

Innovation is the key to Canadian organization development

DISSERTATION

PRESENTED TO THE

MINISTER OF STATE - SCIENCE AND TECHNOLOGY

WITHIN THE FRAMEWORK OF

REVIEW OF FEDERAL SUPPORT TO RESEARCH AND DEVELOPMENT

FROM THE GOVERNMENT OF CANADA

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Introduction

The ADRIQ supports the Harper government's initiative that shall lead to the implementation of a federal strategy to raise the measurable impact of the consented governmental motivation towards the Canadian organization development through their SR&ED tax credit program.

We acknowledge the innovation notion used in the description of the program's actual problematic because we believe that raising the innovation considerations is the best way to provide answers to important matters. And by respecting all innovation success factors, including the research factor, it will then be achievable to improve the SR&ED tax credit program and to raise it to expected performance levels.

This dissertation is submitted by the ADRIQ in order to advise the committee with their recommendation duty towards the government. We wish to contribute to this consultation process by identifying what constitute the major stakes. Our recommendations aim to analyze the challenges arising from these stakes.

We wish to emphasize on the high importance level and the major impact that the federal government SR&ED tax credit program holds regarding the stimulation of companies' innovation. In order to support Quebec companies' innovation, the Quebec government and the Canada government tend to invest similar sums. The government of Quebec relies entirely on the federal structure, on its operations as well as allocation methods. Therefore, the federal government decision will impact the Quebec companies twice as much.

We invite readers to refer to the ADRIQ following book: "L'Innovation au Québec", that was published in 2011 and that clearly states the difference between inventions, research and innovation. Most of these facts shall provide food for thought as well as recommended solutions throughout this dissertation.

An evident state

The goal of the present dissertation is certainly not to report facts that were already presented and explained by the ADRIQ or any other member of the innovation and research community of Canada, i.e. that this program global performance does not measure up with the allocated investments. At this point, we do not need to further address this matter.

Moreover, it is useless to state once again that a tax credit program cannot be fully or partially replaced by dedicated and targeted subsidized programs. This affirmation is based on the inevitable fact that only an incentive, such as a predictable and reliable tax credit may have a significant influence, since it could be financially predictable for SMEs as they could use it as a financial leverage for their own innovation and research programs.

What could we do now ?

Boosted by numerous reviews that have publicly highlighted in the innovation and research area in the past few years, the ADRIQ tends to become a positive change agent that shall team up with many others to perform the expected changes while maintaining the most relevant advantages in order to reach the targeted goal which is to significantly improve the results of the government investments in SR&ED and innovation.

Therefore, we recommend taking a critical and clear approach on SR&ED program aspects that require modification without provoking sudden and impulsive actions from the benefits of these changes leading to inevitable direct or indirect decrease. The ADRIQ is already preventing it and will be unable to reach that goal by itself. That is why we kindly require all the key players to assist us throughout the process.

What do we get out of taking from one entity and giving it back to the other if the results basically remain unchanged?

The ADRIQ and the partners of Quebec ecosystem of innovation initiated a modelling and improvement exercise of Quebec ecosystem of innovation. Such exercise aims at a better integrated system between all innovation key players (CONNECT), duplication avoidance, inefficiencies as well as work in silos. As such, we must formally include public and partly state-controlled research centres within the innovation global system (not only companies and universities) in order to ultimately generate economic wealth for the Canadian society. The Committee works implemented by the ADRIQ might become of interests for eventual applications across Canada.

Winning programs

As a result of the above-mentioned reasons, we believe that it is preferable to focus on a competitive tax credit program and to complete with a limited number of targeted programs, such as subsidies, while maintaining the successful programs or the ones aiming at a punctual improvement of a critical element.

By decreasing the number of subsidized programs, the selected programs will likely receive more credit and attention through their field enforcement. That might be the answer to companies' concern that get lost in the complexity and the number of subsidized programs or that face programs that are no longer valid due to their lack of capitalization.

For example, subsidized programs, such as IRAP and the ones from NSERC are assuredly pertinent, competitive and constitute major tools of improvement.



Many organizations and partners, such as ADRIQ, CATA, ITAC, etc. identified perfectible situations for the SR&ED tax credit program's beneficial effects to measure up with the government investments and for the anticipated impact to then become a reality.

How can we improve the SR&ED program and ensure it contributes to the Canadian innovation soaring ?

We believe that the first step must formally confirm the government's motivation to make use of the program presently called the "SR&ED program" in order to stimulate innovation of Canadian companies.

Without removing the research aspect or changing the title of the program, it is now mandatory to clarify the program's mission so it can lead the actions and decisions of the government members that deal with it.

