Evaluation of the Canada Accelerator and Incubator Program (CAIP)

Evaluation Report

Circum Network Inc. for the National Research Council Canada

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September 23, 2016

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ACKNOWLEDGEMENTS

The evaluation team would like to gratefully acknowledge the management and staff of the Canada Accelerator and Incubator Program (CAIP) for their support and contribution to this evaluation. We would also like to acknowledge the contribution of knowledge and expertise from other branches of NRC, in particular staff from the Office of Audit and Evaluation and Knowledge Management. The evaluation team would like to thank CAIP clients and other stakeholders who provided rich information and insights in support of this evaluation.

ACRONYMS

A/I	Accelerator/Incubator
BDC	Business Development Bank of Canada
CAIP	Canada Accelerator and Incubator Program
CTA	Canadian Technology Accelerator
FAA	Financial Administration Act
G&C	Grants and contributions
GBA	Gender-based analysis
IRAP	Industrial Research Assistance Program
ITA	Industrial Technology Advisor
NRC	National Research Council
PTP	Policy on Transfer Payments
RCAO	Regional Contribution Agreement Officer
ROM	Regional Operations Manager
RFP	Request for proposals
VCAP	Venture Capital Action Plan
VCEP	Venture Capital Expert Panel

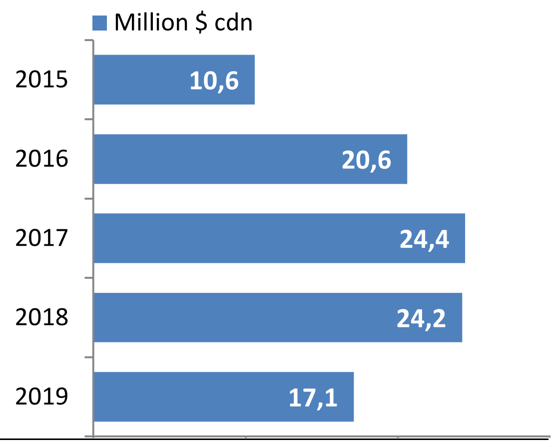
EXECUTIVE SUMMARY

Program Description

The CAIP is a 100 Million, 5-year, non-repayable contribution program aimed at establishing a critical mass of outstanding business incubators and accelerators that can develop innovative, high-growth firms, which themselves represent superior early-stage investment opportunities.

The CAIP was structured by Finance Canada and is administered by the National Research Council of Canada through its Industrial Research Assistance Program (NRC-IRAP). The program has its origins in the Economic Action Plan and is a component of the Venture Capital Action Plan (VCAP).

Financials



Evaluation Scope and Methodology

This evaluation focused on the first two years of operation of the program: 2014-2015 and 2015-2016. Because the evaluation took place early in the program life, the study focused on relevance and implementation of the program. A summative evaluation, planned for 2018-19 will focus on program impacts.

Limitations

Literature that rigorously documents the effectiveness of accelerators and incubators is rare. Program performance data was unavailable. The review of contribution agreement management practices was limited.

Expected Program Outcomes

- Accelerators and Incubators/ expand their range of program and services
- Early stage firms become investment ready
- Early stage firms benefit from innovation support resources such as expertise and networks
- Wealth creation in Canada

Program Performance Indicators

- Incremental programs and services offered by A/Is — *No data*
- # of incremental expertise providers (mentors) — *No data*
- # of early stage firms which receive investment — *No data*
- Average ($) investment received by early stage firms — *No data*
- # early stage firms supported — *No data*
- # staff at early stage firms — *No data*
- % of early stage firms satisfied with program and services — *No data*
- Average satisfaction rating on benefits to firms from innovation networks — *No data*
- # incremental jobs created — *No data*
- % of early stage firms which generate or increase their revenue — *No data*
- Early stage firm survival rate — *No data*

Overall Findings

The evaluation found CAIP to be relevant to the NRC and federal government mandates. It is complementary to other innovation support initiatives although potential for overlap is present. However, the limited empirical evidence on the quantitative impact of A/Is on individual firms and on the innovation ecosystem more broadly is not conclusive.

The central program delivery issue identified in the report is the balance between maintaining various oversight controls with reduced administrative burden requested by recipients. While recipients express the desire for fewer 'strings attached', program representatives point to the need for oversight given that the average CAIP contribution is approximately $6 million. The evaluation finds that a rebalancing in favor of less stringent claims processing could yield a net benefit without undue risk. It is also evident that NRC-IRAP required a longer than anticipated timeframe to adapt its systems and processes to the needs of CAIP. This is due largely to key differences in the delivery structure of regular NRC-IRAP programs compared to CAIP. Evidence shows that NRC-IRAP has demonstrated adaptability and improvements to delivery systems continue to be made.

Finally, the evaluation shows that NRC-IRAP was late in collecting performance measurement (PM) data for year-one. Further, once collection was implemented, data provided by recipients was incomplete. The PM outlook for year two is concerning given this reluctance of recipients to share information. NRC-IRAP should ensure that the recipients provide all the data necessary for the mandatory impact evaluation.

Recommendation 1	**Management Response**
Working with other federal departments and agencies to optimize CAIP's contribution to Canada's re-defined innovation strategy, in future program design NRC-IRAP should analyze and act on opportunities for complementarity within the overall suite of federal support to SME development as well as on any costs of existing or potential overlap.	Recommendation accepted. NRC-IRAP will leverage its participation in the development of a new Federal Innovation Strategy, to seek opportunities for complementarities and identify potential overlap. NRC-IRAP will leverage its participation in various Federal government initiatives (e.g. AGS) to identify opportunities where future program design or service can benefit from NRC-IRAP's learning through CAIP delivery.
Recommendation 2	**Management Response**
NRC-IRAP should further examine best practices for contributions programs to rebalance the level of financial controls employed in claims administration.	Recommendation accepted. Following recent efforts to streamline CAIP admin processes (e.g. claiming), NRC-IRAP will further examine how other departments are addressing similar accountability challenges related to managing claims. NRC-IRAP will further refine its risk management practices to reduce the administrative burden related to claims for CAIP recipients.

Recommendation 3	Management Response
NRC-IRAP should explore ways to facilitate structured learning within CAIP agreements and to further support the timely sharing of best practices among recipients and with NRC-IRAP.	Recommendation accepted. NRC-IRAP will build on the CAIP ITA working group to foster exchange of best practices between CAIP recipients. NRC-IRAP will seek the interest and involvement of CAIP recipients to organize a forum where participants can discuss challenges and opportunities, share best practices and identify of potential actions to strengthen their operations and service offering to SMEs.
Recommendation 4	**Management Response**
NRC-IRAP should take all necessary steps to ensure that the performance indicators stipulated in its Performance Measurement Strategy have been collected from all recipients for all program years.	Recommendation accepted. Following the initial 2014-15 year of CAIP, NRC-IRAP will ensure going forward that all recipients adhere to Annual Performance Reporting obligations. This will include re-iterating and explaining the requirements to recipients, and well as enforcement of contractual obligations.
Recommendation 5	**Management Response**
The NRC Office of Audit and Evaluation, in collaboration with NRC-IRAP and CAIP recipients, should immediately plan the details of the impact evaluation to be conducted in the last year of the program.	Recommendation accepted. NRC-IRAP will collaborate with the Office of Audit and Evaluation to develop a detailed plan of how impact of the program will be measured in future CAIP Evaluation. NRC-IRAP will revisit its current performance measurement strategy to ensure alignment with detailed plan.

1 INTRODUCTION

This report presents the results of the 2016 formative evaluation of the Canada Accelerator and Incubator Program (CAIP). CAIP is a contribution program initiated in 2014 with a budget of $100 million and a horizon of five years. It funds 16 accelerators and incubators (A/I) through contribution agreements which undertake new activities for or offer increased levels of service to business start-ups.

Following the evaluation overview presented below, Section 2 of this report provides a profile of CAIP. Sections 3, 4 and 5 present the evaluation study's findings organized by broad evaluation question (relevance, performance, resource utilization). Section 6 presents a brief conclusion drawn from the evaluation along with associated recommendations, while Section 7 lays out the management response to these recommendations and the actions that will be taken as a result.

1.1 Evaluation Overview

This evaluation focussed on the first two years of operation of the program: 2014-2015 and 2015-2016. Because the evaluation took place early in the program life, the study focussed on the relevance of the type of intervention and the implementation of the program. Impacts were not the focus of this evaluation as an evaluation to explore early outcomes is planned for 2018-19.

The evaluation was carried out to fulfill the conditions of the Program's approval by Treasury Board, which included the conduct of a mid-term evaluation and of an impact evaluation of the Program. The evaluation was also expected to provide information to management at the Industrial Research Assistance Program (IRAP) of the National Research Council (NRC) on opportunities to strengthen program delivery. The findings from both evaluations (mid-term and impact) are expected to provide information that may contribute to the renewal of the Program's Terms and Conditions and will gather information to inform broader policy making and future program design.

