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## **EXECUTIVE SUMMARY**

# **Focus Group Research Assessing Communication Approaches for the NSERC Strategy for Partnerships and Innovation**

**Prepared for Natural Sciences and Engineering Research Council of Canada (NSERC)**

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## EXECUTIVE SUMMARY

The Natural Sciences and Engineering Research Council of Canada (NSERC) commissioned Phoenix SPI to conduct focus group research to assess approaches and messaging that NSERC might use in communicating with businesses about working with universities and colleges to achieve their research and development (R&D) goals through NSERC's Strategy for Partnerships and Innovation. Launched in 2009, following input received from businesses and researchers, this strategy aims to help Canadian businesses realize greater value from their investments in R&D, to help students acquire the skills that businesses value, and to accelerate the commercialization of innovations.

In the focus group research, NSERC wanted to obtain feedback about potential communication approaches and messaging from two business populations:

- *NSERC clients*: businesses that already work with universities and/or colleges through NSERC programs;
- *Non-clients*: businesses that are actively engaged in R&D in Canada but that either do not currently work with universities and/or colleges at all, or do so, but not through NSERC programs.

Specifically, NSERC wanted to undertake qualitative research on communications messaging that highlight the value for businesses of working with universities or colleges to achieve their business goals. These messages will be used in efforts to increase awareness in Canadian companies that conduct R&D of the benefits of collaborating with post-secondary researchers. Furthermore, it is anticipated the results will be used to support NSERC communications related to its programs that fund academic researchers to partner with industry, and specifically that relate to the NSERC Strategy for Partnerships and Innovation.

A set of 16 focus groups was conducted from March 4 to 7, 2013, in the following cities: Halifax, Quebec City, Montreal, Ottawa, Toronto, Saskatoon, Calgary, and Vancouver. Two groups were conducted in each location: one with NSERC clients, and one with non-clients. All businesses represented in these groups were engaged in R&D, and the participants were mid- to senior-level executives directly involved in R&D at their companies.

**This research was qualitative in nature, not quantitative. Hence the results provide an indication of participants' views about the issues explored, but cannot be generalized to the full population of businesses that undertake R&D in Canada or of NSERC client businesses.**

### Corporate Involvement in R&D

At each focus group, participants were asked to describe the nature of their company's R&D activities.

#### Type of R&D Activities Undertaken

Firms represented in this study engage in a variety of R&D activities, though the emphasis tends to be on *applied* research with a focus on commercialization, as opposed to general or basic research. In addition, while some of these firms undertake R&D activities related to services, most of them focus on R&D activities related to products and processes. The focus



groups included participants whose companies engage in one or more of the following types of activities: testing, prototyping, and developing products and innovations, improving existing products or services, developing new applications, improving existing applications, developing new processes, improving existing processes, simulations and testing, prototype design, and new technologies.

### Reasons for Undertaking R&D Activities

The firms represented in this study undertake research and development for a variety of reasons, but the three reasons identified most often were as follows:

- profitability;
- the desire or need to grow; and
- the need to remain competitive/maintain market share.

Other reasons that participants frequently identified included the desire or need to differentiate their firms from the competition, to improve efficiencies, to respond to client/customer demands and market needs, to maintain investor relations, and to adapt to changes/developments in their industries. A number of participants summarized their reasons for undertaking R&D by suggesting that it is a vital function for companies: if they do not engage in R&D, they will die.

### Main Challenges Related to R&D

When participants were asked about the top challenges that they face in conducting R&D, the two that they cited most often were the cost, financing, or funding of R&D and their limited in-house resources or capacity for conducting R&D. Participants also frequently identified a number of other major R&D-related challenges, such as the difficulty of finding the right collaborators, the time gap between investments and returns on R&D, the inability to know in advance how R&D will turn out (e.g., will it lead to successful commercialization?), and deciding which avenues of R&D to pursue.

