Project 1 conducted two surveys of 30 selected international foresight practitioners and nine leading foresight organizations that examined a range of best practices for government led foresight development. What is defined as foresight program success and what are the best practices associated with success are two of the elements of these studies that are reported on in this paper.

The overall conclusion is that methodology, appropriate budget and techniques alone are insufficient to result in foresight program success, which, based on the results of interviews, is ultimately defined as program impact on government policy and simple survival and growth of the foresight function.

To be regarded as successful, government led foresight programs need to focus on a clearly identified client, and there needs to be a clear link between the foresight (topic and process) and the government's policy agenda. As well, the program should: have a direct link to a spectrum of senior policy makers, (i.e. not just those from a single department); provide methodologies and skills that are novel or at least are not always used in most departments; and have an element of public-private collaboration and/or direct government-industry cooperation. Finally, successful foresight includes a clear communication strategy and integrates stakeholders into the program as early as possible and retains them until the impact has been realized.

The second survey confirmed these requirements and added an additional element – existence of an academic receptor capacity for foresight.

While the paper is quite confident in its focus on those factors which enable foresight to be successful once launched by government, it is less clear on the necessary pre-conditions for initiating foresight that can be positioned for success.

In this context, the authors conclude the paper by identifying a series of questions that will require further research to confirm the influence of political-foundational and mandate factors on foresight structure, delivery strategies and operational positioning.

1 The authors appreciate the financial support and research work that Leah Soroka of Agriculture and Agrifood Canada and Walter Derzko of the Smart Economy project provided that enabled the Second Study to be undertaken which extended and amplified their earlier results, and elaborated many pertinent details that time and resources were unable to cover during the first study.

THEME: THE USE AND IMPACT OF FTA FOR POLICY AND DECISION MAKING

- 1 -
1 Introduction

Canada has devoted considerable energy to understanding the why and wherefore of foresight, largely as a prelude to asking what would be useful to do and how might it be resourced and scoped to connect to emerging policy challenges. A review of the literature reveals much in the way of foresight methodology and rational for foresight but little in the way of what the factors are that lead to foresight success? As well, as will be reported later in this paper, even the concept of what is foresight success does not appear to be well defined. Accordingly, this paper reports on a series of studies that examine successful foresight programs.

What the paper does is analyze the key operational success factors that appear to determine whether foresight, once launched by a government, can be successful and why. In this approach, we are not attempting to question the degree to which the prevailing political-foundational context is supportive, since we wish to focus on the success determinants once the basic context has been already or mostly assured and in place.

2 Foresight: How is Success Defined?

At the most basic level, success can be defined as attainment of the foresight programs goals. The problem is that as past studies have found there are numerous and diverse goals. A review by the authors of reports done on mapping foresight by the European Foresight Monitoring Network, (EFMN) reveals the wide range of objectives that different nations and members of the European Community have used to guide their foresight designs.2

<table>
<thead>
<tr>
<th>TABLE 2: FORESIGHT (&amp; FTA) OBJECTIVES REPORTED BY THE EUROPEAN FORESIGHT MONITORING NETWORK</th>
</tr>
</thead>
</table>

(a) Quality of products
• Produce future-oriented material for the system to use
• Development of reference material for policymakers and other innovation actors
• Creating a language and practice for thinking about the future
• More informed science, technology and innovation priorities
• A source of inspiration for policy system actors

2 See the web site of the European Foresight Monitoring Network: http://www.foresight-network.eu;
(b) Organisation and quality of social interactions

- Aid discussions of the future
- Facilitate thinking out of the box
- Challenge mindsets
- Creation of new networks and clusters, re-positioning of existing ones
- Establishment of communication structures between innovation actors
- Support the empowerment of system actors
- Contribute towards development of actor identities

