

Preamble: Atlantic Canada and World Innovation Systems

Innovation Society and Culture

The purview of the Panel is clearly focused on “business innovation” in Canada. Business operates within a social and cultural context regionally, nationally and globally. Arguably the most recent major innovation in the world economy-the Internet-did not begin with R&D by companies, even large ones. Rather, the Internet began as a solution to a very special research problem that was initially financed by universities and governments. It required pre-market social investment that had to wait patiently for almost 25 years before the need for a “business case” became apparent. The Internet began as social and cultural innovation long before the prospect of “business innovation” could even be imagined.¹

The State, educational institutions, civil society institutions and communities are also part of the “innovation process”. Without encouragement, support and understanding from these pre-market facilitators, the likelihood of business innovation, especially among small and medium sized firms, becomes much less likely.

This is especially the case in regions like Atlantic Canada. Again, the metaphor of the Internet pertains. The private sector were not the innovators nor the “early adopters” of the Internet and its potential in Atlantic Canadian society. Public agencies, crown corporations and quasi-educational institutions were the first to adopt and advocate for the integration of the Internet and digital tools in social and economic life in the region. Indeed, the early work by agencies like the Newfoundland and Labrador Development Corporation and, its Enterprise Network, and Memorial University’s TETRA-Telemedicine and School-Net programs led this innovation process. Similarly, in the Maritimes pre-market innovations with NSTN, PEINet and NBNet led the innovation process relating to the Information Economy in the region.

They “championed” the idea, helped public and private agencies come to understand its promise, gave room for public and private sector innovators to enter the “chasm” to the market and built the foundation for the small business innovation that would follow. This pre-market innovation is a necessary pre-requisite to the eventual early adoption behaviour of small firms, especially in regions of the country where large industrial, export oriented firms are in short supply.

¹ Castells, Manuel. The Internet Galaxy: Reflections on the Internet, Business, and Society. Oxford University Press. 2001 .
www.oup.com/us/catalog/general/subject/Sociology/EnvironmentTechnology/?view=usa&ci=9780199255771

Innovation Processes-Not Programs

Innovation is generated by a process of imagination, interaction and incubation that is close to a likely, or possible, market outcome. Innovation is generally only useful if it gets adopted, either in its intended outcome, or through some alternative value chain which arises in the process. A “spray n’ pray” set of programs that try to engender innovation outcomes outside of a strategic process will almost always be much more “miss” than “hit”. An innovation process needs to be integrating, not idiosyncratic. It needs to integrate business, science and technology and community all organized around a common set of goals.

These processes can be “supply-led” (“We do this well-how can we do it better?”) or “market-led” (“This is a new trend-how can we take advantage of it?”). In Atlantic Canada there have been successful attempts at “supply-led” innovation whether this be in the fisheries, marine industries , agriculture or other traditional sectors in the region. There have been too few innovation processes that are “market led”.

For example, the mobile phone market has exploded in the developing world with more than 4.5 billion subscribers, mostly in the developing world. It’s growth and potential far surpasses the impact of the Internet in the mature markets which has all but reached a plateau at just over 1 billion subscribers². Organizing Canadian, and especially Atlantic Canadian, business innovation to respond to this new, enduring opportunity would represent a “market-led” process on innovation. There are many other examples where this is possible.

Whose “BRIC” is it?

The Panel paper pays the customary reference to the reality of the “BRICs” and new opportunities in emerging markets. This is very worthwhile and Canadian trade, industrial and innovation strategy needs to move much more quickly to the emerging world markets (“Where the puck is gonna be!”)

Unfortunately, Brazil, Russia, India and China are unlikely to be the best fits nor matches for Canadian reality. Each of these countries have large internal markets that serve as a incubator of eventual exports.

Canada is a “middle” power that lives in the shadow of an elephant (albeit a slowing, over-mature and more protectionist one!). Canadian referents for useful approaches to fostering innovation might more beneficially be directed to a place like Chile. A long country with a widely dispersed population that has a history as a mining economy, Chile has dramatically diversified its economy.

Through understanding innovation to be a process, and engaging multi-stakeholders in it, Chile has performed remarkably well in highly competitive export oriented sectors such as wine and aquaculture. This was neither the product of good fortune nor accident. It was, and remains, a multi-stakeholder, innovation process.

² Fuchs, R. and Francisco, K. The New Digital Divergence. Proceeding of the International Conference on Information and Communications Technology Applications. Hanoi, Vietnam. Nov. 2009. www.icita.org/papers/33-sg-Fuchs-110.pdf

Fundacion Chile (The Chile Foundation)³ is principally responsible for helping Chilean industry retool and develop market intelligence to dominate in the wine and aquaculture sectors. The Foundation sits outside both government and industry, reporting to the Office of the President and includes the public, private and civil society sectors.