1.2 Evaluation Design and Methodology

The evaluation questions were established by the Office of Audit and Evaluation of the NRC with the collaboration of CAIP management. The evaluation design meets management needs as well as the requirements of the 2009 Treasury Board Policy on Evaluation. Evaluation questions are reproduced in Appendix B along with a crosswalk of evaluation issues to sections of the report.

To enhance the reliability and validity of the information and data collected, the methodology for this evaluation includes multiple lines of evidence and complementary research methods. The specific methods used in the study include:

» A review of available program data
» A review of program documentation
» A review of literature about the performance of incubators and accelerators
» A review of program management processes including six interviews in other departments and agencies
» Forty-five interviews with program managers and staff, as well as program recipients and other stakeholders

More information on the methodology is presented in Appendix B.

1.3 Accelerator/Incubator Distinction

At the outset it is important to note that, while the program terms and conditions (CAIP, 2013c) distinguish accelerators[1] and incubators,[2] CAIP recipients themselves and most NRC-IRAP staff have not classified recipients as one or the other. In effect, based on their activity profile, all but one CAIP recipient act as incubators rather than accelerators. In this report, the distinction is made only when germane.

[1] "Accelerators are typically for-profit organizations, owned and operated by venture capital investors who intend to generate returns from equity-based investments in their client firms. Accelerators provide a range of services to early stage firms, including financial support, business advice, office and development space and complementary services offered by partner organizations."
[2] "Incubators are typically not-for profit organizations that offer similar services to accelerators, but tend to provide longer tenure for participating firms and a broader suite of services in terms of physical space and mentorship. Incubators are often sponsored by universities, colleges, or economic development corporations."

2 PROFILE OF THE CANADA ACCELERATOR AND INCUBATOR PROGRAM

CAIP is an initiative under the Government of Canada's Venture Capital Action Plan[3] (VCAP) that provides $100 million[4] in funding over five years (2014 to 2019) to help Canadian incubators and accelerators expand their services to small and medium-sized businesses (CAIP, 2015a). It provides non-repayable contributions aimed at establishing a critical mass of outstanding business incubators and accelerators that can develop innovative, high-growth firms, which themselves represent superior early-stage investment opportunities (CAIP, 2013a).

CAIP was conceptualized by Finance Canada. NRC-IRAP was selected to deliver CAIP due to its track record of delivering contributions to organizations, including accelerators and incubators that support innovation, and to lever its existing relationships with some incubators and accelerators.

Objectives

The objective of CAIP is to establish a critical mass of outstanding business incubators and accelerators that can develop innovative, high-growth SMEs, which themselves represent superior early-stage investment opportunities through innovation assistance services in Canada (CAIP, 2013a). The program logic is described in Appendix A.

Selection process

CAIP recipients were selected through a one-time request for proposals (RFP) that was launched on September 23, 2013 with a

[3] According to the 2013 budget (Finance Canada, 2013, page 188), the VCAP was supported by four measures : (1) $60 million over five years to help outstanding and high-potential incubator and accelerator organizations expand their services to entrepreneurs; (2) $100 million through the Business Development Bank of Canada to invest in firms graduating from business accelerators; (3) Promoting an entrepreneurial culture in Canada through new Entrepreneurship Awards; and (4) $18 million over two years to the Canadian Youth Business Foundation to help young entrepreneurs grow their firms.
[4] CAIP was first announced in the 2013 budget (Finance Canada, 2013) with a budget of $60M which was increased to $100M in 2014.

proposal submission deadline of October 30, 2013. Some 100 proposals were received. All proposals were first assessed by NRC-IRAP on eligibility and selection criteria (CAIP, 2013a). The proposals that met the program criteria were then presented for evaluation and recommendations to the independent Canadian Venture Capital Expert Panel (VCEP), a five-member panel with experience in the venture capital asset class, business, and finance sectors who had been selected by Finance Canada. The final selection of recipients by the VCEP, was announced in late June 2014 (Thomas, 2014).[5]

CAIP recipients

Eligible recipients were to fall under one of two categories: outstanding[6] or high potential[7] (CAIP, 2013c). In the end, only "outstanding" recipients were selected. According to the RFP, recipients were to be market-driven, led by the private sector, and contributing to a sustainable venture capital system. Sixteen A/Is (individual entities or partnerships) were selected by the VCEP to receive funding under CAIP.

Contribution Agreements

The contribution agreements are contractual documents between NRC-IRAP and CAIP recipients that express the key terms, conditions and obligations under which NRC-IRAP will make contribution payments to the recipient. Examples of obligations include the requirement to report key performance data annually.

The process for developing the 16 contributions agreements began with NRC-IRAP completing a due diligence process for the selected organizations. Contribution agreements were then negotiated between CAIP recipients and NRC-IRAP regional offices based on the original proposal of each applicant, the framework of the Financial Administration Act (FAA) and the Directive on Transfer Payments. All CAIP recipients are required to demonstrate matching contributions on at least a 1:1 basis during the period of the contribution funding.

All but one of the contribution agreements have starting dates between June 1, 2014 and September 1, 2014. The remaining contribution agreement was finalized early in 2016. All agreements were signed after the effective starting date –

[5] A sixteenth recipient was announced later.
[6] An "outstanding" accelerator or incubator refers to an accelerator or incubator that demonstrates all of the characteristics outlined in Organization Selection Criteria (section 2 in the Required Information), including a demonstration of their achievements and ability to contribute to the growth of innovative early-stage firms.
[7] A "high-potential" accelerator or incubator has similar characteristics to an outstanding accelerator or incubator but is at an earlier stage of development and therefore may lack a sustained history of assisting firms and entrepreneurs.

between 14 and 218 days – but no payments were issued before the signature of the contribution agreement by both parties.

Eligible Costs

Eligible costs refer to the expenses incurred by recipients that are eligible for re-imbursement under each A/I's contribution agreement. The negotiated definition of 'eligible costs' and the resulting claims processing protocol employed to validate expense claims arose as a central feature of this evaluation. Recipients bemoaned the complexity and administrative burden of the process and program representatives expressed that these processes were essential for appropriate oversight.

CAIP's non repayable contributions were designed to support incremental activities such as higher output of firms from accelerators and incubators; increased range, availability and quality of services; or stronger entrepreneur networks.

Eligible costs in support of these activities are specified in individual contribution agreements. Eligible costs include (CAIP, 2013a):

- salary costs
- overhead costs
- professional fees/rates
- contractor fees
- travel and living expenses
- operating and maintenance expenses

Non-eligible costs were capital expenditures including the purchase of land, leasehold interest in land, or the payment of property taxes.

According to CAIPs Terms and Conditions, contribution payments are made based on claims received for (a) achievement of pre-determined performance expectations or milestones – a description of the performance expectations or milestones is to be provided; or (b) reimbursement of eligible expenditures. Payments have been made by NRC-IRAP mainly on the basis of the latter, although where deemed necessary, advance payments have been made in accordance with the recipient's cash flow requirements.

Spending and Commitments as of April 2016

Appendix C contains the details of the amounts spent and committed to date by the program for each of the 16 contribution agreements.

While program documentation indicates that $1.5M was earmarked for program management over five years, according to key informant interviews, this amount was used to support regional and headquarter activities of the NRC-IRAP staff mobilized for CAIP administration in the early phases of CAIP. The evaluation team had insufficient details to probe this further.

3 PROGRAM RELEVANCE

The relevance of CAIP is analyzed from three angles: the need for start-up support by accelerators and incubators (A/Is); the need for support to A/Is; and, alignment with federal roles, responsibilities, and priorities.

3.1 Need for Start-up Support by Accelerators and Incubators

Finding 1: There is a growing focus on accelerators and incubators by federal and provincial governments as a mechanism to support innovation. However, it should be noted that empirical evidence to support their effectiveness is not conclusive.

All interviewees agreed that government funding is important in supporting the development of small and medium enterprise through services that incubate entrepreneurial ideas to a level where they can crystallize into a potential business and that accelerate these emergent firms to a level of development that can put them on a track to commercial viability.[8] This is supported by various government statements; for example, the 2013 Budget (Finance Canada, 2013, 204) emphasized the need "to support high-potential young businesses, to ensure that they are able to grow into globally competitive firms that drive job-creation, innovation and economic growth."

Interviewees noted that consequently, there has been growing investment by different levels of government on A/Is as a tool for innovation and economic development. They also indicated that governments are more willing than the private sector to seek out and encourage large numbers of high risk, early-stage ventures, weed out unpromising prospects, and work with those with promise to get their business basics in place. Although key informants in this evaluation endorsed A/Is for support of innovation, they also acknowledged that only a portion of incubated and accelerated firms will go on to be successful.

The literature review found that much of what is written on A/Is focusses on the few most highly successful companies. Interviewees also cited instances where incubation of Canadian firms had led to successful outcomes, including access to next levels of capital.