(c) Impacts in terms of learning effects

- Support system actors to create their own futures
- Creating a shared vision
- Gain insights into complex interactions and emerging drivers of change
- Build trust between system actors
- Detect and analyse weak signals to ‘foresee’ changes in the future
- Facilitate better understanding of potential disruptive change
- Provide anticipatory intelligence to system actors
- Development of new ways of thinking
- Collective learning through an open exchange of experiences
- Highlighting the need for a systemic approach to both policymaking and innovation
- Stimulation of others to conduct their own foresight exercises after being inspired
- Accumulation of experience in using foresight tools and thinking actively about the future
- Enhanced reputational position and positive image of those actors running a foresight
- Better understanding (and visibility) of a territory’s strengths and competencies

(d) Impacts in terms of strategy formulation for action

- Support decision-making
- Improve policy implementation
- Better informed strategies in general
- Using foresight results to evaluate and future-proof strategies
- Better evidence-based policy
• Making the case for increased investments in R&D
• Achievement of long-term reform of the productive system through a raised emphasis on high technology
• Better manage external pressures and challenges
• Overcome path dependency and lock-ins

Ladikas and Decker (2004)3 similarly identified broad impacts of Foresight exercises which they divided into technological/scientific aspects and societal impacts.

<table>
<thead>
<tr>
<th>IMPACT DIMENSION</th>
<th>RAISING KNOWLEDGE</th>
<th>FORMING ATTITUDES/OPINIONS</th>
<th>INITIALISING ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCIENTIFIC ASSESSMENT</td>
<td>Scientific assessment</td>
<td>Agenda setting</td>
<td>Reframing of debate</td>
</tr>
<tr>
<td>a) Technical options assessed and made visible; b) Comprehensive overview on consequences given;</td>
<td>f) Setting the agenda in the political debate; g) Stimulating public debate; h) Introducing visions or scenarios;</td>
<td>o) New action plan or initiative to further scrutinize the problem at stake; p) New orientation in policies established;</td>
<td></td>
</tr>
</tbody>
</table>

---

### Theme: The Use and Impact of FTA for Policy and Decision Making

**SOCIAL MAPPING**
- c) Structure of conflicts made transparent;

**MEDIATION**
- i) Self-reflecting among actors;
- j) Blockade running;
- k) Bridge building;

**NEW DECISION MAKING PROCESSES**
- q) New ways of governance introduced;
- r) Initiative to intensify public debate taken;

**POLICY ASPECTS**
- d) Policy objectives explored;
- e) Existing policies assessed;

**RE-STRUCTURING THE POLICY DEBATE**
- l) Comprehensiveness in policies increased;
- m) Policies evaluated through debate;
- n) Democratic legitimacy perceived;

**DECISIONS TAKEN**
- s) Policy alternatives filtered;
- t) Innovations implemented;
- u) New legislation is passed;

However, there are some who feel that success should not be based on program impact:

For instance, according to Hennen (2000: 154) technology assessment is “not designed to directly influence political decision making, but to prepare knowledge that is relevant for decision making.”

Given the range of defined goals and measures of success, one of the objectives of the research was to look at how the practitioners of foresight defined primary program success.
After a comprehensive review of foresight evaluation and evaluation in general, Barre and Keenan (2006) concluded that an evaluation of FTA should be based upon an assessment of:

- **foresight quality:** in terms of the conjectures produced;
- **foresight quality:** in terms of the processes, e.g. debates, inclusiveness, actor alignment, etc.;
- **foresight impacts:** in terms of learning effects, and;
- **foresight impacts:** in terms of strategy formulation for action by system actors

This conceptually would be a complex multifaceted evaluation based on the broad impacts of an FTA process.

Effie and Guy (2006) similarly pointed out direct and indirect benefits of FTA:

“Foresight programmes are usually evaluated in terms of the achievement of initial objectives and the scale and nature of direct, anticipated impacts. However, indirect and/or unanticipated impacts that fall outside the scope of specific programme goals and objectives have also been reported.”

Most of the articles referenced in this section provide evidence for broad benefits associated with Foresight exercises – direct and indirect. However, what should be the dominant benefit of foresight? For determining success we need to clearly identify and articulate the intended direct benefits of foresight.

