

CRRC-NRC

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

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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.

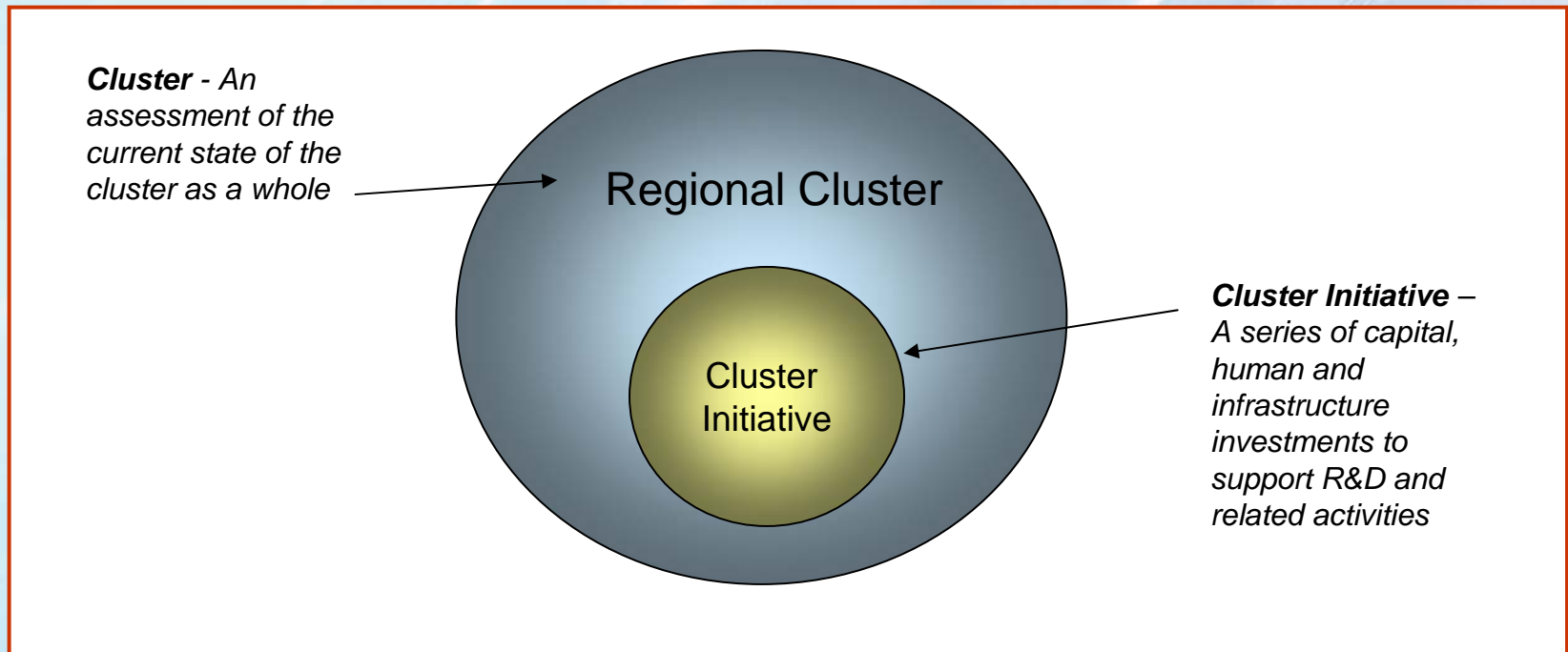
However, the use of discussion/focus groups may prove a viable method to examine the social and economic constructs of science, and R&D activities.

Requirement

- ▶ 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).

Requirement

- ▶ 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!

Context

- ▶ 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.

Evaluation Design

- ▶ 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

Evaluation Design

- 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:

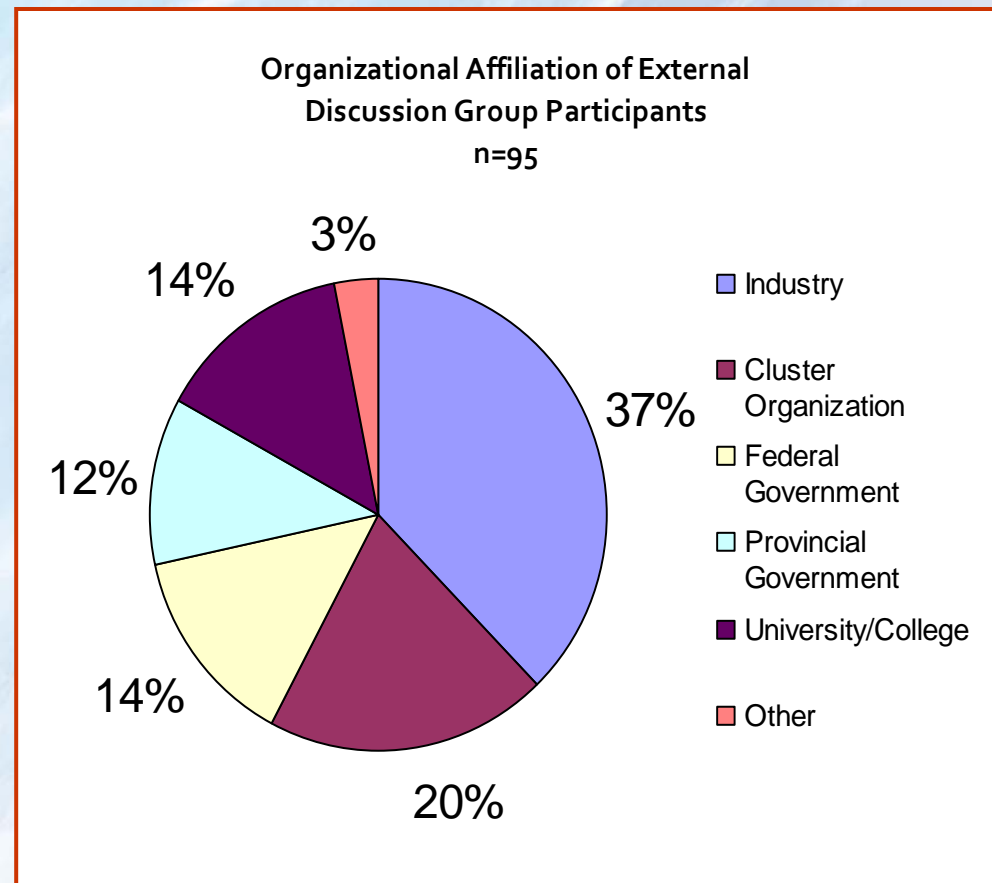
- Program staff including: researchers; business development officers; cluster liaison staff; human resource and finance branch administrators; industrial technology and innovation advisors; information and library specialists.

▶ Internal stakeholders excluded:

- NRC program managers

Level of Participation

- ▶ 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)



Sample Data

- ▶ **Networking**

“In most cases regions grow by public and private alliances and I think the word is ‘face to face’.”

- ▶ **Specialized Training and Educational Infrastructure**

“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.”

- ▶ **Risk Capital**

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

- ▶ **Innovative Technology and Technology Transfer**

“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)
- ▶ Cluster Brand
- ▶ Leadership
- ▶ Government Support

“What it does, it does on a global scale, in an excellent manner, in a technology that is important.”

“I work on uniting our cross-border technology and trying to brand a region.”

“Because of the drive from the outside, from the public, private industry, research, government interaction, Tucson and Ottawa have progressed much farther than Orlando.”

“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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