### Sources of Information About R&D

During the focus group sessions, participants were asked what sources they use to get information about R&D. Sources that they cited most frequently included personal networks (e.g. colleagues, clients/customers), networking events, such as meetings and trade shows, trade publications, professional associations and accountants, universities and colleges, and the Internet. When looking for information about R&D on the Internet, the participants usually use a search engine, typically *Google*. Many participants also visit the websites of suppliers and other companies in their sector or consult online journals and publications and industry websites. NSERC clients and other companies that engage in partnered R&D indicated that they follow their trade publications and read peer-reviewed research to be aware of who the leading researchers are in their field.



## **Perceptions of Collaborating on R&D with Universities and Colleges**

### Prior Experience in Collaborating on R&D with Universities or Colleges

The participants' companies varied considerably in the overall length and depth of their experiences in collaborating with universities and colleges on R&D. As a result, their perceptions about this activity also varied widely. All NSERC clients and most non-clients who participated in the focus groups had some experience in collaborating with university or college researchers on their R&D activities. While most of the participants' experience was in working with universities, some had also worked with colleges. Examples of this experience included hiring or sub-contracting students and/or professors to collaborate on specific R&D activities, providing mentorship or job opportunities to students, using university or college facilities, equipment, and instruments, and having institutions conduct testing or third-party reviews. Many NSERC clients specified that they had participated in *Engage* grants (as well as in other NSERC programs).

The focus groups conducted with NSERC clients included a mix of companies that had either done a large amount of collaborative R&D through NSERC or companies that were on their first NSERC-supported grants. The former group was more likely to be involved in longer-term relationships with universities and colleges, collaborating throughout the life cycle of research projects and drawing on university and college capabilities to complement their own.

Companies that had worked with universities and colleges, but not through NSERC, were more likely to have engaged these institutions to address specific issues or problems regarding enhancements to existing products, processes and services.

### Perceived Benefits of Collaborating with Universities or Colleges on R&D

The benefits of collaborating with universities or colleges for R&D identified most often were access to expertise in a specific domain or area, and access to facilities, tools, or equipment not available within the firm. Other regularly identified benefits included access to human resources, exposure to new ideas or different ways of approaching a problem, increased credibility/legitimacy that comes with such collaboration (e.g. third-party review/validation), and access to potential employees/recruits.

### Concerns/Perceived Problems Collaborating with Universities or Colleges on R&D

The two most frequently identified problems or concerns about collaborating with university or college researchers on R&D activities related to managing intellectual property and aligning the differing priorities and agendas of industry and academia (typically, the focus on commercialization versus the focus on publishing and career development). Other frequently identified concerns included lack of continuity in the research process (for example, because of turnover in researchers), dealing with red tape/bureaucracy at universities and university business centres, keeping to timelines/working in a timely manner (businesses typically work within much tighter timelines when it comes to R&D), and maintaining the confidentiality of the research (managing the need to publish versus the need to maintain confidentiality in the race to be first to market).

### Perceived Value of Collaborating with Universities or Colleges on R&D



Only NSERC clients were asked about the perceived value of research collaborations with universities and colleges. In general, these clients reported that they do value research collaborations with universities and colleges. But many agreed that this value varies from project to project: in some projects, the collaborations have been highly valuable, even crucial, but in others, they have been of limited or no value.

### Desired Attributes of Potential University and College Research Partners

When considering potential university or college research partners, participants are usually looking for one or more of the following: expertise in a specific area, consistency in specialization, specific equipment/resources, experience in collaborating with a business and/or prior experience in industry, continuity/fluidity in the research process (for example, availability of and access to research collaborators), dedication, enthusiasm, organization, the ability to respond to company guidance, a shared understanding of and interest in the research, timely collaboration, and an understanding of business needs or the business mindset when it comes to R&D (i.e., a focus on applied research/ commercialization).

### **Awareness and Perceptions of NSERC**

Most of the non-clients claimed to have been aware of NSERC prior to this study, but many were aware of it in name only. Their impressions of NSERC tended to be very general and included the impression that it provides government funding to subsidize research. Indeed, this was the impression of NSERC that the non-clients cited most frequently. Some of these non-clients also stated that NSERC provides opportunities for companies to collaborate with colleges and universities, promotes research, and is well funded in terms of research dollars.