Georghiou and Keenan (2004) recognized this when they wrote that:

“Despite the spread of foresight experience across Europe and beyond, there has not so far been a serious attempt to understand its effects in aggregate. In particular, foresight has not been evaluated as an instrument of science and innovation policy. Thus the real effect of foresight on priorities may be difficult to determine.”

This concept of direct impact was also identified by van der Meulen et.al. (2003) who wrote that “In comparison to futures studies and forecasting, the literature on foresight has paid little attention to its actual strategic value”. This was also echoed by Carlson (2004).


3 Foresight Success: What are the factors that are associated with foresight success?

Little literature was found that looked at foresight success factors. Buetschi and Nentwich (2000) identified several context or foundational success factors for influencing the political role of participatory technology assessment (see Table 4). What these studies tell us is that FTA exercises should not be viewed independently of their contexts and they remind us that FTA is an overtly socio-political activity and should be understood as such.

TABLE 4: SUCCESS FACTORS INFLUENCING THE POLITICAL ROLE OF PARTICIPATORY TECHNOLOGY ASSESSMENT

<table>
<thead>
<tr>
<th>Context</th>
<th>Success Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Societal</td>
<td>Good timing and public controversy</td>
</tr>
<tr>
<td></td>
<td>Good timing with policy making</td>
</tr>
<tr>
<td></td>
<td>Political relevance of the topic</td>
</tr>
<tr>
<td></td>
<td>Political culture open for informal participation</td>
</tr>
<tr>
<td>2. Institutional</td>
<td>Link to the political sphere</td>
</tr>
<tr>
<td></td>
<td>Credibility and reputation of the institution</td>
</tr>
<tr>
<td>3. Process properties</td>
<td>Precise definition of political goals</td>
</tr>
<tr>
<td></td>
<td>Perceived fairness of the process</td>
</tr>
<tr>
<td></td>
<td>Orientation of the product and practical implementation</td>
</tr>
<tr>
<td></td>
<td>Involvement of political actors in the process</td>
</tr>
</tbody>
</table>


Ingo et al (2006) looked at FTA from the corporate perspective and identified several criteria for improving the effectiveness of FTA. These are identified in table 5.

### TABLE 5: CRITERIA FOR IMPROVING IMPACT OF FORESIGHT STUDIES

<table>
<thead>
<tr>
<th>Criteria For Foresight Content</th>
<th>Criteria For The Foresight Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plausibility</td>
<td>Structured way of production and deliverance of foresight thinking</td>
</tr>
<tr>
<td>Convenience/usability of results</td>
<td>High level of interaction</td>
</tr>
<tr>
<td></td>
<td>Inclusion in organisational procedures</td>
</tr>
<tr>
<td>Inspiration</td>
<td>Ideational entrepreneurship</td>
</tr>
<tr>
<td></td>
<td>Innovation as regards to communication</td>
</tr>
<tr>
<td></td>
<td>Persistence</td>
</tr>
<tr>
<td>Appropriate temporal perspective</td>
<td>Synchronization with the business organisation</td>
</tr>
</tbody>
</table>

### 4 Methodology

From the preceding discussion, the objective of this paper and the study in general is to better understand exactly what foresight success is and the factors that lead to this success. Essentially it involves asking a series of strategic questions to national foresight experts identified through global foresight networks, followed by analysis and synthesis of the results by the authors. Conceptually this study seeks to find the most successful foresight programs and study them.

The initial study, designed and delivered 2005-06 was a survey of foresight leaders around the world identified from international meetings, followed by an expert analysis that delved more deeply into best practices. Thirty experts from ten countries were sent a brief questionnaire and asked what they think are the best contemporary foresight organizations, and what factors were

10 Buetschi and Nentwich (2000), The Role of PTA in the Policy Making Process, EUROPTA Final Report, Danish Board of Technology
instrumental in this assessment of those organizations. About 15 experts from ten countries and five international organizations responded. The objective of this phase was to identify the organizations that the experts in foresight felt were the most successful.

