The Use of Community Discussion Groups to Gauge Technology Cluster Cohesion and Action

Presentation to the American Evaluation Association

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Presentation Overview

- Hypothesis
- Requirement
- Context
- Evaluation Design
- Sample Results
- Challenges
- Lessons Learned
Hypothesis

The evaluation of R&D and science – in terms of relevance, quality and impact – is often reliant on methods such as data review (including scientometric and output/impact data), and peer review.

However, the use of discussion/focus groups may prove a viable method to examine the social and economic constructs of science, and R&D activities.
Evaluate 11 separate initiatives (CI) in disperse regions across Canada prior to expiry of funding in 2010.

Assess the relevance and performance of each of the government funded cluster initiatives (CIs) as well as roll-up results.

Commence no sooner than September 2008 with an immovable reporting date in June of 2009.

 Undertake the majority of the work with NRC evaluators and consultant support as needed.

Limited budget for project (approx. $200k).
Assess NRC CI performance in the context of a broader cluster

- Consult widely, quickly and obtain information on many facets of the CIs – without overburdening staff and stakeholders!
Each technology CI is distinguished by its own characteristics:

– Variable date of program implementation (i.e., 00-01, 02-03 or 04-05).

– Disperse range of technologies with each CI focused on a unique area (i.e., nanotechnology, aluminum technologies, life sciences, photonics, etc.).

– Variable levels of funding (from $13M to $95M per initiative).

– Variable regional, social and economic contexts (e.g., large metropolitan centre vs. smaller, more northern community).
Evaluation Design

- Overall evaluation was multi-method.
- Previous evaluations had pilot tested network analysis tools to look at cluster interaction; however results were questioned.

► Consideration of alternative methods:
  - Stakeholder interviews were felt to be too time consuming to undertake:
    - Limited number of evaluators
    - Heavy paper/data burden
  - Survey approach not sufficiently able to capture breadth and range of information on a complex subject such as cluster growth.
Community discussion groups identified as the appropriate method as they …

- Allow consultation with a broad range of cluster stakeholders.
- Allow the evaluation team to ascertain CI performance in the cluster context, based on experience and opinion.
- Provide an observational opportunity to support the analysis of cluster networks and interactions.
- Less costly in terms of total level of effort.
- Support the short project timeframe.
Evaluation Design

Discussion groups with external informants (non-NRC staff) were used to:

- Examine changes in the cluster in relation to various growth factors*
- Assess NRC’s role and contribution to the growth of the cluster in key performance areas:
  - Cluster support services
  - Specialized infrastructure
  - Highly qualified people
  - Development of leading-edge knowledge
  - Development of innovative firms and industries
  - Cluster networking and integration
  - Community commitment to cluster development

* See: Presentation by Marc Gagné, The Identification of Cluster Growth Factors, Based on an Analysis of the Literature. AEA, November 2009
Discussion sessions with internal stakeholders were also held to further explore these areas as well as more administrative issues associated with the CI’s cost-effectiveness and design.

- Rationale and need for the presence of a national science laboratory, service or initiative.
- Linkages and relationships with cluster actors.
- Explanation of output data and rationalization of performance.
- Major achievements – major opportunities.
- Strengths and weaknesses of the initiative.

and

- Supported evaluation capacity building by involving more staff in the evaluation process.
Cluster Community Discussion Groups

- **External Stakeholder groups recruited:**
  - Universities
  - Government organizations (various levels)
  - Cluster firms
  - Cluster organizations
  - Venture capital firms
  - Students

- **Internal stakeholders recruited:**
  - Program staff including: researchers; business development officers; cluster liaison staff; human resource and finance branch administrators; industrial technology and innovation advisors; information and library specialists.

- **Internal stakeholders excluded:**
  - NRC program managers
- External participants (5 to 13 per group)
- Moderated externally
- Internal participants (5 to 16 per group)
- Follow-up through a brief questionnaire, individual interviews and internal discussion group sessions (n=203)
“In most cases regions grow by public and private alliances and I think the word is ‘face to face’.”

“So you need the big companies that bring into town their research along with universities and the NRC to work with the start-ups and support them with across the scene manufacturing technology.”

“[The initiative] sits in a province that has money and is willing to invest.”

“One of the major gaps currently in this, in this cluster, is the lack of receptors for the technology.”
Sample Data

- **External Knowledge Sources (Global Pipeline)**
  "What it does, it does on a global scale, in an excellent manner, in a technology that is important."

- **Cluster Brand**
  "I work on uniting our cross-border technology and trying to brand a region."

- **Leadership**
  "Because of the drive from the outside, from the public, private industry, research, government interaction, Tucson and Ottawa have progressed much farther than Orlando."

- **Government Support**
  "We are a small country competing above our weight. We need the weight of a national government behind the institution."
Challenges

- Clarifying with program managers that the discussion groups were not a form of ‘peer review’.
  - Not often used with the scientific community.
  - With peer review, program managers/scientists normally interact or present to reviewers.

- Limiting concern over program funding renewal in order to focus participants on CI relevance and performance.

- Limited budget required sessions to be held at NRC facilities rather than neutral ground.

- Level of participation varied – although this allowed for observation about cluster strength and networks.
Lesson Learned

- Outline to program managers and evaluation clients how discussion groups vary from peer review.

- Ensure a broad range of participants representing multiple cluster actors.

- Develop a moderator guide that leverages core analytical concepts (e.g., cluster growth factors) and that does not stray off topic.

- Ensure moderators are briefed in detail, and can demonstrate a depth of understanding – prior to conduct of the groups – to facilitate probing on analytical concepts.
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