By establishing or re-establishing clear major objectives for this program, certain details that have been criticized in the past will now be perceived in a different way. This new observation will simplify the decision-making process results.

The second step must ensure a permanent, open and dynamic dialog with the major key players to this program, by looking after the involvement of companies, which will be proud to be engaged in such process, in a periodical consultation, but also in a permanent steering committee, including SMEs, that would be responsible for the program sustainable improvement while maintaining a governmental desirable performance.

Regardless of what agency takes or will take the responsibility for the program management; this type of management will only deliver what is expected from the government when there will be a major complicity with the entrepreneurship area, while considering the required reserve for its healthy governance. It is mandatory to promote dynamic interactions and to adapt them to the demanding world we have to face, all with a true open-mind and transparency. Once we overcome these two major steps, we shall implement the required changes by setting the different goals in a concerted way so the program performance indicators, the control methods for tax credit granting as well as the financial elements can be revealed, understood and used properly by participants.

In order to obtain results, a major change of global attitude is required to transform the program's perception from a "control-oriented" vision into a "stimulating" one where control will become underlying and where the rendering of accounts will be mandatory, supple and non-invasive. It seems that this approach requires a strong endorsement from the government of Canada as well as from the key players that constitute the Canadian ecosystem of innovation. The terms "key players" represent large-sized organizations, universities, public and partially state-controlled or private research centres, major consultant firms and any other strategic partners.

Due to their limited individual impact, SMEs cannot influence the government in a direct way like the key players can. They are way too busy and worried about their survival. However, the activity of

such companies represents a large part of Canada's GDP and corresponds to a vast array of innovation improvement possibilities. Thus, we shall pay good attention towards them.

In short (answers to questions) :

1 Shall the government finance any other activities related to the commercialization of R&D ?

YES. It is mandatory to invest in SR&ED. In order to increase the SR&ED ROI (return on investment) and consequently our tax ROI through the consented SR&ED tax credits, it would be crucial to foresee a budget dedicated to commercialization and increase tax revenues (job creation and tax payment thanks to the SR&ED commercialization income and expense increase). This offer should be exclusive to SMEs thanks to a descending form of support related to the size of the company. The government shall decide to finance commercialization expenses for a company that would meet certain criteria including waste avoidance. The foreseen amount that will support commercialization shall defray the different related steps: pre-commercialization, product launch and new territory development (in the country).

Furthermore, the ADRIQ recommends to act in respects to all the innovation success factors, to improve the SR&ED tax credit program and to raise it to the expected performance levels by choosing the word "INNOVATION" as a footprint or as the new title for the program.

2 Structure and innovation factors, what else is missing ?

We recommend including THE MARKET as a key element prior to the factors that may influence the innovation choice. The factors that influence the market choice among the types of innovation offered are important. On the other hand, innovations must come from the market. Since innovation is a cycle, we should similarly include the market prior to the productivity growth segment to create a loop that would lead to the market. (ref.FIGURE 2: Business Innovation)



It is mandatory to consider the need of Canadian multinational companies that normally prefer to perform the SR&ED close to their head office. In order to ease the research process between universities and companies, a dedicated and appropriate financing program must be implemented, such as a SR&ED tax credit percentage that could be refundable only when reinvested in projects related to universities or research centres, even SMEs, in a context of ecosystem of innovation.

3 Companies' venture capital offer. Explanations and solutions for high possible yield.

The average yield for Canada and Quebec venture capital companies has been fairly moderate for the past 10 years. Many causes could explain this yield level, such as these non-exhaustive following ones:

a) First-round financing is often performed through ordinary share issue and is principally lost or offers a moderate yield. Why ? Because second-round financing requires yield guaranteed preferred shares. Why can't the first investors obtain a superior yield while the fairly riskless others get a moderate yield ? Here are the answers:

a1) Investors that went through the first-round financing process cannot participate to the second one since they are not believed to represent a given worth to the company. Newcomers know about it and take advantage of this fact and require protection for their investments;

a2) We generate two stakeholder classes: first-round owners, employees and investors as well as second-round preferred share investors.

b) The governance of venture capital companies is lacking :

That is only normal that the person who invests money wishes to sit on the board of directors. However, that investor will most likely be an employee from this venture capital company whose only pertinence is the company financial statement analysis. Most of the time, their experience in terms of starting a business is quite inexistent. They don't have the company knowledge and did not take a management position within a SME. The company does not then benefit from sound advisors. Moreover, the representative' interventions will often be a source of conflict of interests due to their role as a board of director member that manages the interest of the company. In fact, their contribution relates more to the ones from a stakeholder. An alternative could be that the investor mandates an added-value external representative and sits as an invitee (or vice-versa).