Phase 1 of the First Study asked the following questions:

1. Which 5 countries do you believe have the most advanced, productive or successful Foresight Programs?
2. Of the countries you have identified, can you point out some best practices or elements that you feel contributed most strongly to the program’s success?
3. What are some of the barriers to the establishment and implementation of a successful Foresight program? Are there pitfalls to be avoided?
4. What are the critical differences in national Foresight program models? Please provide examples.
   - Structure & organization?
   - Relationship to national government?
   - Resourcing?
   - Social vs. science and technology focus?
5. What, in your opinion, are some of the most successful assessments of recent foresight exercises? What tools/metrics/parameters work best to measure impacts?
6. Can you point to any major policy, economic or scientific impacts that you believe can be attributed to a national Foresight program?
7. Please review our proposed list of countries/individuals chosen for our direct survey. Are there any errors or omissions?
8. Please feel free to comment on any aspect of Canada’s Foresight program or activity. Your advice and insights would be welcomed.

In the second phase, we examined the institutions viewed as having the best foresight practices and we conducted detailed phone and/or email interchanges and interviews trying to find out their reasons for success - how they evolved, structured, wish list, their view of problems. An assessment of this qualitative data was coupled with more quantitative data (budgets, number of employees etc) to identify similarities and commonalities in answers and design that could be used to develop a list of best practices. The interviews were also designed to elicit the institutions perception as to what constitutes foresight success.

Foresight organizations and national foresight programs from the following countries responded to the First Study:

- Forfas in Ireland,
- NISTEP in Japan,
- APEC Centre for Technology Foresight in Thailand,
- Finland - FinSight (encompassing a mix of Nokia plus three government agencies - VTT, TEKES, SITRA, - and Helsinki University of Technology)
- UK Foresight Third Phase 2004-08
- Denmark and Spain (also identified as countries that had used foresight in more specific applications related to national policy development)
Phase 2 of the First Study focused the interviews on deriving a deeper understanding of the models and success factors identified from the answers to the Phase 1 questions:

1. What is the national foresight mandate?
2. Who are the key clients of national foresight?
3. What is the foresight relationship to government policy and economic decision-making structures?
4. What is the foresight funding model?
5. What levels of resources has foresight received?
6. How are foresight resources allocated?
7. What is the foresight project selection process?
8. How has the foresight program evolved over time?
9. Do you have a foresight wish list?

In the final phase, 9 foresight institutions identified during the first study were contacted and through subsequent direct contact and wrote to them requesting additional information, both to confirm the results from the first study. This study involved various qualitative and quantitative research methods including:

- a detailed literature review,
- a short email questionnaire and
- interviews with foresight practitioners, managers responsible for national foresight efforts in various countries, and
- project summaries and overviews from the European Foresight Monitoring Network (EFMN) internal data management system were reviewed (called Dynamo and consisting of foresight project briefs and other documents).

The EFMN is part of the European Foresight Knowledge Sharing Platform. It monitors and maps Foresight activities all over the world.

The Second Study looked at the following countries:

- Ireland; Japan; Finland; UK
- Denmark (Spain was exchanged in favour of Australia to have more global diversity and three more European countries were added)
- Australia; Netherlands; Germany; France

The Second Study aimed to extend the analysis by asking the following:

1. What motivated your government's foresight efforts in the first place? (what were the specific needs? challenges? copying other national efforts?)

Theme: The use and impact of FTA for policy and decision making
2. Who did your country look to when starting its national foresight efforts?
3. Did you need to build a business case for foresight in your government? How was that done?
4. What were the direct outcomes from your National Foresight initiative? (novel policy initiative(s), greater public foresight awareness, increased networking, new programs, direct impact on the innovation infrastructure etc.)
5. Is there an annual budget for a national foresight program or foresight support in your country? What amount?
6. # of full time equivalent staff per year that work in the National foresight program? (2007)
7. Is financial support for foresight in your country stable, growing or decreasing in 2007-2008?
8. Is there a central foresight web page? Web link?
9. Is there a foresight support agency (or department) in your government?
10. Is it centralized or decentralized? (e.g. within a specific ministry or done individually in each agency with no central support or supported by some central foresight body or outside research Institute or both)
11. In your opinion, has your country done anything unique that is making foresight work in your context or culture?
12. What do you think are the Critical Success Factors?
13. What has your country done in various foresight initiatives (national, supra-national, regional or sector) to promote public participation?