[8] Key informants were selected because of their association with CAIP or other accelerator/initiatives. Considering that this evaluation is formative in nature, no attempt was made to include dissenting voices.

To assess the effectiveness of A/Is in increasing likelihood of access to capital, the literature review also examined the few controlled studies that compared the outcomes of non-incubated businesses to comparable incubated counterparts and made careful efforts to track incubator participants over time. The literature review findings on the effects of A/Is on success of SMEs suggest that (a) the highly successful cases are outliers in a very mixed pattern where failure is more common than success; and (b) effects are enhanced in A/Is using best practices.

3.1.1 Evidence on Incubated/Accelerated SME Success

Effects of A/Is on access to capital: Studies show that A/Is are not very effective in helping incubated firms get access to capital (Al-Mubaraki and Busler, 2010; M'Chirgui, 2012). The relationship between access to capital, financial performance and firm survival appears to be complex, especially since some studies include acquisitions as survivorships and some do not. In Canada, availability of follow-up funding differs significantly across sectors, regions and stages of growth (DEEP, 2015a) and risk capital for early stage ventures in Canada is the scarcest (DEEP, 2015a). The A/I structure influences outcomes accessible to SMEs; venture-backed organizations almost exclusively focus on follow-on funding; others, notably publicly funded organizations, focus more broadly on the development of sustainable companies (survivorship and growth) (DEEP, 2015a).

Success indicators: First, the evaluation found that while the expectation is for CAIP to increase SME access to capital, published studies tend to focus on three other indicators of SME success: graduation rates, growth in size and revenue, and survival rates post-incubation. In the literature, "access to capital" does not appear to be considered the most useful immediate indicator of incubator success. For example, in a 2005 survey of business incubators, Statistics Canada used a range of indicators to reflect success, including: growth (jobs created; revenue generation; receipt of R&D tax credit); survival rates post-incubation (continuing, bought out or merged and closed), and revenue raised (Joseph et al., 2006, 15; Bergek and Norrman, 2008). Key informant interview data showed that CAIP stakeholders expect a wide variety of outcomes from participating SMEs, but that there was consensus only on survival and growth in terms of jobs – not access to venture capital

Effects of A/Is on viability - Graduation rates: Only a small proportion of incubated firms graduate from the incubator within the expected time frame of three to five years (Amezcua, 2012). A/Is with more stringent selection criteria for participating SMEs have higher graduation rates (Lewis et al., 2011; Amezcua, 2012).

A/Is with more stringent graduation criteria produce SMEs that are more likely to survive and grow (Phan et al, 2005).

Effects of A/Is on viability - Survival rates post incubation: Data available to measure incubatee survival are limited, use inconsistent measures, and are often biased by attrition (Dempwolf, 2014; Schwartz, 2009, 407). Reported post-graduation survival rates vary widely, from 15% to over 90% (Schwartz, 2009). Two controlled studies found that failure rates are higher in incubated businesses than comparable non-incubatees (Amezcua, 2012; Dalziel; 2012). There is a high risk period in the three years immediately after graduation (Schwartz, 2009). Most (90%) non-survivors have gone out of business (liquidation or bankruptcy), rather than being acquired (Schwartz, 2009; Brander et al., 2008).[9] Likelihood of survival is higher among firms that grew in employees and sales during the incubation period (Schwartz, 2009). Some studies suggest that one of the effects of A/Is is to delay inevitable failure (Schwartz, 2009, 407) while others suggest that incubated entrepreneurs have learned to jettison probable failures more quickly and pivot towards more promising ventures (Amezcua, 2012; Culp, 1997; DEEP, 2015b; Herman and Williams, 2013).

Effects of Accelerators and Incubators on SME growth: Effects of A/Is appear to be stronger on creating employment and increasing sales within incubated firms rather than increasing their capacity to operate independently (Dettwiler, 2006; Amezcua, 2012). However, effects are small (Amezcua, 2012) or inconclusive (Dalziel, 2012) and may not offset the costs of running incubators (Amezcua, 2012). Canadian data also show that there are distinct patterns for different types of SME growth: revenue increases faster than profit and the number of employees, in that order (BDC, 2015).

Regional effects of A/Is: Studies of effects of A/Is on regional economies have shown mixed findings. Some suggest they may have a negligible or net negative effect (Amezcua, 2012), while others find various positive impacts on the wider business environment that extend beyond the incubated/accelerated SMEs (DEEP, 2015b; Dee et al., 2011; Fehder and Hochberg, 2014). The diversification of funding sources and the rise of accelerators may increase potential benefit to peripheral regional ecosystems (Quebec City Conference, 2014).

[9] It may important to note that, in terms of promoting competition and of a more “entrepreneurial” economy, exit by IPO (remains and increases competition in the relevant marketplace) is preferred to exit by acquisition (reduces competition).

3.1.2 Accelerator and Incubator Best Practices that Enhance SME Success

A/I practices that have been empirically shown to be related to better outcomes (particularly survivorship and growth) for participating SMEs are:

- » Rigorous incubatee selection using a balanced set of indicators (Lewis et al., 2011; M’Chirgui, 2012; Dee et al., 2011)
- » Provision of proactive services including proactive crisis intervention and structured activities requirements for incubatees as opposed to a “laissez faire” approach (Dettwiler et al., 2006; Dee et al., 2011)
- » Focus on incubatees’ business and project management knowledge skills, as opposed to technology or product related skills (Dee et al., 2011; Dempwolf et al., 2014; M’Chirgui, 2012; Lewis et al., 2011)
- » Adaptation of services provided through the incubation process and period (Dee et al., 2011; Mian, 1997)
- » Provision of access to networks, active mediation on behalf of, and showcasing incubatees with those networks, including networks of: co-located firms, skilled consultants and business services suppliers (e.g. legal), government officials, bankers and venture capitalists (Lewis et al., 2011; Dee et al., 2011; Hackett and Dilts, 2004b; M’Chirgui, 2012; Culp, 1997)
- » Provision of, or support to develop, a management/governance team or advisory board experienced with entrepreneurial experience (Lewis et al., 2011; Al-Mubaraki and Busler, 2010)
- » Provision of expertise and support to develop strong IP licenses and management (Lewis et al., 2011; Rothaermel and Thursby, 2005)
- » Collection of client outcome data including long-term follow-up of incubatees, with indicators adapted to their stage of maturity, and use of outcome data to adjust practices (Lewis et al, 2011; Vanderstraeten et al., 2011)
- » For accelerators: attention to all three customer markets: the accelerated firms, other firms that may be looking to grow by acquiring an accelerated firm, and venture capitalists and other investors (Dempwolf, 2014)

To the extent that CAIP recipients are implementing known best practices, it is plausible but not certain that they will increase likelihood of success of some of their participating SMEs over and above what would have happened to those firms in the absence of CAIP support.

3.2 Need for Support to Accelerators and Incubators

3.2.1 Accelerators, Incubators, and other regional-level mechanisms

Finding 2: Evidence in the literature is limited but suggests A/Is can complement other regional-level mechanisms aimed at increasing SMEs' access to capital.

Across Canada as well as internationally, there are a wide range of supports available to support SME growth. No studies were found that specifically addressed the mechanisms of complementarity between different sets or suites of economic development programs, although some authors have noted that research is starting to examine the interplay between A/Is and the presence of other economic development efforts such as business development associations (Amezcua and Noble, 2012). A/Is that facilitate access to economic development agencies and agents have more successful client firms, in part because other components of the regional systems including local government officials can be influential in educating funding sources such as venture capitalists about the A/Is (Lewis et al., 2011). Embedding A/Is in strong, multi-support regional systems, including support from local authorities facilitates their client SMEs success (M'Chirgui, 2012).

3.2.2 CAIP and Other Programs

Finding 3: CAIP is largely viewed as complementing other innovation and economic development initiatives, and providing incremental and unique services. However, there is potential for unintended overlap and duplication with similar government programs supporting SMEs, particularly the federal government's regional economic development agencies.

There is no complete picture of government innovation or economic development programs, even at the federal level. It is therefore difficult to ascertain complementarity or duplication of efforts and the positioning of CAIP within this suite.[10] Moreover, there appear to be varying underlying notions amongst the key

[10] For example, at the federal level: Industry Canada (program not specified), Agriculture and Agri-Food Canada (AAFC) FPT Growing Forward 2 Programs, Développement économique Canada pour les régions du Québec (DEC), Atlantic Canada Opportunities Agency (ACOA), Federal Economic Development Agency for Southern Ontario (FedDev), Federal Economic Development Agency for Northern Ontario (FedNor), Western Economic Development (WD), Canada Centres of Excellence for Commercialization and Research (CECR) funded by CIHR, NSERC, and SSHRC; at the provincial level: Ministère de l'Économie, de la Science et de l'Innovation du Québec, Ontario Centres of Excellence Campus Linked Accelerators, BC Innovation Council, Ontario Ministry of Research and Innovation, Regional Innovation Centres, MITACs Young Entrepreneurs.

informants with stakes in CAIP results about the program's intention. Some described its role as supporting SME development by providing intensive services to a select few highly promising firms, while others spoke of attracting and providing earliest-stage services to as many emergent ideas as possible. Another view is that CAIP recipients should complement the regional or local array of economic development services. To some extent, views of CAIP's degree of complementarity and overlap with existing programs depended on the interviewees' view of what they thought it should be doing.