c) Many venture capital companies admitted their lack of competence to properly evaluate, support and step in the starting process and then invest. That remains a fact, even though they chose not to invest anymore. There are ways to overcome this lack of competence. Fund investment is not a satisfying solution while the moderate yield remains throughout the market.

d) Financing from the venture capital companies at the starting step has become infrequent, particularly in the technological field. We shall add that is no surprise to us.

e) We must look at Israel for instance where the State supports its starting technological companies through the institutions and state-owned companies. Their success rate is quite elevated.

f) Upon starting, loans and secured loans with moratorium are more appropriate, since the absence of a sale makes the company valorization difficult. An underestimated company leads to a dilution of owners if the company grows too quickly. Then, owners must be forced to quickly sell their company to capitalize.

4 What are the main factors that restrained SR&ED activities within the Canadian companies ?

With the open innovation model that spreads quickly and that is available for every company, it would be unfortunate that the success rate would only be measured according to the company performance of their own SR&ED. In some cases, the company has to perform its own SR&ED while it must count on programs like SR&ED tax credits. In other cases, it would be more appropriate for the company to negotiate a license agreement or to divide the expenses among other partners. What matters is to allow companies to innovate and to adopt other models than the ones requiring innovation provided by research. Thus, the affirmation within the Minister's document regarding the SR&ED expense level as being one of the best indicators to evaluate innovation in Canada is now less valuable. By prompting companies to perform fundamental research as required, there is a risk of dissuading many companies to perform their own SR&ED, particularly the SMEs.

5 What are the main obstacles to the creation of successful partnerships between companies and schools ?

We are referring to bonds between the industry and universities. Nevertheless, it is also mandatory to clarify the matter regarding intellectual property in the public or partly state-controlled laboratories, which are generally closer to the market in terms of innovation, compared to what is in place in universities. These bonds must be stimulated similarly to the ones that are constantly supported between universities and the industry (i.e. one strategy to the next). Thus, we recommend the government to require results as well for the laboratories it steers and to ease the actual refund process regarding tax credits related to the collaboration between universities and companies. Similarly, intellectual property is a key element to consider when it comes to partnership between universities and companies because it may restrain collaboration.



Should we stimulate research alone, experimental development alone, both of them or combine the enriching part of these efforts that include commercialization ?

In short, by choosing the word "INNOVATION" as a footprint or as the new title for the program, we lead the way for a concerted and inclusive approach that will bring the ecosystem participants to work together in order to ensure that researchers, schools, companies and markets all-together look for the highest possible return on investment.

To implement an appropriate and dedicated financing method, such as a SR&ED tax credit percentage that could be refundable only when reinvested in projects related to universities or research centres, even SMEs, in a context of ecosystem of innovation.

The Committee works (CONNECT) implemented by the ADRIQ might become of interests for eventual applications across Canada.

6 What is the major role of the government towards SR&ED investments in Canada?

To review what is targeted and supported by the SR&ED program while combining the majority of key elements that are considered as technological innovation elements. We also recommend the government to be a payer in order to stimulate research and commercialization like within the United States military segment, for instance.

9 Existing federal programs? What are the good and the bad ones ?

a) Subsidized programs, such as IRAP and the ones from NSERC are assuredly pertinent, competitive and constitute major tools of improvement. We must acknowledge the positive evolution of the NSERC in the subsidized programs that put more emphasis on collaborative research to support the industry, compared to their program that aims at scientific discoveries. We must say that programs such as Centres of Excellence for Commercialization and Research (CECR), business-led networks, Innov and many others, must be supported and reinforced. It is also mandatory to mention that the NSERC and IRAP programs aiming at creating bonds between researchers and the industry are important. To that effect, there are many strategic networks, such as the ADRIQ.

b) A tax credit program cannot be fully or partially replaced by dedicated and targeted subsidized programs.

10 What are the advantages and disadvantages of the SR&ED tax credit refundable portion ?

b) It is certainly not profitable for the SR&ED tax credit not to be refundable at the federal level. The modification of this fact would constitute a great incentive improvement.

c) In order to obtain results, a major change of global attitude is required to transform the program's perception from a "control-oriented" vision to a "stimulating" one. What is expected from the government will only be delivered when there will be a strong complicity with the entrepreneurship world.

11 How can the government enlighten these programs administrative requirements ?

We know for a fact that the venture capital is less available for the SMEs, within the first steps of innovation financing. We recommend allowing the Canadian SMEs that use public and foreign financing to preserve the same financing ratio as the SMEs that are locally-financed. It would be pertinent to ensure that the innovation-related jobs (employees, subcontractors and supplies) might originate from Canada as well.