Far too much data was collected during these studies than can be reported in one paper, and more papers will follow. For the purposes of this paper however, we will only report on data related to the two primary research questions: 1) what is defined as program success? and; 2) how is success attained?

5 Results

5.1 The definition of success

Overall the studies provide a rich array of insights and observations-data on the most dynamic public foresight programs in the world. As Table 6 indicates there can be competing primary and sub-objectives. This is consistent with past studies. This wide variety of goals makes the process of defining narrow goals and success measures quite complicated.
**TABLE 6. FORESIGHT OBJECTIVES**

<table>
<thead>
<tr>
<th>Main Objective</th>
<th>Sub-Objectives</th>
</tr>
</thead>
</table>
| 1. Increase societal and economic well-being | • Economic growth and national competitiveness.  
• Societal well being, covering social, environmental, cultural and economic factors.  
• Identification of solutions to problematic areas. (need-driven)  
• Understanding the interaction between technology and the society. (e.g. what gets enhanced ? made obsolescent ? retrieved? reversed? –McLuhan Tetrad Model) |
| 2. Define priority areas for technology policy | • Survey national technological development.  
• Stimulate development in priority areas of technology development and research; thus stimulate the development in these areas.  
• Better understanding the interaction among technologies and realize gains resulting from this interaction.  
• Allocate funding for research and the improvement of industrial competitiveness. |
| 3. Develop technology and innovation policies | • Improve the co-operation among different stakeholders  
• Develop the planning and implementation of technology policy.  
• Understand the best methods and use of foresight |

However, despite the divergence of objectives, a common theme emerged in the interviews all interviews mentioned the importance of the results of foresight being used to inform or guide policy decisions – so program impact via policy appears to be the most important macro objective for foresight – this makes sense not just because of the alignment of interests but also remaining viable in the long term in this era of public funding accountability seems to be critical in itself as an indication of success.. As many subjects stated, It is difficult to survive said many without a visible and positive impact on policy.
This suggested two dominant criteria for success – impact and survival.

5.2 Results: Critical Success Factors

What is interesting to note from all the studies was that foresight delivery and reporting methodology were very similar around the world and so spreading of best methods practice within the community is fast…..thus while methodology of foresight study and focus is also important, it is insufficient as an indicator of success.

Together, the studies identified many similarities. For example:

- **Program Architecture** - In reviewing the collected data, there was relatively little program diversity seen from country to country;

- **Audience**: The target audience for all national foresight exercises appeared to be broad in scope, with single exercises typically having multiple audiences;

- **Financial Support**: for national foresight programs has been increasing or stable in all the countries that replied to the survey, including Japan, Ireland, the UK and Germany. The reverse appears to be happening in Canada, where the Office of the

- **Sponsors**: Governments (both national and sub-national) and government agencies were the main sponsors of foresight exercises accounting for 95% of the sample.

- **Program spending.** From the limited sample size, it is noticeable that Canada spends far less on national foresight efforts but comes out on par on spending in sector or industry foresight efforts;

- **Methods Used**: On the methods used, four were particularly popular: literature reviews, scenarios, brainstorming, and expert panels. The most striking result is the popularity of the 4 methods – largely irrespective of the types of outputs being generated.

- **Outputs**: In the 9 country sample, policy recommendations were the most common type of output from national and sub-national foresight exercises, followed by scenarios, analysis of trends and drivers and research priorities.

There were also interesting differences observed. For example many different governance structures were observed:

- Forfas sees itself as the national policy advisory board for enterprise, trade, science, technology and innovation. It operates under the auspices of the Department of Enterprise, Trade and Employment; (see the Forfas website [www.forfas.ie;](http://www.forfas.ie)).