Within the burgeoning innovation ecosystem, however, the role of CAIP is understood amongst key informants to be focused on early-stage firms, at the incubation end of development, although moving into acceleration phases over the period of support. CAIP funding was specifically to be used for incrementally expanding (i.e., in new sectors, regions, partnerships) existing acceleration and incubation services. CAIP recipients and partners interviewed indicated that this is the appropriate space for CAIP to occupy.

What sets CAIP apart from other programs supporting A/Is and is most valued amongst key informants is that CAIP funding is substantive (larger amounts relative to one-off projects/initiatives) and longer (over five years versus annually/one-offs).

Consistent with the finding in the literature, a theme emerged from key informant responses that the particular combinations of support depend very much on the particular sector and regional context of activity,[11] and that the particular combinations of supports were seen as needing to fit with the assets and strengths in the region.

A concern about complementarity was raised by recipients and other organizations involved in providing supports to SMEs regarding the various federal programs that also support innovation and business development and most particularly federal regional economic development agencies.[12] Interviewees had observed little coordination between CAIP and their regional federal counterparts at the time of CAIP design and recipient selection, although this was not within NRC-IRAP's CAIP mandate. This has added to the complexity of systems to be navigated by entrepreneurs and potentially missed opportunities

[11] For example, in the IT sector where development can happen rapidly, start-ups can benefit from a boot camp type of incubator/accelerator model with rapid follow-on funding for production and marketing; whereas in sectors with longer technology cycles such as the space or drug industries, services provided in conjunction with university research parks and other forms of industrial research support, for example including trialing or piloting, may be most effective.

[12] Atlantic Canada Opportunities Agency, Canada Economic Development for Quebec Regions, Canadian Northern Economic Development Agency, Federal Economic Development Agency for Southern Ontario, FedNor, Western Economic Diversification Canada.

for synergy. Another specific concern was also noted with potential for overlap with Global Affairs' CTA Initiative.

When asked about synergies they might have observed between CAIP and other forms of support to SME development, respondents tended to mention funding sources from other federal, provincial, and territorial regional innovation and economic development initiatives and describe how they were different from CAIP but were able to work together. CAIP recipients are skilled entrepreneurs themselves, highly effective in crafting their business endeavours through multiple sources of funding. In this context, CAIP has provided a larger and more stable building block, but is one among several.

In addition, various types of recipient-level synergies were reported. In one instance, a recipient reported that having received CAIP funding was allowing them to more easily leverage funding from other sources.[13] Another recipient noted that CAIP funding led to the creation of a relationship with an international partner and may result in an investment in a Canadian Science Park.

RECOMMENDATION 1: Working with other federal departments and agencies to optimize CAIP's contribution to Canada's re-defined innovation strategy, in future program design NRC-IRAP should analyze and act on opportunities for complementarity within the overall suite of federal support to SME development as well as on any costs of existing or potential overlap.

3.3 Alignment with Federal Roles, Responsibilities, and Priorities

Finding 4: Although enhancing Canada's venture capital system was a government priority when CAIP was created, it is not clear how CAIP relates to the Venture Capital Action Plan, in part because VCAP is not a structured program and has no accompanying documentation.

According to the 2013 budget (Finance Canada, 2013, 188), the VCAP was supported by four measures:

» $60 million over five years to help outstanding and high-potential incubator and accelerator organizations expand their services to entrepreneurs, i.e., CAIP

[13] This however, seem to be more a function of the large amount of long-term funding and the accompanying inferred credibility, than CAIP-specific aims – in other words similar dollars from any other source would have had the same effect on leveraging.

- $100 million through the Business Development Bank of Canada to invest in firms graduating from business accelerators
- Promoting an entrepreneurial culture in Canada through new Entrepreneurship Awards
- $18 million over two years to the Canadian Youth Business Foundation to help young entrepreneurs grow their firms

According to other sources, other components of the VCAP were the establishment of four large-scale private sector-led funds in partnership with institutional and corporate investors as well as interested provinces and additional resources to continue developing a robust venture capital system and a strong entrepreneurial culture in Canada.[14]

However, beyond this information, it seems that the VCAP is not a structured program and has no accompanying documentation.[15] In particular, no documentation could be found to explain the expected logic of the action of the VCAP's components and within this, CAIP's contribution to it. How the relationship between CAIP and the VCAP is operationalized is thus not clear. NRC-IRAP staff interviewed did not refer to the VCAP as a source of orientation for CAIP. Interview data also suggested that attempts to develop a common outcome framework for CAIP and one other VCAP component, the Canadian Technology Accelerator (CTA) Initiative,[16] were not concluded.

The Budget 2013 description of the VCAP suggests a logic that CAIP was to support SMEs to the level where they would become attractive to venture capital investors, while simultaneously increasing availability of venture capital funding. However, neither the contribution agreements nor recipient interviews identified a clear expectation that CAIP recipients are to produce SMEs that are sufficiently attractive to the BDC or other sources of capital upon graduation.

[14] No longer available: http://actionplan.gc.ca/en/initiative/venture-capital-action-plan
[15] Communication from CAIP contact at Finance Canada, April 27, 2016: "Il n'y a pas de document consolidé sur les différentes composantes du VCAP qui ne soit pas une confidence au cabinet."
[16] http://tradecommissioner.gc.ca/world-monde/cta-atc.aspx?lang=eng

4 PROGRAM DELIVERY

4.1 Program Design

Finding 5: CAIP's program structure was determined by Finance Canada and shaped the subsequent design of the program. In the initial program years, NRC-IRAP has had to adapt its tools and processes to accommodate this new program.

According to key informants, CAIP's fundamental parameters were determined by Finance Canada. These original parameters include the following aspects of the program:

- » CAIP is a contribution program and not a granting program
- » CAIP recipients must match program funds 1 to 1 with funds from other sources
- » matching of funds can include in-kind contributions
- » The utilization of a request for proposal process where potential recipients define their project in isolation of NRC-IRAP whereas NRC-IRAP is used to co-constructing projects with applicants
- » The selection of recipients by the VCEP, a group of experts chosen by Finance Canada; the VCEP was also responsible for establishing the initial amount of the contribution that CAIP would make to each recipient

NRC-IRAP has a long track record of delivering innovation support programs for a variety of federal and provincial partners. The program was sought out by Finance Canada as a delivery partner for the CAIP due to its experience in managing contribution agreements and its innovation support capacity which includes a network of over 200 Industrial Technology Advisors (ITAs) located across the country. Because the structural design of CAIP diverged from NRC-IRAP's traditional program delivery structure and the extended amount of time required for negotiation of deliverables with the I/As, there were delays in program delivery, tools, processes and guidance.

In the program's design and early implementation phase NRC-IRAP experienced some difficulty in adapting their program infrastructure to the new parameters required by CAIPs pre-determined structure. NRC-IRAP traditionally supports smaller R&D focused projects for which the contribution agreements, which are the contractual bases for the non-repayable contributions, are less onerous to negotiate. In the case of the CAIP, the materiality of the contribution agreements along with the requirement to stipulate al the possible expense items could be recuperated contributed to a much longer process of due-diligence and negotiation. This lead to significant amount of time required to establish the contribution agreements.[17]

The development of the guidance on program management and claim processing[18] took several months. The program developed the management guidance, guidelines, and tools in the months that followed the ministerial announcement of the recipients, concurrently with the negotiation of the agreements and the management of the first claims. The simultaneous development of guidance as the program was rolled out led to delays in the establishment of the agreements[19] and in the review of claims and payments to recipients.[20] According to key informants, the documentation required for in-kind contributions was particularly problematic.

Notwithstanding these initial challenges, CAIP is now operating more smoothly.

