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Ladies and Gentlemen:

Your most recent *State of the Nation 2010* report is a very well-written and enormously thorough follow-up to earlier reports. As scientific R+D is not my core skill, I won't even begin to assess the merits of the analysis of that domain. Nor would I be prepared to refute the representations made about the efficacy of government incentive programs or the (decaying) magnitude of commercial participation in things innovative.

I would say, however, that the report brings to mind an old joke in which a guy in a hot air balloon gets blown off course, reduces altitude, and shouts to a woman below, "Can you help me? I promised a friend I'd meet him an hour ago, but I don't know where I am." The woman replies, "You're in a hot air balloon approximately 30 feet above the ground, at 40 degrees north and 59 degrees west."<sup>1</sup>

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<sup>1</sup> The setup punch line is: "You must be an analyst," says the balloonist, "because everything you told me is completely accurate—and utterly useless; and I'm still lost. Frankly, you've been no help at all and have delayed my trip." [This seems to be the columnists' consensus.]

Of course, the rejoinder punch line is: The woman responds, "You must be in management since you don't know where you are or where you're going. You've risen to where you are due to a lot of hot air. You made a promise that you don't know how to keep, and you expect people beneath you to solve your problems. You're exactly where you were before we met, only now it's my fault."

With only glancing blows, the report effectively does not jump to conclusions or point fingers at any root cause(s). This is probably prudent and in STIC's best interest. Besides, it's fair to presume that the intended, educated audience will come to the obvious conclusion(s) without being bludgeoned with them. But I'm not referring to those blindingly obvious conclusions that:

- (a) government programs are being sub-optimized and abused, and
- (b) Canadian business is not holding up its end viz. innovation; ergo
- (c) Canada is falling behind along critical innovation dimensions.

What ought to be of interest are the less immediately evident sources of concern—things that must be treated before any systemic change can happen. Because it challenges *status quo* mythology, this discussion remains whispered in private parlours only. But to realize real, long-term value from the work you—and others—have done, that interrogation needs to be done in full-throated roar. Here are a few suggestions to get us started.

1. While entrepreneurship and the incubation of new businesses built on scientific/ technological invention is vitally important, it is in this context strategically secondary to the actions of enterprises. Thus an entrepreneurial bent is great but so what?
2. Canadian business people, particularly those who run enterprise businesses, are (willingly) squeezed into the mould of short-sighted free-loaders when it comes to innovation and incentive programs.
3. The vast majority of (innovation) investment in Canada seems to be made by speculators, who are by their nature fickle. Expecting large contribution and greater innovation efficiency from that circumstance is questionable if not delusional.
4. The governing federal political party has gone a long way to convince the nation that it is culturally conservative (at least by that party's definition), which is neither true nor conducive to innovation given propositions 1 and 2, above.

Let's consider what your report implies (or at least what I infer) for only these four conditions of innovation in Canada.

There appears to be laudably fierce growth in the development and presence of entrepreneurs in Canada. (Without long-term data handy, I wonder whether there is *actually* more, or whether there is merely more *visible* entrepreneurship in businesses that create and innovate in obvious technology spaces.) This emphasis on entrepreneurship is aided by ubiquitous university and college programs, by wider cultural representation, and spillover romance from the USA (via magazines such as *Fast Company*). All this *despite* a somewhat cowed venture environment in Canada.

But for every breakout RIM or Mitel or Ballard (sadly, *not* a Canadian success story because often these things take longer than speculative investors' patience), there is orders of magnitude broader impact from the established Bell Northern, Bombardiers, and so on. This is not to diminish entrepreneurial activity nor to deny that today's start-up may one day be an economic driver of innovation and wealth. It's merely to say that focus on entrepreneurship for innovation is a long-term, time-released strategy that risks not achieving the escape velocity needed to alter the situation. As your reports acknowledge and a savvy financial backer knows, most entrepreneurs' ventures don't move the wealth needle for their investors, let alone the nation.

Entrepreneurial ventures also represent but a tiny portion of all people working in business, especially those who graduate from business programs, which puts a big load on a few shoulders. It makes sense to keep pushing the "entrepreneurial culture" string because, given the failure rate, a lot of fodder is needed in that mill. BUT, practically speaking, it is more imperative to provide philosophical and practical training in the ideas, concepts, and means of everyday innovation to *all* students. That includes the accounting/finance streamed business students and commercial law students who inevitably end up in the top echelons of those major corporations which can and should (invest to) innovate. A draft, proposed course outline for such training is attached.