- In Japan, S&T foresight activities feature a quarterly international Journal, and a regular program that includes the recurring national iterative Delphi technology poll. These are managed by the National Institute for S&T Policy (NISTEP) within the Ministry of Education, Science, Technology Sports and Culture (MEXT).
• The APEC Center for Technology Foresight is a Center established and supported by APEC, through active co-operation of Thailand and other APEC member economies, with Canada playing a prominent role as a strategic partner and project advisor. This Center is hosted by Thailand’s National Science & Technology Development Agency (NSTDA - www.apecforesight.org).

• In Finland there is a mix of agencies but the key organizational factor is that there is a strong historical commitment to technology foresight and a central innovation and futures committee of the Parliament chaired by the Prime Minister.

Another difference was in the area of participants. The number of participants engaged in the foresight exercises was variable, with no discernable pattern or trend evident. There was a correlation with spending and program participants.

Therefore, it would appear that administrative structure and many other factors which differentiated “the successful programs” could not be viewed as key success factors. But as different as the programs were, there were many consistent comments in the interviews that provides the beginnings of a model on what is required for foresight success

- Focuses on a clearly identified client: In all cases these successful functions were housed within a ministry responsible for innovation. In Ireland this was the Industry Ministry while in Thailand it is the National Science and Technology Development Agency (NSTDA). In Finland, the Parliamentary Committee on the Future is supported by a national fund for R&D (SITRA- government investment, augmented by a significant Nokia share sale in the 1990s) as well as by government science and technology focused agencies such as the TEKES, VTT, (Ministry of Trade and Industry) and the Academy of Finland, part of the Ministry of Education. Not only were they housed within the correct ministry, this was identified as the primary client for the foresight results.

- Clear link between foresight and today’s policy agenda: Using the most advanced foresight methods, matched to the specific task, ensures an effective link to current government actions. A key requirement is to develop foresight capacity amongst senior decision makers so that they can integrate the important tools of technology foresight into advice to government. The UK seems to have developed this capacity the most where the Science Advisor has repeatedly been able to engage key ministries as joint sponsors and receptors for the results. However all interviewees talked about the link between what they were doing (foresight exercises) and actual policy.

- Direct links to senior policy makers: To have a better understanding of policy needs, to get much needed budgetary resources and so forth, the foresight capacity and stakeholder organizations need to be linked with and provide regular briefings to senior policy makers. This also helps in getting recommendations implemented. Many reported that this was either a normal practice or an ongoing challenge and that indicated progress was being made.

- Public-private partnerships: Most program experts extolled the good relationships they had developed with industry leaders, advanced technology firms or private sector advisors connected in some way to the national policy agenda and/or senior decision makers. The actual form of the linkage varied from collaborative to cooperative to consultative, but the clear message was that
a successful foresight had to connect in some meaningful manner to private sector actors.

- **Provides methodologies and skills that are not always used in other departments:** For example, Forfas came into being to address a government gap – i.e. there was a recognized need to use new and more forward looking approaches to help in policy setting. Thus, they brought to the table intelligence and foresight methodologies. APEC CTF in Thailand has had its strategy planning and scenario approaches used by their host department to help the Government itself establish its longer term strategies. In all cases, the new function was bringing much needed methodologies that had previously not been fully exploited within the mainstream Departments of the government.

- **Clear communication strategy:** A strategy is needed that *serves to keep key stakeholders aware of ongoing projects and activities*. Excellent foresight is both time sensitive and attractive to those motivated to detect change ahead of its appearance- hence it has significant media value and communications reach – but also must be well described so the context of change, including both its challenges and opportunities, can be appreciated. All of the Agencies contacted realized how critical this aspect of forward readiness has become. There was a range of creative communication approaches ranging from newsletters and websites devoted to key stakeholders to an approach of getting in the elevator with key decision makers to give them 60 second elevator speeches.