Clients' impressions of NSERC tended to be either positive or very positive. These included the impression that its personnel are competent, knowledgeable, responsive, and helpful, that it is a professional and credible organization, that it is approachable and easy to deal with, that it provides good follow-up, that it is a successful funding organization, that its programs are well structured and beneficial, that it provides a good range/variety of programs, and that its timelines for applications tend to be good or reasonable.

### **Impressions of Current and Potential Communications Materials**

In this study, participants were asked to review and comment on three types of materials: material that NSERC currently uses to communicate with businesses about its partnership opportunities, potential messages for new communications materials, and sets of words or expressions that are sometimes used in messaging related to R&D.

#### Current NSERC Messaging

Impressions of current NSERC materials tended to be mixed: they consistently elicited a combination of positive, negative, and neutral feedback. Frequently identified strengths of this messaging included the following: it is direct and to the point, it covers the essential aspects of R&D, it is directive/action-focused, and it provides a logical sequencing of the stages related to R&D. Negative reaction typically included the following: the messaging focuses on the process instead of the goals/outcomes/benefits of working with universities and colleges, the messaging is too formulaic or "government-like" (e.g., "Find Highly Qualified People"), and the information is too vague or general. Especially among participants not familiar with NSERC programs, certain



statements were seen as making claims that were hard to believe, because the participants doubted that a government agency could deliver on them.

Neutral reactions tended to be along the lines that the messaging is clear and easy to understand, is relatively standard/what one would expect, and provides basic or general information.

Many participants described NSERC's current messaging as at least somewhat effective in encouraging or motivating them to consider working with colleges or universities to help meet their R&D needs. Many other participants, however, described this messaging as not effective or not very effective in this regard. Regardless of their assessment of its effectiveness, the participants widely agreed that this messaging targets the most important areas in terms of R&D. Participants were therefore able to offer concrete suggestions for making the current messaging more relevant to them and thereby more effective.

**The main suggestion in this regard was to make sure the messages focused on meeting the needs of business, by identifying concrete results and outcomes or describing the value-added for business when it collaborates with universities and colleges.**

#### Potential NSERC Messages

Following the testing of current NSERC messaging, participants were asked to review potential messages for new NSERC communications materials. Two sets of potential new messages were reviewed; they were labelled sets A and B, and each contained six messages, labelled 1 to 6. Only one set was reviewed in each group. The messages in the two sets were similar. The main difference was that the messages in set B included a tagline at the start of each message.

Message 2 tested most positively in both its A version ("Access leading-edge expertise, facilities and equipment") and its B version ("use top technology: access leading-edge expertise, facilities and equipment"). This message was consistently identified as effective for the following reasons: it is pertinent and credible because it identifies one of the key reasons/needs for working with universities and colleges, it piques curiosity and motivates one to follow-up/look for more information, it suggests a focus on applied research, the value offered is clear, and it is short, simple, and to the point.

Message 6 tested least positively in both of its versions ("Reduce the risk associated with leading-edge research" and "Lower your risk: Reduce the risk associated with leading-edge research"). The main criticism was that the reference to risk reduction is too general and lacks credibility. Participants consistently stated that risk takes many forms and depends on context, so that one cannot credibly make a blanket statement about risk reduction.

In the feedback that the participants provided on the potential new messages, the following general suggestions and guidelines for making them more effective were made very frequently:

- Focus on the payoff/value-added to businesses (outcomes, not processes);
- Use language that is concrete and specific rather than vague and general (for instance, refer to "universities and colleges", not "post-secondary institutions").
- Shorter is better.
- Pique curiosity and interest.
- Use language and expressions that are familiar and important to businesses.



- Avoid statements that are hard to believe (such as “Reduce the risk associated with leading-edge research”).
- Avoid statements that seem pretentious or pompous (such as “Build research collaborations with the brightest minds”).
- Avoid stock phrases and formulaic expressions (such as “Identify highly qualified future employees”).

### Target Audiences

When asked to what level in their firm such messages should be targeted, participants responded that the right level could vary with the size of the firm. For example, in smaller firms where there might be little or no division of labour, the best target would likely be the owner. In larger firms, it might be the Chief Operating Officer, Chief Financial Officer, the head of the R&D department (if there is one), or the head of Human Resources.