Another interesting example of emerging market innovation processes, while demographically and geographically distinct from Canadian circumstances, are those used by the City State, Singapore. In 2010, Singapore was the world's fastest growing economy, growing at an annualized rate of 15%! Singapore, which has no natural resources, manages this through a tripartite process of strategic planning and innovation among the private sector, both local and foreign, universities and the State.

It's Agency for Science, Technology and Research (A-STAR)⁴, like that of Chile, integrates the local and expatriate industrial sectors, domestic and international universities and the State. In areas like hydro-electric and renewable energy development, Singapore's A-Star has developed collaborations with Norwegian state agencies and universities. In areas like rice cultivation and production it has entered into agreements with German food science and technology firms. As already mentioned, with no natural resources to sell, Singapore's path to innovation is one that is entirely "market-led" in export markets. Much can be learned from their approach.

Singapore is also considered a reasonable "stepping stone" for entry into the innovation process that is occurring in China. The language of business is English, the rule of law is paramount and Intellectual Property is highly prized and protected.

Location, Location, Location

Canadian strategies to foster business innovation need to help introduce and align firms to where the growth, and the innovation, is going to predominate into the foreseeable future. That won't be either Europe or the United States. It will very much be in Southeast and East Asia!

The World Bank Commission on Growth and Development⁵, Chaired by the Canadian Nobel Laureate, Dr. Mike Spence, released its report on the elements of successful national growth strategies in February 2008. Unfortunately it was released just as the Great Recession and Financial Crisis interrupted us from the idea of economic growth. The report and its findings are worth considering again now that the prospect of growth, rather than mollifying recession, becomes the basis of discourse.

In highlighting 13 "Success Stories", the Commission identified countries that had "high" (annual average of 7% or more) "sustained"(at least 25 years) growth. This was a very exclusive list and included the following:

³ <http://ww2.fundacionchile.cl/>

⁴ <http://www.a-star.edu.sg/?tabid=860>

⁵ http://www.growthcommission.org/index.php?option=com_content&task=view&id=13&Itemid=58

Botswana; Brazil; China; Hong Kong, China; Indonesia; Japan; the Republic of Korea; Malaysia; Malta; Oman; Singapore; Taiwan, China; and Thailand. Two other countries, be hoped other countries will emerge soon. p. 19⁶

It is interesting that, of the 15 countries identified, 11 are in the Southeast and East Asian Region and all but 3 are in Asia. Clearly, Canadian business innovation has to find ways to become integrated into the high, sustained growth in this region of the world.

More important for Atlantic Canada, which is exactly half-way round the world from this region, a clear strategy of connecting post-secondary, research and development agencies and entrepreneurs to this dynamic region has to be a renewed regional priority. At present, Atlantic Canada is geographically stuck between two, sagging, over-mature economies. If we too want high, sustained growth, we need to be connected to where that will be happening into the foreseeable future.

Response to Specific Questions

- 1. In addition to the R&D activity defined by the OECD, should government be funding other business activities related to the commercialization of R&D.**

Yes, see Preamble, Innovation Society and Culture section.

- 2. Does Figure 2, the model of business innovation presented above, capture the key structural factors and inputs to innovation? If not, what is missing?**

No. It is much too mechanistic, much too general and there are different models of innovation. See for example http://www.longtail.com/the_long_tail/about.html

- 3. Regarding capital, is there an adequate supply of risk capital for Canadian firms at each stage of their growth. If not, why not?**

No. Space and time would not permit a full response to this question.

- 4. Regarding ideas and knowledge, do you believe it is important for Canadian firms to perform their own R&D and, if so, what do you believe are the key factors that have been limiting business R&D activity in Canada?**

Yes, of course, but in a strategic, collaborative and integrated way as referenced in the Preamble.

- 5. Regarding networks, collaborations and linkages, what are the main impediments to successful business-university or business-college partnerships? Does the postsecondary education system have the right capacity, approaches, and policies for effective partnerships with business?**

⁶ ibid

Most of the linkage programs help a university or college student find a job and have little or nothing to do with innovation. Indeed, innovation has no necessary relationship to success in university or college. Just ask Bill Gates and Steve Jobs!

- 6. Regarding the creation of demand for business innovation, what role, if any, do you believe that government should play in being a “first customer” for R + D investments in Canada?**

Government can be the “first”, but should never be the “only”, customer in this context.

- 7. Regarding talent, is Canada producing sufficient numbers of graduates with the right skills to drive business innovation and productivity growth?**

Students don't do this, innovation processes do. See Preamble.

- 8. Can you describe whether and how your firm employs students currently enrolled in community colleges, polytechnics and universities....**

We have just re-incorporated in Canada after 10 years working internationally. In our prior incarnation from 1996-2001, we employed community college students through a program linked to the Employment Insurance system. It worked well but needs sufficient time (circa 2 years) for the student and the firm to adjust to one another.

Questions 9-15. As we've only recently returned to Canada after 10 years working internationally, our experience with the government programs referenced is too dated to make our comments relevant.