- **Integration of stakeholders in programs:** The agencies investigated *all made use of key stakeholders in processes* such as project selection, information gathering and assessment, and provision of key recommendations. This factor while obvious has not always been easy to fully accomplish, and so many experts indicated that this presented constant hurdles to creating the levels of appreciation and support necessary to assure strong policy impacts. Furthermore, many indicated that it was necessary to retain these involvements beyond the period of the actual projects or initial foresight program – because they were an important part of validating the value of foresight to new clients and new topic areas.

- **Existence of a national-local academic receptor and training capacity:** A clear need at the start is a national-local academic receptor capability for foresight skills and training – hiring from abroad is fine for the start up phase, but participants consistently stated that one needs a local sounding board that can be aligned with the policy needs capacities, through providing training, intelligence and policy ideas relevant to future challenges; (PREST-MIoI as an example). Academics that can connect with stakeholders, provide legitimacy and know the methodology are a distinctive asset, and they provide a steady source of new ideas, intelligence and international foresight connections;

### 6 Applying the Critical Success Factors on Canada’s Foresight Program.

The studies have identified 8 critical success factors. The strength of any model is its ability to assist…help…predict. In this section, all eight criteria are applied to the Canadian foresight program.
program. At the outset it should be noted that the methodologies that are being used during the program have been evaluated in the past and found to be consistent with those associated with successful foresight programs. Thus, this part of the paper applies only the 8 critical success factors that go beyond methodology. At an operational level, the nascent Canadian foresight initiative (2002-2008) was able to produce some excellent projects with strong insights, selectively engage some of the most forward looking senior policy advisors and establish itself as a recognized source of expertise with international partners. Over the years the program went through numerous changes, in the host organization (from National Research Council 2002-04, to Privy Council Office 2005-06, to Industry Canada 2007-08). Table 8 summarizes how the critical success factors were applied to Canada’s’ foresight program by the authors:

<table>
<thead>
<tr>
<th>Key Success Factor</th>
<th>Application - Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant clear client: Slightly present</td>
<td>The original structure- formulation of ONSA envisioned that the NSA, reporting to the Prime Minister, would have the required senior client as well as the necessary stature to engage other cross government senior clients, as in the UK. With a change in government and a progressive demotion of the NSA function as the new government become more confident in its abilities, this capacity was effectively erased, to the point in 2006-07 where the only substantive client was the NSA and the science community – now mostly detached from the key innovation policy authorities. Further the funding for projects came from a diversity of government departments with no clear dominant client emerging.</td>
</tr>
<tr>
<td>Link to current policy agenda: Limited direct evidence</td>
<td>Since 2004, with two successive minority governments, the policy agenda has been clearly dominated by short term priorities – sometimes only five – thus rendering foresight, which tends to focus on five years + as not readily applicable to the current agenda, and not welcomed by those responsible for policy development. Despite this disconnect, some relatively successful projects related to health system innovation, bio-economy and enabling technologies convergence were completed that could have influenced the policy agenda had there been a policy receptor – most of these having been displaced by a highly centralized politically managed priorities exercise which tended to question the need for or exclude new information.</td>
</tr>
<tr>
<td>Links to senior policy makers: Somewhat</td>
<td>Linkages have been mixed, with those domains where senior policy advisors and policy makers appreciate the</td>
</tr>
</tbody>
</table>
need for longer term perspectives, being clearly more receptive and supportive of foresight initiatives. The result has been projects which align with some of the areas where policy will be required, (e.g. health technology, agricultural innovation, nano-bio-info interface issues) but are not presently at the top of the priority list – dominated by legislative domains such as anti-crime measures, tax relief etc.

