

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

AEA Evaluation 2008

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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

Generic Program Logic Model

Program Objective: high level strategic purpose

Resources

Reach

Results

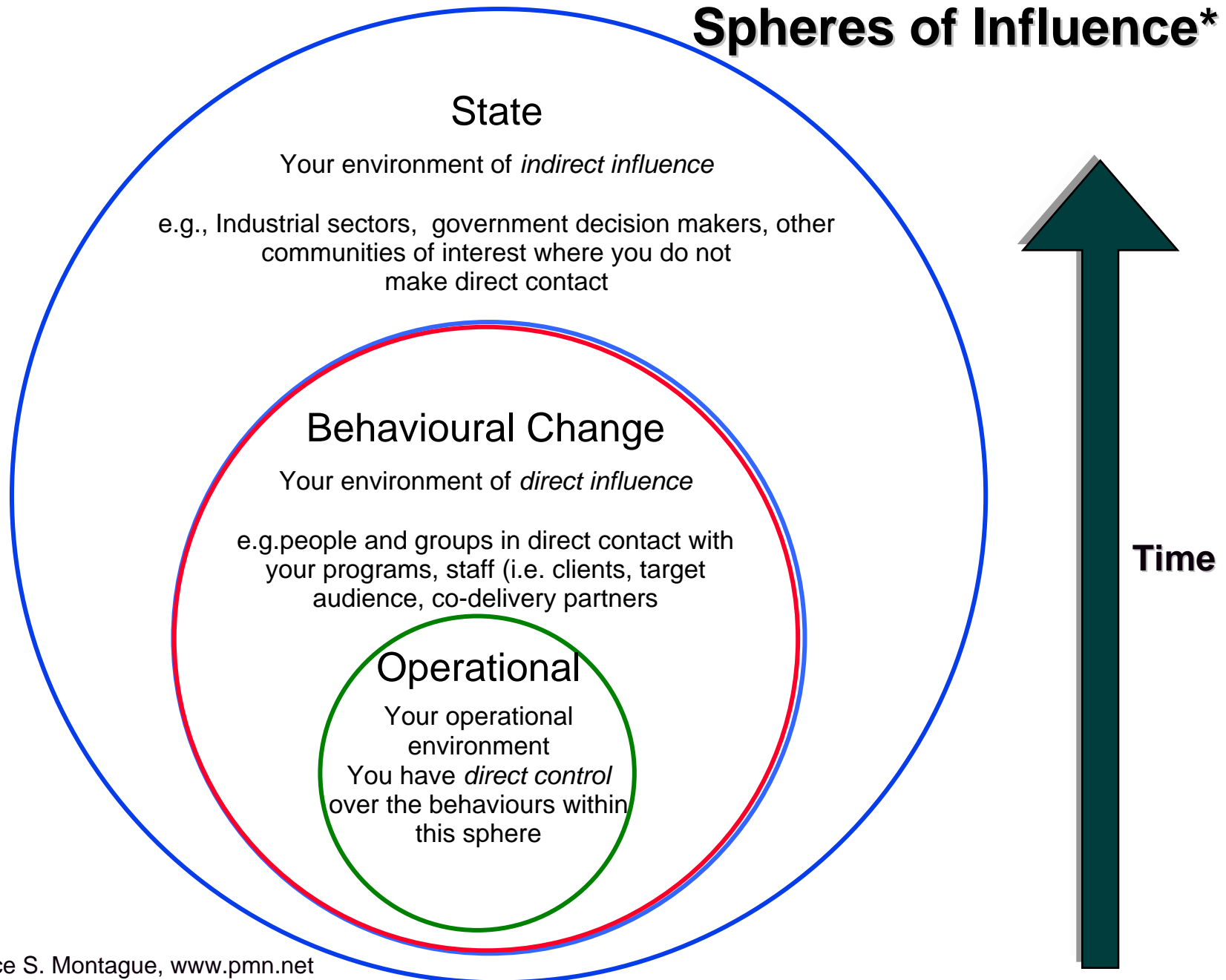
HOW?

WHO / WHERE?

WHAT do we want? WHY?

activities	outputs	users / clients / co-deliverers / beneficiaries	direct outcomes	intermediate outcomes	ultimate impacts
<ul style="list-style-type: none"> • Program / Service Delivery • Client Management • Policy & Issue Management • Financial Management • Human Resources Management • Asset Management 	<ul style="list-style-type: none"> • Program deliverables • Policy guidelines, regulations • Communications <ul style="list-style-type: none"> - plans - internal communications - promotion - info transfer - consultations - meetings/events • Funding • Service Outputs 	<ul style="list-style-type: none"> • Primary Targets (clients, ultimate beneficiaries) • Co-delivery Agents • Other Stakeholders 	<ul style="list-style-type: none"> • Client Service <ul style="list-style-type: none"> - addresses needs - meets / exceeds expectations - service quality • Behavioral Influence <ul style="list-style-type: none"> - awareness - understanding - attitude / perception - support 	<ul style="list-style-type: none"> • New knowledge • Improved capability • Improved decision making • Target group changes in behaviour / other outcomes 	<ul style="list-style-type: none"> • Sector / Industry / Regional Impact • Economic/ Environmental/ Societal Impact • Contribution to organizational objective

Spheres of Influence*



* reference S. Montague, www.pmn.net

◆ **Insert Case Study Table**

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**

Case Study Examples Borate Treated Lumber

- ◆ **In 2004, the wood preservative chromated copper arsenate (CCA) was removed from the market due to consumer concerned 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**

- ◆ **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)**