The Role of Case Studies in Evaluation of R,T and D Programs

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Presentation Outline

- Discuss Canadian federal government approach to evaluation (issues and methodologies)
- Discuss role of case studies
- Provide examples
Evaluation in the Canadian Federal Government

- Evaluation of federal programs is based on guidelines set by Treasury Board Secretariat.
- There are four generic issues that must be considered in designing evaluation studies.
  - **Relevance** – why should this program be funded by the federal government?
  - **Objectives achievement / success** – is the program achieving its objectives?
  - **Design and delivery** – what changes can be made to improve effectiveness?
  - **Cost-effectiveness/alternatives** – can the objectives be achieved at lower cost?
Evaluation Methodologies

◆ Usually, there is no single method that provides sufficient evidence to reach conclusions on all issues

◆ It is usually necessary to rely on multiple methods, each of which provides some information related to the issues (converging partial indicators)

◆ Sources of evidence include:
  ∑ Documents
  ∑ Program files and data
  ∑ Interviews with program staff, stakeholders and/or other informed respondents
  ∑ Surveys of clients and beneficiaries (telephone, mail or web based)
  ∑ Case studies of selected projects
  ∑ Comparative studies / benchmarking
  ∑ Cost benefit analysis

◆ For each study, it is necessary to select the most appropriate group of methods to obtain reliable evidence and reach credible conclusions
Evaluation Design

- Documents from the program and other sources can be useful in examining all issues, in particular relevance, design and delivery and alternatives.
- Program files and data provide information names of clients and stakeholders. Also contribute to issues of objectives achievement and design and delivery.
- Interviews with managers and stakeholders provide an informed perspective on the program. Contribute to issues of relevance, design and delivery and alternatives.
- Surveys of statistically selected samples of clients contribute primarily to the issue of program success.
- Case studies of selected projects provide in-depth information on program success and the factors affecting project success.
- Comparative studies contribute to design and delivery and alternatives.
- Cost-effectiveness studies address the issue of cost-effectiveness.
Case Studies

✦ Case studies provide in-depth analysis of selected projects or initiatives within a program

✦ Case studies can examine:
  ➤ the roles, relationships and activities that are contribute to project success
  ➤ the pathways between activities, outputs, reach and short, intermediate and long term outcomes (logic model)
  ➤ the factors influencing project and program success
  ➤ the full range of outcomes in detail

✦ Case studies can help provide a more complete understanding of the nature of program impacts and how they are achieved

✦ Case studies can provide examples, but are not generalizable and need to be complemented by other methodologies such as surveys
Case Study Outline

◆ **Project Overview** – general description, objectives
◆ **Profile of Participants/Clients /Recipients** – sector, etc.
◆ **Project Description** – objectives, tasks, resources
◆ **Roles and Relationships** – participants and recipients
◆ **Incrementality / Attribution** – effects of support
◆ **Technical Results** – knowledge, innovations arising
◆ **Outcomes / Impacts** – immediate, intermediate, long term impacts on user/sector/society (logic model)
◆ **Potential impacts** – possible / likely future impacts
## Program Objective: high level strategic purpose

**Resources** | **Reach** | **Results**
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**HOW?** | **WHO / WHERE?** | **WHAT do we want? WHY?**

### activities
- Program / Service Delivery
- Client Management
- Policy & Issue Management
- Financial Management
- Human Resources Management
- Asset Management

### outputs
- Program deliverables
- Policy guidelines, regulations
- Communications - plans - internal communications - promotion - info transfer - consultations - meetings/events
- Funding
- Service Outputs

### users / clients / co-deliverers / beneficiaries
- Primary Targets (clients, ultimate beneficiaries)
- Co-delivery Agents
- Other Stakeholders

### direct outcomes
- Client Service - addresses needs - meets / exceeds expectations - service quality
- Behavioral Influence - awareness - understanding - attitude / perception - support

### intermediate outcomes
- New knowledge
- Improved capability
- Improved decision making
- Target group changes in behaviour / other outcomes

### ultimate impacts
- Sector / Industry / Regional Impact
- Economic / Environmental / Societal Impact
- Contribution to organizational objective
Operational Environment

You have direct control over the behaviours within this sphere.

Behavioural Change

Your environment of direct influence

e.g., people and groups in direct contact with your programs, staff (i.e. clients, target audience, co-delivery partners)

State

Your environment of indirect influence

e.g., Industrial sectors, government decision makers, other communities of interest where you do not make direct contact

Spheres of Influence* reference S. Montague, www.pmn.net
## Case Study Table

◆ **Insert Case Study Table**

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Case Study Examples
Oriented Strand Board

- OSB is a manufactured wood panel comprised of layers of wood fibres, each at right angles to the previous one, combined with resin and pressed
- OSB has largely replaced plywood for structural sheathing for home construction
- R&D has resulted in cost reduction, production efficiency and improved consistency
- R&D also allowed use of low value “weed trees” such as alder and poplar, and increased utilization of the total wood fibre available in forests
- OSB has a competitive advantage over alternative products

G. Teather  AEA 2004
In 2004, the wood preservative chromated copper arsenate (CCA) was removed from the market due to consumer concerns about health risks. Several alternatives also have health risks. Forintek R&D has shown that borates are an effective, safe alternative where wood is not exposed to water for extended periods. Canadian wood products treated with borate have been accepted by US regulators for use in conditions requiring preservative treated wood. Borate treated wood is particularly effective against Formosan termites, which are causing major economic damage in the Southern U.S. This is a market opportunity for Canadian wood products. Also environmentally friendly.
RT&D Case Studies - Examples

- Oriented Strand Board – improved quality, reduced amount of wood fibre per board, lower cost, fewer trees cut down - major benefit to OSB producers (wood products R&D)
- Borax treated Canadian spruce, pine and fir lumber – accepted by regulators for use in US areas infected by Formosan termites (major problem, responsible for millions in damage to wood based construction) Market access for Canadian SPF (wood products R&D)
- On site technical advisory services to small, value added wood products producers – higher quality products, more efficient production process, reduced waste (Lean Manufacturing)