<table>
<thead>
<tr>
<th>Public-private connections: Evident</th>
<th>The various foresight initiatives all involved private sector leaders and stakeholders as participants but rarely as sponsors since there are barriers for government to receive private funds other than taxes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novel methodologies: Evident</td>
<td>The foresight program was able to test at least five novel approaches and train over 300 senior government staff and managers in foresight methods so that at least a portion of the policy advisory system has had some exposure-familiarity to these methods</td>
</tr>
<tr>
<td>Communications strategy: Limited</td>
<td>The program clearly failed to make inroads on strategic communications because no resources were assigned and current Government procedures call for such resources to either be managed from the centre (PM Office) or more formally according to Departmental needs - neither case was well suited to the collaborative nature of the foresight process, and the change in government led to a more tightly controlled system for strategic messaging and press relations.</td>
</tr>
<tr>
<td>Stakeholder integration: Somewhat</td>
<td>For the most part, key stakeholders at the senior staff and professional levels of organizations and industrial domains affected by the foresight were able to be involved in the process, although again a lack of assigned funds hampered the scope and limited the mechanisms that could be employed.</td>
</tr>
<tr>
<td>Academic receptors: Somewhat</td>
<td>Canada has only a limited number of foresight focused academics - widely distributed and lacking in critical mass compared to PREST or Japanese universities, however most professors who could be aligned with foresight in Canada had some connection to ONSA or to the Foresight Directorate, so despite a low receptor capacity, a reasonable level of connection was generated.</td>
</tr>
<tr>
<td>Total: Only 2 factors directly evident</td>
<td>2008 Assessment: Generally a failure because according to the two critical criteria: discernible</td>
</tr>
</tbody>
</table>
Based on the studies that were done, the authors envisioned potential problems to the program and made recommendations consistent with the critical success factors identified. Canada’s foresight program, based in the National Science Advisor’s (NSA) Office was disbanded in March 2008 when the position of the NSA was terminated.

Compared to most of the other nations represented in our study, Canada was unable to develop a sustainable, integrated foresight program. While the reasons for the failure of the program (despite the success of the outputs) continues to be debated in policy circles in Canada, this paper posits that missing so many of the critical success factors doomed it to failure.

Clearly the success factor model has been relevant since as early as in 2005-06 it enabled the authors to predict the demise of the Canadian foresight effort.

7 Conclusion and areas for future research

Despite the diversity in program design and goals, policy impact appears to be a consistent primary objective of programs examined. Success according to most interviewed creates impact, and impact creates survival. In looking at the critical success factors it was clear that they go beyond methodology.

Together the two studies provide plenty of guidance and a list of considerations that are relevant for designers of foresight systems, structures and processes. The key requirement seems to be creating the close linkages with policy makers that in turn appear to be mainly dependent upon their sensitivity to future challenges, their orientation to the importance of considering diverse futures and the urgency and complexity of problems facing the national policy community.

In the words of one person interviewed:

“The real problem is not knowing what different countries do - which is not much different from country to country - but determining how or if the results of Foresight were integrated into policy making in real time. If this is not done, then the exercise is of minimal or no value”.

This study has produced a list of eight key success factors beyond the usual ones associated with application of leading edge methods. Further studies should validate these factors by applying them to different foresight organizations, both those that succeeded and those that failed. In addition, this study focused on a small set of foresight practitioners (30) and organizations (9), future foresight assessments may want to expand the sample base in an attempt to both validate the CSF’s and potentially identify new ones.

This is just the beginning of what we hope will be a stream of other research that helps identify factors leading to foresight success. Finally, each of the factors identified needs to be studied in more depth.

For example, while we learned that a clear communication strategy was felt to contribute to foresight success, exactly how should these strategies be designed? What are the components for a successful communication strategy? Who should be involved? Who should the target be?
Much work is needed on all 8 identified key success factors. The foresight literature is rich on the issue of different methodologies and project selection but not on the seven factors identified in this study.

Finally, this study has identified policy impact as what should be the key measure of foresight program success. Unfortunately, as was described by Barre and Keenan (2006) at the last Seville Conference, research in this area is limited.

“Pleas from sponsors of FTA activities for better accounts of demonstrable impacts are as old as FTA itself. Yet, little work has been done in this area, with most accounts of impacts confined to individual case study descriptions.”

The authors endorse the need for further assessments of foresight impact, survival and the dynamics of managing regime transitions that remain a continuing challenge to foresight advocates and practitioners

8 References