[17] From 14 and 218 days elapsed between the date of the planned initiation of the work and the signature of the agreements, with an average of 82 days (excluding the 16th agreement which was withheld for several months).
[18] E.g., risk-based framework for processing claims, claim verification checklist, claim process documentation, request for advance payment, clarifications on allowable expenditures, validation and approval of claims, streamlined validation and approval of claims.
[19] The contribution agreements were signed on average 82 days after the effective initiation of the work on average. NRC-IRAP and recipients were put in a delicate situation during that time. Recipients were assured that the VCEP had selected their proposal with the blessing of Finance Canada and that their contribution agreement would be effective at the date of signing; however, the proposals still had to pass NRC-IRAP due diligence (and in fact one agreement was withheld for 18 months) and recipients took the risk of initiating costs prior the contribution agreement being finalized with the understanding that some costs may not be included in the final agreement. As the *NRC-IRAP Field Manual (Orgs)* states at Section 5.4 CA Effective Date: “As for any NRC-IRAP proposal, there is no guarantee of approval. The organization should be reminded that it needs to assume responsibility for any costs incurred prior to the finalization of the agreement in case the proposal and/or expense is rejected and/or cancelled.” On the other hand, NRC-IRAP was in a difficult position as well: recipients had been chosen and publicly announced, and there was an expectation of expediency in initiating the program. By unofficially allowing the initiation of the work, NRC-IRAP satisfied this expectation but opened itself to the risk of claims from recipients whose expenses would not be deemed eligible or with whom agreements would not be signed.
[20] First payments were approved between 7 and 248 days after the date of the signature of the agreement (averaging 130 days) and between 53 and 317 after the initiation of the work (averaging 212 days).

4.1.1 Industrial Technology Advisor Involvement

Finding 6: Much of the Industrial Technology Advisor involvement in monitoring progress against claims has taken attention away from leveraging their innovation expertise. However, there was some value added where ITAs put their established networks of contacts to use. The unique value of NRC-IRAP as a delivery agent for CAIP varies with the level of involvement of the respective ITA whose primary responsibility remains the management of the CAIP contribution agreements.

According to interviewees, NRC-IRAP was selected to deliver CAIP because of its knowledge of small and medium size businesses and of its track record at managing contribution agreements.

Program documentation establishes the ITA role as: “The Lead ITA has the leading role in managing the relationship with the recipient and in ensuring that the claim is adequately reviewed prior to the Lead ITA providing their recommendation for approval” (CAIP, 2015b). The ITA may be assisted by a Regional Contribution Agreement Officer (RCAO) for quality assurance reviews of claims and formal recording of amounts (CAIP, 2015b).

Key informants clearly indicated that the ITAs’ role in CAIP has consisted largely of the development of the contribution agreements and the management of claims – sometimes limiting the ITA to purely administrative or clerical functions of analyzing claims and channeling information back and forth. ITAs themselves indicated that claim processing is a time-consuming component of their involvement in CAIP.

For recipients, the face of NRC-IRAP is their regional ITA and as a result, the benefits of regional delivery are associated with the quality of the relationships they have with their ITAs. These vary significantly. Overall, recipients indicated that support provided by their ITA was helpful in conveying both an understanding and the specificities of their context and operations to more far removed central offices. A few key informants specifically mentioned having accessed NRC-IRAP’s Concierge Program through their ITA.

While NRC-IRAP was able to leverage its connections and knowledge through ITAs in some instances, challenges were noted with integrating CAIP within the program. NRC-IRAP deals directly with SMEs though smaller agreements with fewer components to activities and claims.
NRC-IRAP’s value added happens through the advice function of the ITAs rather than the processing of claims.

Setting aside the some early implementation challenges NRC-IRAP itself was highly regarded amongst key informants: it was seen as stable and with significant on-the-ground knowledge (through the ITAs) of industrial sectors across Canada. Overall, it is seen as a logical and supportive delivery mechanism.

4.2 Balancing Control with Flexibility

Finding 7: NRC-IRAP made several adjustments to claim processing to adapt to circumstances.

Two years into the management of the program, procedures have been clarified and most claims are processed in a timely manner. NRC-IRAP has also reduced its claim control requirements after the first claim, has started making advance payments where necessary, and has allowed putting aside a disputed part of a claim from the main claim to allow for the more rapid repayment of the acceptable expenses.

4.2.1 Contribution Agreements

Finding 8: Funded Accelerators and Incubators feel constrained by their contribution agreements and desire more flexibility in regard to their funded activities.

CAIP's funding recipients have expressed feeling constrained by the highly structured and detailed contribution agreements and that these contracts are limiting their agility with regard to their day to day activities. At the same time, program representatives argue that the detailed activities and outcomes in the CAs are essential for appropriate oversight and to ensure the achievement of the longer term project objectives.

CAIP's overall premise is that high-performing incubators and accelerators provided with significant additional and longer-term funding would be able to use their knowledge and skills to ramp up success for client SMEs. The contribution agreements that are to enable these results are all structured in the same manner: contribution objectives, project activities, project deliverables, expected project outcomes, and best practices requirements, and basis of payment. They detail this information very finely (for example, activities to take place in year 5 of the agreement). The details are specific to each recipient and are based on the recipient's response to the RFP and further negotiation with NRC-IRAP.

Considering the duration and size of the agreements, many key informants took the position that the level of detail found in the contribution agreements is counter-productive. They felt that, while facilitating financial control, the detailed description of activities and expected outcomes constrain the recipients in a five-year plan that does not allow them flexibility to adapt in a learning and changing environment. For example, issues were raised with five-year agreement targets that were reached in the very first year of the program. Processes are in place to allow for amendments to the contribution agreements. However, recipients report that these processes do not offer enough agility to meet their needs.

In the rapidly evolving innovation environment, experiential learning about which projects work and which do not, along with the need for course correction accumulates quickly. From the operational perspective of the recipient organizations, these factors are at odds with detailed five-year contracts.

The program perspective on contribution agreements diverges from that of recipients. Key informants from within the program report that contributions agreements with detailed activities and expected outputs are important tools for ensuring the necessary fiscal oversight that is expected of contribution programs. While they understand that recipients would prefer the flexibility that would come with a grant, their position is that the existing level of detail is appropriate to the fiduciary responsibilities of a contributions program, particularly considering the substantial size of the contribution agreements.

4.2.2 Claims Analysis

Finding 9: NRC-IRAP has implemented a rigorous claims analysis process and the evidence suggests that reduced controls would increase overall effectiveness without creating undue risk.

Evidence, gathered from key informant interviews with internal and external stakeholders shows that recipients consider the process of submitting expense claims to be extremely onerous. This is supported by an analysis of the claims process which indicates that NRC-IRAP chose to manage this contribution program using strict guidelines. For example, all claimed expenses have to be unequivocally associated with activities listed in the agreement and all amounts in the first claim were reviewed in detail.[21]

NRC-IRAP's interpretation of CAIP's risk profile has resulted in contribution agreements that are very stringent. While

[21] As will be seen in the next chapter, other federal organizations working under the same Financial Administration Act (FAA) and Policy on Transfer Payments (PTP) have adopted different, more flexible practices.

amendments to agreements are possible and some were indeed made, key informants indicated that amendments are complicated to set up and time consuming to negotiate. Stringent agreements have also translated into fixed and quantified performance expectations laid out over five years.

NRC-IRAP s claims management process is guided by a rigorous approach to risk management of public funds. However, as is typically the case, the emphasis on rigorous controls comes with an associated administrative burden on recipient organizations.

Overall, evaluation findings suggest that CAIP claims processing is not optimally balanced for the level of risk that each transaction represents. The current protocol for CAIP's claims processing ties up recipient and program management energies in a burdensome administrative process which redirects effort from innovation support to administrative tasks. For example, all claims are treated the same way, unrelated to the amount in question or to the recipient track record. Meanwhile, one of the key principles put forward in the Blue Ribbon Panel report (2006) and in the ensuing *Government of Canada Action Plan to Reform the Administration of G&C Programs* was that the management of G&C programs should balance control over the use of public funds and burden on the recipients through a risk-based management.

Conversely, it is important to consider that the materiality of the individual contribution agreements indicate a level of financial oversight that is above that required for the traditional NRC-IRAP projects. The average project size for a regular NRC-IRAP project is approximately $125,000. Comparatively, the average CA size for CAIP is approximately $6,000,000.

It should also be noted that NRC-IRAP has made adjustments to its claiming process to decrease the administrative burden on recipients. For example, during the early implementation period NRC-IRAP chose to validate 100% of line items presented in each claim. The burden associated with this level of control was considered onerous by recipients and NRC-IRAP staff alike. Following a consultation process, NRC-IRAP streamlined their claims analysis so that validation of costs-incurred would only be required for certain cost categories. Less risky cost categories would be validated on a sample basis only. The process was also adapted so that if some line-items were holding up a re-imbursement, a partial payment could be made while the items at issue were investigated. This was considered a positive move that helped free up the cash flow of recipient organizations.

4.2.3 Options for Increasing Flexibility

Finding 10: NRC-IRAP's control framework is appropriate for its 'cost-incurred and paid' delivery mode. However, there are other models for managing contributions programs that may offer a different balance of control and flexibility, including allowance-based reimbursements, the strategic use of audits, and long-term agreements based with shorter term action plans.

An analysis of relevant Government of Canada studies and policy documents, complemented by interviews with government departments and agencies that manage contribution agreements, suggest that there are other potential models for managing contributions programs that may offer a different balance of control vs flexibility.