Which brings us to the Canadian corporate culture. It is not my intent to smear all Canadian business people with a stereotype. That would be unfair and untrue. But, especially for R+D/innovation, there seems to be a general dearth of vision and courage in the Canadian Establishment except for a very few canaries in this commercial coal mine. It seems like even when innovation does rise up in this milieu, all too often it is corrupted. Consider the spectacular fall of the truly innovative Bell Northern Research, which spawned so much commercial development, after it became the publicly (traded) lionized and then pilloried Nortel. The price fetched in the recent auction of its IP proves its skill at R+D and invention. It also provides a cautionary tale of how superior invention and the accumulation of assets of innovation can still be destroyed by misguided management. After all, as you well know, innovation is *not* the same as invention.

On this line of thought, we ought to consider how innovation today, except in those few areas your report identifies, tends to be *business model* innovation or *service* innovation, *not* innovation based on the invention of valuable new technology. So much of today's Canadian Establishment sticks to this formulation—probably because it involves so little R+D, ultimately leaving any kind of second order spin-off and downstream economic effects short-lived if created at all. (By guilty admission, I have to acknowledge my own innovation history tends to this tack.)

Sadly, this evolution is an inevitable outcome of swallowing and widely propagating the over-simplistic and foolhardy notion that ours is evolving beyond a manufacturing to a service economy. Yet our economy remains inextricably mired in natural resources, focused on the *services of drawing water and hewing wood*—or supporting those that do, begging the question: “Wasn't that the description of the Canadian economy when Champlain arrived?” It's not surprising that you report the most, and most productive “non-service” innovation in the nation falls within those categories.

Irrespective of one's position regarding the wisdom of such economic egg basket-packing or even whether a commodities, a manufacturing/industrial, and an information economy are/should/can be mutually exclusive, there remains a talented Canadian managerial commercial culture. To the extent that it is capitalist it is thoroughly focused on the presently dominant belief that there is no purpose for a firm beyond *immediate* shareholder benefit. Of course, those making decisions about innovation within larger firms are *employees*, financially and psychologically motivated toward short-term extraction of commercial victory (read: increased stock price). In fairness, the owners pulling the strings are also *not* capitalists. Both institutional and private investors, the dominant ownership class, are now *speculators*, full stop. Innovation (especially disruption), which is an inherent gamble above and beyond base business risk, is anathema to the speculator.

Given this (admittedly cynical representation of the) condition, is it any wonder that Canadian, never-mind foreign-owned business does not only *not* lead Canadian innovation but free loads off well-intentioned and perpetually unproductive public (government) investment? Business managers externalize, which in this circumstance means taking in public largess and using it to offset costs for the firm's own gain. If such a gain (as demanded by speculators trading stock up or down, and implemented by management responding to incentives—i.e. compensation, including stock and options) is not quickly generated by any innovation that might create broad and long-term societal gain, that innovation is not going to happen.

Since enterprise business is so much larger than start-up and small/mid-size business as far as the raw magnitude of capital used to innovate, its choice to avoid game changing innovation means game changing innovation is necessarily an uphill push. The government, in providing its public lucre, may or may not recognize this in structuring what and how it deploys public money for innovation. The intent is right; the goal is desirable and noble; but right now government innovation programs seem to be a simple transfer of wealth.

Will the government change any of this? Smart money would say it's unlikely. Like all other well-meant government welfare, except much more institutionally effective (as your analysis reveals), it has externalized business costs onto the public and created a dependency. (Politically it is also unlikely that any government will retract such “entitlements” from powerful constituents.) The truly sad part, irrespective of political leaning, is that *even the beneficiaries are not achieving much from it*. That is to say, Canadian business doesn't even seem to be

effectively capturing the benefits of a “you pay, I win... *big*” gamble. It apparently remains satisfied with practically unlevered 1:1 transfers of public investment to private wealth. That’s wrong on so many levels.

While a 1:1 externalization is a good scam, it’s small potatoes. A great racket would be to use the externalized investment to place high-payoff, long-shot bets. The firm wins because it doesn’t pay (or it pays relatively less) and might succeed *wildly*. The public wins because at least it is no worse off *and* it’s not merely making simple wealth transfers; and if the firm does score the jackpot there necessarily has to be a boost to the wealth of the nation (that being the premise behind forging ahead with innovation). Of course, the last part requires some forethought and discipline because the immediate response by any firm’s management toward a windfall is to protect it: a function best addressed by moving all economic activity particularly including the domain of taxable profits to the lowest-cost national environment (further relieving the original Canadian public staker of any benefit from the gamble). But perhaps that’s another organization’s concern.

Fortunately, Canadians at large are sensible people (when we are pushed to the limit and have our backs against the wall, anyway). Historically and culturally, since before the creation of the Dominion, Canadians have been a quietly innovative people. As venturers from distant lands, Canadians have forged ahead, often with no alternative but to create the solutions to our developmental needs. It’s only in the period of worship and emulation of our American brothers and sisters that we become unsure of ourselves. In how many economic, cultural, and other domains do we collectively give reign to the desires and mores south of 49? How fundamentally attached does Canada remain to that commercial market, forty years after identifying a catastrophic dependence?