We recommend simplifying the administrative steps and the number of subsidized programs to the maximum to increase the actual capitalization of these programs. A "prequalification" or an "eligibility visa" might resolve this issue.

12 How can the government innovate and adapt itself to fulfill the different needs ?

Ensure a permanent and open dialog with the major key players, including SMEs, of this program. We recommend taking a critical and clear approach on SR&ED program aspects that require modification without provoking sudden and impulsive actions from the benefits of these changes leading to inevitable direct or indirect decrease. The settlement period starting from the disbursement must be significantly reduced.

13 What are the gaps in the support provided by the government versus the international offer ?

To ensure the enforcement of a predictable SR&ED program to prevent companies from little or no consideration through their strategic decision-making process.

14 What are the lessons or practice to get out of provincial programs ?

The Quebec SR&ED program relies entirely on the federal structure, on its operations and allocation methods. Therefore, the federal government decision will impact the Quebec companies twice as much.

15 Should the government focus on SR&ED or innovation ?

By establishing or re-establishing clear major objectives for this program, certain details that have been criticized in the past will now be seen differently. This new perception will simplify the decision-making process results. In fact, we believe that the innovation includes SR&ED.



It is also mandatory to mention that the NSERC and IRAP programs aiming at creating bonds between researchers and the industry are important. To that effect, there are many strategic networks, such as the ADRIQ.

Recommendations

From this permanent and dynamic consulting state of mind, by promoting a “stimulating” vision of the program and by boosting the change of attitude, we consider the main recommendations for the improvement of the actual SR&ED program to be the following:

For large-sized companies:

To ensure the enforcement of a predictable SR&ED program to prevent companies from little or no consideration through their strategic decision-making process.

- ✓ That is a fact for Canadian divisions of international companies that valid critically and wisely the international offer in terms of tax incentives.
- ✓ It is certainly not profitable for the SR&ED tax credit not to be refundable at the federal level. The modification of this fact would constitute a great improvement as an incentive.

For SMEs:

To simplify the administrative steps to the maximum and to validate the company efforts in terms of innovation to justify the government support.

- ✓ Little or no SMEs can perform research. It is crucial that the program allows them to include experimental development as well as aspects that will lead to innovative product commercialization.
- ✓ The financial insecurity of companies requires that the 18-month settlement period (from the moment of disbursement) must be significantly reduced. A “prequalification” or an “eligibility visa” coming from the Quebec CNE program might resolve this issue while implementing an increased accountability from the entrepreneurs.

In general:

To review what is targeted and supported by the SR&ED program by combining the majority of key elements that are considered as technological innovation elements. If financial constraints are mandatory, we shall require a minimum break-even point in the medium or long-term basis to minimize the financial effort while stimulating the innovative company performance (ROI)

To allow the Canadian SMEs that use public and foreign financing to preserve the same financing ratio as the SMEs that are locally-financed. It would be pertinent to ensure that the innovation-related jobs (employees, subcontractors and supplies) might originate from Canada.



By establishing or re-establishing clear major objectives for this program, certain details that have been criticized in the past will now be seen in a different way. This new perception will simplify the decision-making process results.



APPENDIX 1

The Association de la recherche industrielle du Québec

Since 1978, the ADRIQ leads a vast, unique and influential business network that gathers 4,200 managers from the Quebec industrial innovation area. Industrial research is a privileged leverage to improve the quality of Quebec products, services and achievements while allowing the consolidation of the Quebec industrial area, the increase of innovation possibilities for our companies, the creation of a stimulating future for our children and the protection of our quality of life.

The ADRIQ gathers people from different business fields: research centres, universities, financial groups, consultant firms and public organizations that support our companies and entrepreneurs to reach innovation in a context of world globalization.

Almost 1,500 managers from different industrial fields represent the strong motivation for industrial research and innovation in Quebec, taking part to these various actions on a yearly basis.

Our interventions and implications, such as the Innovation Prize, are aiming at companies throughout Quebec. We also welcome delegations from Belgium, Italy and France during seminars related to innovation-related challenges and impacts.

We consider that the interest of the ADRIQ in reviewing the SR&ED program directly relates to our mission and to our innovation and value creation efforts for Canada.



Nowadays, the ADRIQ network has considerably increased.

It links to more than 1,000 innovative companies and organizations.

Our network represents 85% of the industrial innovation effort in Québec.

An effort that is fifteen times bigger compared to 1978 and adds up nowadays to more than 4.5 billion dollars.

Our network allows all our innovation key partners across Quebec to perform a concerted action.