CAIP is modelled on NRC-IRAP's Contributions to Organizations (CTO) program which is a cost-incurred Grants and Contributions (G&C) program. As a G&C program CAIP is subject to TBS requirements which are stipulated in its Terms and Conditions (T&Cs). CAIP's T&Cs were examined to understand what, if any additional flexibility they afford NRC-IRAP. Evidence from interviews and the evaluators own analysis suggests that NRC-IRAP has chosen to interpret the legal and policy frameworks to minimize risk rather than to optimize flexibility.

The strict controls were explained to the evaluation team as driven by a management concern that allowing more freedom to recipients could translate into the need to claw back some funds if reimbursed expenses were later found to be ineligible. Other departments and agencies have managed this risk by emphasizing information, education, and capacity building among recipients, and by withholding a certain amount pending final audit results.

CAIP's T&Cs do allow for NRC-IRAP to manage CAIP on a results basis rather than on an activity basis. While such a model may seem attractive there are a number of practical considerations that made it unattractive for NRC-IRAP. For example, predicating the claims process on milestones rather than activities requires the definition of reliable milestones or performance indicators that can be used to ascertain whether CAIP funds are being appropriately allocated. NRC-IRAP made the decision during the design phase that defining such milestones or PM indicators would be impractical and would represent a real risk for both program and recipient. This concern was to some extent proven correct as the majority of recipients failed to provide acceptable performance records at the end of year one. Using a results model, the program would be forced to claw back funds based on a lack of evidence that performance milestones had been reached. Given the amount of money in question, this would have been a difficult process and would be a significant business risk for recipient organizations.

However, the cost-incurred and paid model is not the only option available and other models have been used to good effect in other departments and agencies. Documentation and interviews suggest that these other models would allow CAIP to apply flexibility to the management of contribution agreements while abiding by the letter of the FAA and of the Policy on Transfer Payments. Examples of such flexibility include:

» Allowance-based reimbursements which balance the trade-off between expense control and flexibility in claiming with a pre-defined maximum amount
» Strategic use of audits to ensure the correct interpretation of the terms of the contribution agreements
» Long-term agreements with shorter term action plans and regular reassessments of the most effective response to current situations

RECOMMENDATION 2: NRC-IRAP should further examine best practices for contributions programs to rebalance the level of financial controls employed in claims administration.

4.2.4 Self-Organization

Finding 11: CAIP recipients are self-organizing; there is an opportunity for NRC-IRAP and recipients to learn together.

CAIP recipients are few and organizationally sophisticated – indeed they were selected as “outstanding” A/Is. They will also be involved in CAIP for five years. It is therefore not surprising that they have started creating a community, organizing meetings, discussing issues among themselves, and communicating with NRC-IRAP about their challenges. While a significant proportion of recipients’ early discussion has been in defense of their interests and hence somewhat adversarial, NRC-IRAP could see this self-organizing as an opportunity to further engage with recipients. NRC-IRAP’s response to date has been polite but engagement has been limited. This may be a prudent attitude because of the responsibilities of NRC-IRAP in controlling program finances, but it may not be the most effective stance: according to some key informants, opening a frank dialogue and adopting a learning attitude could prove more constructive in the long run.

RECOMMENDATION 3: NRC-IRAP should explore ways to facilitate structured learning within CAIP agreements and to further support the timely sharing of best practices among recipients and with NRC-IRAP.

4.2.5 Sustainability

Finding 12: It is unclear whether or not CAIP initiatives are expected to be sustainable past CAIP funding.

The CAIP documentation and contribution agreements do not express clear expectations regarding the sustainability of the CAIP-funded initiatives: is it expected that CAIP-supported activities will be maintained once the CAIP funds run out? Some recipients indicated that they would not be able to carry forward projects developed using CAIP funds unless more funding is found for 2019 and beyond. There are indications that, without continued funding, some recipients will start winding down their CAIP activities in 2018-2019, thereby reducing overall program results.

In order to address issues arising from the program’s termination of funding following the 5-year timeframe NRC-IRAP has scheduled a lower level of funding in the final year. However, it remains unclear whether the expectation is that the recipients maintain the level of activity they were able to sustain under the CAIP in the post-project period.

5 PERFORMANCE MANAGEMENT

5.1 On-going Performance Measurement

Finding 13: NRC-IRAP was significantly late in collecting critical performance data for the first year of CAIP. Once collection was implemented, data provided by recipients was incomplete. As such, program management is not in a position to use this performance data operationally or strategically.

NRC-IRAP was late in collecting performance data from recipients for the first year of CAIP's lifecycle. Under CAIP's PM-S, recipients are expected to deliver on an annual basis a list of the start-up companies that they serviced along with the type of service rendered. Further, recipients are expected to track their client firms and provide to NRC-IRAP the following data:

» firm status (in operation, closed, sold)
» number of FTEs
» total revenue
» net income
» equity investment received

Tracking these indicators has been identified as a best practice in the literature (Lewis et al, 2011; Vanderstraeten et al., 2011). In addition, although the reporting requirements have been criticized by some recipients as onerous, others indicate that this information is collected by all accelerators and incubators as a standard business practice.

Some recipients have also pushed back on their reporting requirements stating objections such as the sensitivity of client data and competitive concerns. In response, NRC-IRAP has accepted that client information be anonymized as long as a unique identifier permits analysis of related information at the company level from year to year. Overall, there is little evidence that the performance data requested is overly onerous or inappropriate.

The quality of the data provided by funded accelerators and incubators is concerning. Few recipients delivered the required information and some offered information in an unusable format. For all intents and purposes, outcome-level information is not available for the first year of CAIP activity.

Despite developing a performance measurement strategy (PM-S) during the program's design phase, NRC-IRAP was delayed in providing a reporting template to recipients. This contributed to program's inability to enforce compliance with the reporting obligation detailed in the contribution agreements.

RECOMMENDATION 4: NRC-IRAP should take all necessary steps to ensure that the performance indicators stipulated in its Performance Measurement Strategy have been collected from all recipients for all program years.

5.2 Impact Evaluation

Finding 14: Outcome-related information is likely insufficient for the impact evaluation.

NRC-IRAP management is confident that the outcome information will be sufficient to build a summative evaluation in two years – although there are dissenting voices indicating uncertainty. In the analysis by the evaluation team, it is unlikely that NRC-IRAP will be able to carry out an adequate summative evaluation in two years. This is because:

» Year 1 annual data are of poor quality
» The outcome data do not associate results with the nature of the intervention. Assuming the data are indeed gathered, it will not be possible to distinguish which interventions have had what impact on that type of start-up in which circumstances.
» No provision has been made for the analysis of CAIP's contribution to results and to a comparison group (counterfactual)
» The existing logic model is of limited use and the program has not articulated a theory of change (i.e., how the various activities supported by the program are supposed to generate the intended effect)
» NRC-IRAP does not collect data that to inform the gender-based analysis (GBA+) required for the upcoming summative evaluation.[22] Other sources that can inform the GBA+ will need to be identified

The literature on accelerators and incubators offers several models of outcome measurement. The DEEP Centre has developed a methodology and used it to evaluate the impact of support to accelerators and incubators (DEEP Centre, 2015b).

[22] Gender-based analysis (GBA) is an analytical tool for assessing the gender-specific impacts of policies, legislation, and programs on women and men. At the United Nations' Fourth World Conference on Women, in 1995, the Government of Canada committed to analyzing gender-specific policy impacts on women and men before making decisions on policies, legislation, and programs throughout its departments and agencies.(Office of the Auditor General of Canada, 2015, 1).

The literature and key informant interviews suggest that an impact evaluation should deal with the following dimensions of CAIP impact:

» Micro level: information concerning the SME start-ups serviced by the CAIP recipients (e.g., profile, outputs over time, performance over time, macro-economic impact)
» Mezzo level: information concerning CAIP recipients (e.g., services offered, delivery of outputs and outcomes described in the agreements, quality of the service offered, quality of the response to end user needs, sustainability of CAIP activities)
» Macro level: the business acceleration ecosystem (e.g., production of incubation/acceleration tools or programs, lessons learned, best practices) and the regional/sectoral ecosystem (e.g., job creation, community's entrepreneurial climate, structural change to the regional or sectoral dynamic, spin-offs)

Existing data collection will not support such an analysis plan. Moreover, recipients are knowledgeable about their business and keen to be involved. This suggests that the program could team up with the evaluation group and the recipients to plan a useful, learning-based summative evaluation.

RECOMMENDATION 5: The NRC Office of Audit and Evaluation, in collaboration with NRC-IRAP and CAIP recipients, should immediately plan the details of the impact evaluation to be conducted in the last year of the program.

6 CONCLUSION

Overall, CAIP was found to be relevant to the NRC and federal government mandates as well as complimentary to other innovation support initiatives although potential for overlap is present. Looking at the relevance of accelerators and incubators to the success of the innovation ecosystem the literature found that there was a small base of empirical evidence which offered mixed results on the quantifiable impacts of these organizations on firms and on the economy.