Yet we have the capacity to surf even that cultural tsunami. The examples are plenty. But it is the individual Canadian, the same one who may be innovative, the one who traffics in speculative institutional investment capital, the one that manages the innovation and externalization choices of Canadian businesses or the direction of public largess through the funnel of government, who must be convinced. They must be convinced:

First, that we not only can be but are, in fact, extremely inventive and innovative.

Second, that in order for that propensity and capability to be valuable, we have to pursue it ruthlessly against all other competitors for the long haul. Of late, we tend to cash in our chips with the first sniff of victory or whiff of decline and let others stay with it to fulfillment. This is contrary to our historic cultural approach. We must be vigilantly protective of, use, and build further upon the innovations we create.

Third, that this is not just about an individual or a firm. It’s about a nation. It’s about being and being proud of a Canada that leads, that has advantages, that has a higher standard of living, that presents private and public (individual and collective, if you prefer) opportunity for so many. This could be the positive identity of actually *being* Canadian instead of merely the negative identity of *not being* American.

I realize that this is not within your mandate. But the work and analysis that you’ve done over the years deserves to not stop just short of making the meaningful—if not pleasant—statement of root cause. Perhaps I’m not right; it could be that holistic assessment does not lead to this root (admittedly among others) and that the solution does, in fact, lie with disaggregation of component parts and their individual enhancement. I doubt it. Irrespective, the answers are not and cannot be in the obvious pieces and places. Magic, mystery, transformation, and innovation all lay in the spaces between it all. In this case, the space is filled with a particular “culture” that makes a mockery of reductionist efforts to enhance component pieces and achieve greater results from it.

Perhaps the answer, as exposed by your work, is simpler. As so many columnists and commentators have suggested: “Stop analyzing; do something.” The obvious failing there is that if one’s *actions* are consistent with a misguided bias, one succeeds in doing the wrong thing—sooner.

I trust that you and any others who read this offering will accept it as the well-meant, albeit snippy and provocative challenge *and support* that it is. My goal is to help raise individual innovation performance. This seems like a good place for that.

Sincerely and respectfully,

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## **Innovation: theory and practice for the individual manager and leader**

The sessional program I foresee might look as follows, although without a formal pedagogical background, it could probably stand for a bit of revision. (i.e., I need a little help here.)

Week 1	Introduction to innovation What is innovation? What is it not? Why do we need to innovate? Where does/ can innovation happen? What drives it and how does risk fit? What pushes the cycles [see next week]? (Canadian) Innovation history in brief.
Week 2	The economics of innovation <i>The nature of investment and payback for innovation: "first movers" v. "fast followers." Does every innovator realize gains from innovation? What are and where do the gains from innovation appear: revenue v. efficiency?</i>
Week 3	Key requirements for innovation <i>Is there an ideal environment for innovation? Are there prerequisites for effective innovation? How do curiosity, courage, creativity, and capability fit with frameworks, goals, and perspectives? Does innovation need capitalism?</i>
Week 4	The mind of innovation <i>What is the magic of innovation? What psychology affects the innovation process: expectations, biases, change resistance, increasing returns, path dependence, etc. Who and what affects the innovative process and when?</i>
Week 5	Qualities of innovation <i>Is there such a thing as bad innovation? Is all innovation about invention? Who innovates? Is innovation the product of an inventor? What are the differences between sustaining and disruptive innovation?</i>
Week 6	The idea <i>Is the idea the most important part of innovation? How do you get good ideas: creativity, ideation, brainstorming, etc? When are crowdsourcing, open innovation, and other techniques appropriate for getting the right idea?</i>
Week 7	The validation and winnowing process <i>How are ideas and innovations evaluated at different times in the process? Is there a best method for assessing ideas? Why can focus groups and market research provide false comfort for innovators? What can be done about it?</i>
Week 8	Commercialization <i>How are innovations commercialized? Is there a single path to success? How do you protect against (inevitable) failure? How long does commercialization take for an innovation? What are the signs of success or failure to look for?</i>
Week 9	Leading and managing innovation: selling, expectations, etc. <i>Why do (promises of) innovations experience tremendous hype and then equal disappointment, and how can you deal with it? Why is successfully deploying innovation like dealing with those mourning a lost loved one?</i>
Week 10	The culture of innovation <i>Innovation in the Canadian commercial environment: the context, the participants, the successes and shortcomings, and the demands on the next generation individuals and society. Fostering innovation as a way of life.</i>