The participants were also asked whether the person who ultimately makes the R&D decisions in their companies would be likely to see these kinds of communications materials. In small firms, this would be the case, but there was relatively widespread agreement that in larger firms, the ultimate decision makers would not be likely to see or review actual communications materials. More likely, someone else would review this material, digest it, and then present the gist of it to the decision maker as a possibility to consider.

### Word Testing

After reviewing the potential new NSERC messaging, participants were asked to review six different expressions, each of which included two or three alternative words or phrases sometimes used in NSERC’s messaging. The participants were asked which alternatives were the most relevant or effective. Two sets of six expressions each were used in this study (labelled sets A and B). As with the potential messages, only one set was reviewed in each group.

**Generally speaking, the expressions that the participants preferred tended to focus on concrete outcomes, results, or benefits, or have a definite, clear, concrete reference as opposed to an indefinite, vague, or general reference.**

Specifically, the following expressions were widely preferred by participants:

- “Partner” and “collaborate” were preferred to “participate”.
  - “Leverage” was preferred to “match funds” or “contribute”, though in the French groups participants preferred the expression *contribuer* or *créer un effet de levier* to *verser un financement de contrepartie*.
  - “Talent” was preferred to “highly qualified people” or “new hires”.
  - “Grant” was preferred to “funding opportunity” or “government program”.
  - “Results” or “solutions” were preferred to “impacts” and “advances”.
  - “Applied research” was preferred to “basic research”.
  - “Networking event” was preferred to “match making event” or “mixer event”, though in the French group *activité de jumelage* was preferred to *activité de rencontre* or *activité de réseautage*.
  - “Innovation” was preferred to “research and development”.
- “Connect” was preferred to “meet”.



In the choice between “Post-secondary researcher” and “Academic researcher”, participants showed a widespread preference for a third option: “Researcher”. In the French groups, the corresponding choice was between *chercheur d'établissements postsecondaire* and *chercheur d'une université (ou d'un collège)*, and the latter expression was widely preferred.

### Conclusions and Implications

One of the noteworthy findings from this research is the ease with which participants provided feedback on the issues explored. Participants had very clear and definite views on the reasons that they undertake R&D, the main challenges that they face in this regard, and the benefits and potential concerns associated with collaborating with universities and colleges on R&D. This clarity on these issues translated into clear and definite feedback on NSERC's communications materials and how to improve them.

Research and development is something firms usually undertake as a means to an end, not an end in itself. This came through very clearly and consistently in participants' assessments of NSERC's current and potential messaging. Indeed, their most frequent criticism of this messaging was that it does not focus enough on the value—the benefits in terms of outcomes—that businesses can derive from working with colleges and universities on R&D.

While we invite NSERC to review the detailed feedback that the participants provided on each element of the current messaging and each specific potential message, the following list summarizes the clear general directions that they provided on how to ensure that NSERC's communications to businesses on the value of working with universities and colleges are relevant and useful in both form and content:

- Focus on the payoff to businesses to make sure that the value-added of collaborating is clear.
- Make statements that are concrete and specific rather than vague or general.
- Make statements as short and concise as possible.
- Avoid stock phrases and formulaic expressions, and use expressions that are familiar and important to businesses.
- Avoid making claims that may not seem credible.
- Avoid making statements that business people may find pretentious.

Some of these same themes emerged in the feedback that participants provided on the words and expressions often used in messaging by NSERC. Specifically, participants clearly preferred expressions that focus on concrete outcomes, results, or benefits or that make clear, concrete references.

Although this research involved a number of groups in different parts of the country, and two different audiences (NSERC clients versus non-clients), feedback on the communications issues explored tended to be relatively consistent. To the extent that there were differences, they tended to be between these two types of audiences rather than between regions. These differences are identified throughout the report, whenever they occurred. But it is worth noting that non-NSERC clients tended to be more critical of NSERC's current and potential messaging in general, especially on grounds of credibility. Part of the reason may be that the non-clients' relationships with universities and colleges were likely to be less involved than those of NSERC clients, or that the non-clients were not aware of NSERC's grant offerings.