The balance of control vs flexibility as well as the appropriateness of a cost-incurred and paid contribution program for supporting were central issues. While recipients express the desire for less ‘strings attached’, program representatives point to the need for oversight given that the average CAIP CA is approximately $6 million. The evaluation finds that a rebalancing in favor of less stringent claims processing could yield a net benefit without undue risk. To what extent a cost-incurred and paid G&C program is compatible with the stated needs of A/Is warrants further study.

Looking at program delivery to-date, evidence suggest that NRC-IRAP required a longer than anticipated timeframe to adapt its systems and processes to the needs of CAIP. This was due largely to key differences in the delivery structure of regular NRC-IRAP programs compared to CAIP. Evidence shows that NRC-IRAP has demonstrated adaptability and improvements to delivery systems continue to be made.

Finally, the evaluation shows that NRC-IRAP has not collected sufficient performance measurement (PM) data for year-one. The PM outlook for year two is concerning. Given this trend, it is likely that insufficient data will be available for the mandatory impact evaluation.

7 MANAGEMENT RESPONSE

Recommendation	Response and Planned Action(s)	Proposed Person (s) Responsible	Timeline	Measure of Achievement
1. Working with other federal departments and agencies to optimize CAIP's contribution to Canada's re-defined innovation strategy, in future program design NRC-IRAP should analyze and act on opportunities for complementarity within the overall suite of federal support to SME development as well as on any costs of existing or potential overlap.	Recommendation accepted. NRC-IRAP will leverage its participation in the development of a new Federal Innovation Strategy, to seek opportunities for complementarities and identify potential overlap. NRC-IRAP will leverage its participation in various Federal government initiatives (e.g. AGS) to identify opportunities where future program design or service can benefit from NRC-IRAP's learning through CAIP delivery.	Management involved with Federal government initiatives, NRC-IRAP	March 2017 As well as when opportunity arises	Other federal departments have increased awareness of CAIP and NRC-IRAP programs and services. NRC-IRAP gains increased awareness of complementary programs.
Recommendation	**Response and Planned Action(s)**	**Proposed Person (s) Responsible**	**Timeline**	**Measure of Achievement**
2. NRC-IRAP should further examine best practices for contributions programs to rebalance the level of financial controls employed in claims administration.	Recommendation accepted. Following recent efforts to streamline CAIP admin processes (e.g. claiming), NRC-IRAP will further examine how other departments are addressing similar accountability challenges related to managing claims. NRC-IRAP will further refine its risk management practices to reduce the administrative burden related to claims for CAIP recipients.	Director Program Expertise, NRC-IRAP Division Services, NRC-IRAP	Feb 2017	Implemented improvements in managing claims leading to reduced administrative burden for CAIP recipients.

Recommendation	Response and Planned Action(s)	Proposed Person (s) Responsible	Timeline	Measure of Achievement
3. NRC-IRAP should explore ways to facilitate structured learning within CAIP agreements and to further support the timely sharing of best practices among recipients and with NRC-IRAP.	Recommendation accepted. NRC-IRAP will build on the CAIP ITA working group to foster exchange of best practices between CAIP recipients. NRC-IRAP will seek the interest and involvement of CAIP recipients to organize a forum where participants can discuss challenges and opportunities, share best practices and identify of potential actions to strengthen their operations and service offering to SMEs.	NRC-IRAP CAIP Lead (TBD), NRC-IRAP	March 31, 2017	Increased dialogue and synergies between CAIP recipients leading to examples of impact on their operations and service offerings.
Recommendation	**Response and Planned Action(s)**	**Proposed Person (s) Responsible**	**Timeline**	**Measure of Achievement**
4. NRC-IRAP should take all necessary steps to ensure that the performance indicators stipulated in its Performance Measurement Strategy have been collected from all recipients for all program years.	Recommendation accepted. Following the initial 2014-15 year of CAIP, NRC-IRAP will ensure going forward that all recipients adhere to Annual Performance Reporting obligations. This will include re-iterating and explaining the requirements to recipients, and well as enforcement of contractual obligations.	Director Program Expertise, NRC-IRAP Division Services, NRC-IRAP	December 2016	Complete Annual Performance Data available.
Recommendation	**Response and Planned Action(s)**	**Proposed Person (s) Responsible**	**Timeline**	**Measure of Achievement**
5. The NRC Office of Audit and Evaluation, in collaboration with NRC-IRAP and CAIP recipients, should immediately plan the details of the impact evaluation to be conducted in the last year of the program.	Recommendation accepted. NRC-IRAP will collaborate with the Office of Audit and Evaluation to develop a detailed plan of how impact of the program will be measured in future CAIP Evaluation. NRC-IRAP will revisit its current performance measurement strategy to ensure alignment with detailed plan.	Chief Audit and Evaluation Executive NRC Executive Director, NRC-IRAP Division Services, NRC- NRC-IRAP	December 2016	Detailed plan of how impact will be measured in future CAIP evaluation. Alignment between detailed plan and current Performance Measurements Strategy to ensure relevant performance data is available to support impact evaluation.

APPENDIX A: PROGRAM LOGIC MODEL

The logic of the program is described at a very high level on the Terms and Conditions for the program (CAIP, 2013a).

Immediate Outcome

» Early-stage firms have access to business innovation support services
» Incubators and accelerators have increased their scope of services
» SMEs are satisfied with the services

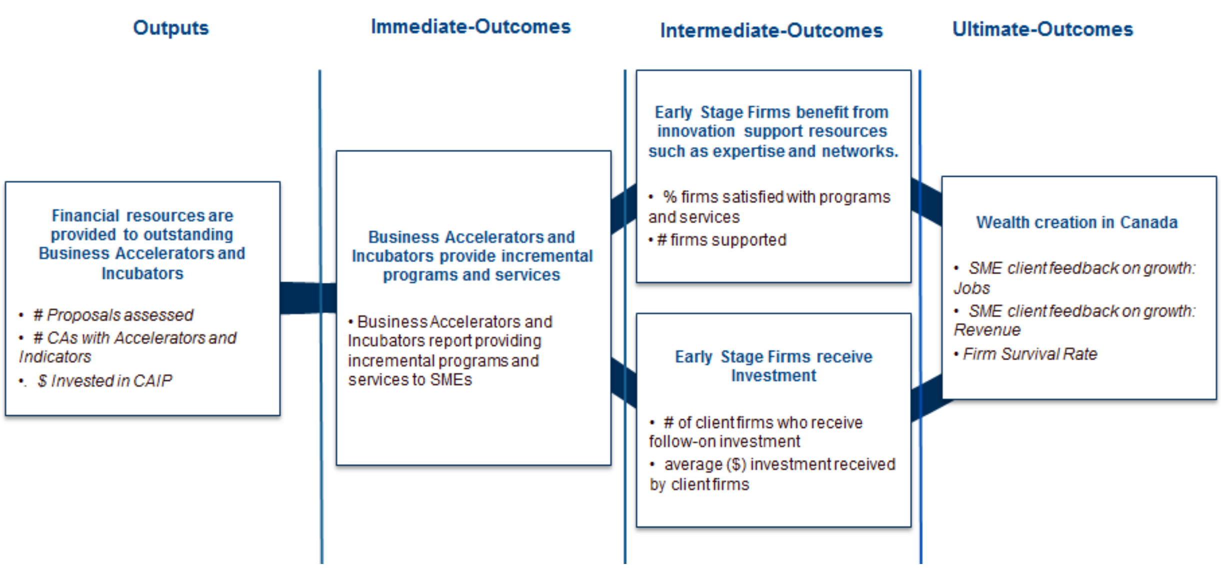
Intermediate Outcome

» Incubators and accelerators register greater success rates
» SMEs grow and attract capital

Ultimate Outcome (Long-term)

» Wealth creation in Canada

CAIP (2013b) performance measurement strategy offers the following visual depiction of the logic of the CAIP intervention.



APPENDIX B: EVALUATION METHODOLOGY

Review of Available Program Data

The data review was a compilation of information available in contribution agreements. The evaluation team content analyzed 15 CAIP agreements and created a data base of information to allow for a high level description of the agreements in term of:

» Stated objectives of the agreements;
» Activities;
» Deliverables;
» Project outcomes;
» Best practice sharing.

The evaluation also compiled a list of clients serviced by CAIP recipients on the basis of the information reported as of the end of February 2016.

A Review of Program Documentation

The review of program documentation entailed a systematic analysis of founding documents, frameworks, and interpretation notes.

A Review of Literature about the Performance of Incubators and Accelerators

The review of literature on the performance of incubators and accelerators was first based on a search conducted by the Knowledge Management Group of the NRC using the following research request:

» Literature search identifying key documents that speak to accelerators and incubators broadly and the literature on their efficacy as a tool to stimulate small and medium enterprise (SME) growth, in particular their ability to access capital; and,
» Key Canadian and international reports going back five years, and as far 10 years if necessary.

The search produced 14 Canadian and 11 international reports and journal articles. The papers identified included several editorials or other forms of opinion piece. Given the somewhat controversial nature of government involvement in stimulating business development through incubators and accelerators, the external evaluation team decided to limit the review to:

- » peer-reviewed articles or working papers containing original empirical research, whether quantitative or qualitative;
- » systematic reviews of peer-reviewed, evidence-based literature; and
- » within these, papers that were at least somewhat relevant to Canada.

Of the papers identified by the Knowledge Management Group, 12 Canadian and 10 international papers were deemed eligible for inclusion. The review of these papers was then supplemented by search for and review of additional literature identified using citations in reviewed articles and IngentaConnect. A total of 16 Canadian and 24 international papers were reviewed. All observations from the literature review were compiled in a knowledge management data base.

A Review of the Program Management Processes

The review of program management processes was two-pronged. First, the NRC Internal Audit group used existing documentation and interviews to describe the claim process and to provide formal guidance and advice on appropriate controls and practices in the management of contribution agreements in the federal government.

Secondly, an analysis of the management of the contribution agreements was based on three information sources selected to provide a well-rounded view of bases for assessing the appropriateness and efficiency of current CAIP processes.

- » Reports produced mainly by the Treasury Board of Canada on the management of grants and contributions (G&C) for programs, starting with the Independent Blue Ribbon Panel on Grant and Contribution Programs in 2006, the ensuing action plan, and various audits and verifications that have taken place since then;
- » Interviews with six representatives of other departments and agencies involved in the management of contributions; and,
- » Interviews with NRC-IRAP management.

Key Informant Interviews

Key interviews were conducted with three main categories of individuals:

» NRC-IRAP management and Industrial Technology Advisors (ITA);
» Funding recipients and their partners;
» VCEP members; and,
» Other organizations including federal departments representatives, provincial government representatives, and representatives of relevant associations.

Custom interview guides based on the evaluation matrix were prepared for each type of informant.

The NRC sent introductory messages to the key informants they had identified. All interviews were conducted in the preferred official language of the interviewee. A small number of interviews carried out in the National Capital Region were conducted in person, and the others by telephone.

All interviewees were assured at the time of the initial invitation and at the start of the interview that their comments would be kept strictly confidential. Interviews were not recorded. All observations from the interviews were compiled in the knowledge management data base.

A total of 45 interviews were conducted with the following types of informants:

» CAIP program management (9);
» NRC-IRAP Industrial Technology Advisors (7);
» Canadian Venture Capital Expert Panel (2);
» CAIP recipients and their partners (20);
» other federal departments (2); and
» other organizations involved in supporting business development at various jurisdictional levels (5).

A total of 58 potential respondents were invited to participate. While few declined, 13 did not reply to the invitation or did not follow up for scheduling. Therefore, the participation rate was 78%. This is typical for key informant interview components of evaluations, and may be a higher than expected participation among funding recipients and partners.

Evaluation issues

1. To what extent do accelerators and incubators contribute to the growth of firms and their ability to access capital?

1a. Is funding to accelerators and incubators likely to increase SME's ability to access capital?
1b. To what extent do accelerators and incubators complement other mechanisms aimed at increasing SMEs' access to capital (e.g., other components of the Venture Capital Action Plan)?

2. To what extent is the design of CAIP appropriate given other programs aimed at supporting SME development?

2a. What are the programs that support SMEs through incubators and accelerators? What are their roles, mandates, areas of focus and budgets?
2b. To what extent does CAIP complement/duplicate these other programs? Is there duplication between CAIP and these programs? Are there additional benefits expected as a result of CAIP (e.g. in the program design and its delivery through NRC-IRAP ITAs) that are not expected through other programs aimed at achieving the same objectives? To what extent does the design of CAIP provide benefits when implemented in concert with other programs aimed at supporting SME development?
2c. Are there barriers or facilitating factors which are expected to impede or enhance CAIP's impacts?

3. To what extent has CAIP been delivered as planned?

3a. Have the contribution agreements been defined and signed as expected?
3b. Have CAIP funds been spent as expected? Have CAIP funds been allocated and spent as detailed in the contribution agreements? Have CAIP operating funds been spent as planned?
3c. What has been the role of ITAs in delivering CAIP?
3d. What changes could be made to strengthen delivery for the remainder of the program?

4. To what extent are CAIP processes efficient and appropriate?

4a. Are CAIP processes (e.g. claim and reporting) appropriate (i.e. in terms of efficiency and rigour) given the level of funding awarded to recipients? Is the performance measurement data collection and synthesis appropriate for the management of the program? Is it expected to be sufficient to support an impact evaluation?
4b. Are there alternative practices used for other government contribution programs (Canadian or international) which could be used to improve the CAIP claim process?

Crosswalk of Evaluation Issues to Sections of the Report

Evaluation Issues	Report Sections
1. To what extent do accelerators and incubators contribute to the growth of firms and their ability to access capital?	Sections 3.1, 3.2
2. To what extent is the design of CAIP appropriate given other programs aimed at supporting SME development?	Sections 3.3, 4.1
3. To what extent has CAIP been delivered as planned?	Section 4.1
4. To what extent are CAIP processes efficient and appropriate?	Sections 4.2, 5.1, 5.2

APPENDIX C: FINANCIAL DATA

TABLE 1 - Value of Contribution Agreements (as of July 21, 2016)

Note: The following figures are based on financial data calculated as of July 21, 2016 and are subject to change.

Recipient	FY 2015		FY2016		FY2017	FY2018	FY2019	
	CA Allocation	Actuals (1 unreconciled PAYE)	CA Allocation	Actuals (+ unreconciled PAYEs)	CA Allocation	CA Allocation	CA Allocation	Total actuals + allocations
BC Technology Industry Association	1,500,000	972,148	1,850,000	1,397,690	2,409,077	2,380,046	1,683,785	8,842,746
Bioenterprise Corporation	530,990	70,860	380,400	379,955	534,263	527,824	373,414	1,886,316
Biomedical Commercialization Canada Inc.	225,397	225,397	225,146	225,146	226,786	224,053	158,508	1,059,890
Canada AcceleratorCo Inc.	132,252	132,252	132,105	132,105	133,067	131,463	93,005	621,892
Centre d'entreprises et d'innovation de Montréal	500,000	202,011	875,000	875,000	1,551,290	1,532,596	1,084,249	5,245,146
Centre for Drug Research and Development	2,325,421	2,325,421	2,322,833	2,322,833	2,339,751	2,311,555	1,635,331	10,934,891
Communitech Corporation	2,060,446	908,066	2,058,153	1,798,153	2,073,143	2,048,160	1,448,989	8,276,511
Corporation Innocentre du Québec	500,000	311,203	854,825	854,825	993,131	983,874	661,439	3,804,472
Invest Ottawa	1,647,884	1,304,745	2,366,051	1,895,468	1,917,193	1,897,069	1,268,015	8,282,490
Prince Edward Island BioAlliance Inc.	768,313	330,000	863,986	863,986	819,914	810,033	573,066	3,396,999
Propel ICT Inc.	483,930	217,403	655,305	655,305	660,078	652,123	461,350	2,646,259
Ryerson University	2,267,577	1,170,668	2,265,054	2,265,054	2,281,550	2,254,056	1,594,654	9,565,982
The Governors of the University of Alberta	1,279,556	659,383	1,278,132	1,278,132	1,278,441	1,271,926	899,836	5,387,718
The Next 36	581,178	200,214	580,532	238,960	584,760	577,713	408,708	2,010,355

Recipient	FY 2015		FY2016		FY2017	FY2018	FY2019	
	CA Allocation	Actuals (1 unreconciled PAYE)	CA Allocation	Actuals (+ unreconciled PAYEs)	CA Allocation	CA Allocation	CA Allocation	Total actuals + allocations
Wavefront Wireless Commercialization Centre Society	2,010,472	1,384,675	2,205,935	2,196,678	2,400,899	2,376,349	1,590,491	9,949,092
MaRS Discovery District	-	-	350,000	350,000	1,401,059	1,384,176	979,248	4,114,483
Total	**16,813,416**	**10,414,446**	**19,263,457**	**17,729,290**	**21,604,402**	**21,363,016**	**14,914,088**	**86,025,242**
Initial Budget	**20,618,828**		**20,595,885**		**20,745,885**	**20,495,885**	**14,500,000**	**96,956,483**
New approved reprofile	**9,995,791**				**3,700,000**	**3,700,000**	**2,595,791**	
Revised Budget	**10,623,037**		**20,595,885**		**24,445,885**	**24,195,885**	**17,095,791**	**96,956,483**

APPENDIX D: DOCUMENTS REVIEWED

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