



Atlantic Entrepreneurial Ecosystem: Vibrant *and* Globally Aspiring

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Executive Summary

Relationships are important. Relationships are important because innovation does not exist in the air, and entrepreneurial opportunities do not appear out of nowhere. Innovation and entrepreneurial opportunities are based in the curiosity of their founders. Relationships are important as founders forage for opportunities to improve firm performance and entrepreneurial consequences. Curiosity opens entrepreneurs to complementary competencies and to resources that help them gain access to new ideas from previously unknown people. The extent to which entrepreneurs are prepared to develop relationships by reaching out for innovative information to enhance the business and technical aspects of their enterprise improves their prospects and ultimately that of the ecosystem. This research investigates the outreach made by entrepreneurs to improve their businesses, and to define the geographic and digital boundaries of an entrepreneurial ecosystem.

This research is practical, grounded, and evidence-based. The results do not propose a theory, but rather make useful observations that are discussed in the context of other entrepreneurial ecosystems. Rather than an ivory tower study destined to be relegated to a shelf, this research has proved its relevance via the more than 1,000 people who have already participated with it as it was developing. Lastly, it is evidence-based asking people in the ecosystem about their search for information and combining a massive regional picture with 1666 organizations and 3397 examples of knowledge-search.

FINDINGS

This major research project investigated the curiosity of participants in an entrepreneurial ecosystem and mapped who reached out for information, and to whom. This was done by surveying knowledge-seeking behaviors and using network theory to show the distribution of information-seeking activities. This introduces context and looks at the actions of people in the ecosystem -- avoiding focus on the firm or the entrepreneur.

This is not a study of who-knows-who. It is not a study of

social networks. It is not a study of Linked-in accounts, nor of Twitter, nor Facebook, nor Instagram relationships. It is not created with big data. It is a carefully constructed investigation using survey data of who is prepared to reach out to innovate in Atlantic Canada's entrepreneurial ecosystem.

1. COMPLEX KNOWLEDGE-SEEKING ACTIVITIES

The knowledge-seeking activities of the AEE are very complex. There are 1666 different organizations represented in the work and 3397 separate knowledge-seeking activities defined. Fifty-seven percent (57%) of all of the nodes in the AEE represent firms, both entrepreneurial and mature. The next largest group of constituent organizations in the ecosystem are supportive-type organizations (14%). Financial organizations like VCs, business angels, and banks represent 11 percent of the constituents sought after by respondents. Universities represent four percent of the nodes, indicating a total of approximately 31 different higher educational institutions. The University of Ethiopia is one of them. Participants in the Atlantic Entrepreneurial Ecosystem (AEE) have reached out as far as the University of Ethiopia to build knowledge necessary for their business activities. Various types of federal and provincial governments, and professional firms represent the bulk of the remaining named organizations.

The principal constituent groups are homogeneous amongst themselves and heterogeneous between one another. The various groups of constituents act complementarily – whether deliberately or not – to accomplish the ecosystem's mandate of numerous cohesive interactions.

2. MANY MAKE THE WHOLE

The AEE benefits when all the major groups of constituents noted above are in place. Metrics associated with a subset of data demonstrate the dwindling effectiveness of knowledge-search behaviors (curiosity behaviors) when one of the major constituents is withdrawn. The incremental value that each group of actors contributes to the ecosystem connotes the synergy in the combined group of entrepreneurs, governments, support groups, professionals and venture capitalists. Removing any one of the various groups of actors causes the average degree of knowledge-seeking behaviors to decline. Governments alone do not establish, or mandate, an entrepreneurial ecosystem and the value creation contributions of many actors are working in concert.

3. BUSINESS/MARKET/FINANCIAL INFORMATION DOMINATES KNOWLEDGE-SEARCH

The type of knowledge sought by participants in the ecosystem is dominated by business/market/financial information rather than technical/product information. That the search for business, market and financial information is so much greater than that of product/service/technical is surprising and potentially concerning since product innovations are based in science, technology, engineer and mathematics backgrounds and are equally necessary as business model innovations.

If entrepreneurs are competent in the innovation, design, science and production of their products and their needs are largely related to the development of markets, delivery, sales techniques and methods of building a firm, we are reassured by their search for business information. However, if entrepreneurs' products are lacking in the technical/design/innovation resources necessary to make sustainable and innovative products – and they are spending their time seeking business advice – the outcomes could be troublesome.

4. ATLANTIC-CENTRIC ECOSYSTEM IMPEDES GLOBAL SUCCESS

The interconnectedness of the constituent groups in the AEE is amply illustrated in the research. Approximately 75 percent of the ecosystem's knowledge-seeking behaviors were situated in the Atlantic region. Fifteen percent of the nodes are from the rest of Canada, nine percent of the nodes are situated in the U.S. One percent were globally based beyond the North American continent.

It is hard to know if the 25 percent beyond Atlantic Canada is a reasonable number or not; there is nothing similar with which to compare it, except the anecdotal accounts of other

successful clusters of innovation and entrepreneurial ecosystems. Given that the region is geographically closer to Europe than any other place on the North American continent, one cannot help but think it is surprising that there are not more ecosystem constituents reaching out to Europe (Rest-of-the-World category). Given our isolating location relative to North America, it seems reasonable that Atlantic Canadians should reach further afield geographically more often.

Ecosystems that are too introspective lead to dis-entrepreneurship, the term to describe communities that adopt an inward-facing orientation rather than an outward facing orientation in a globalizing world. Global-facing constituents are an inoculation to dis-entrepreneurship by reaching out to distant geographies and distancing themselves from aligning, or relying, on local knowledge or policies alone.

5. ASPIRE TO GLOBAL RECOGNITION

The most successful clusters of innovation are highly connected on a global level. Or does it occur the other way around? The most globally connected ecosystems are the most successful. Global connections span boundaries, bridge structural holes, and connect networks. Globally aspiring ecosystems cooperate to cultivate durable relationships with one another to enhance their resources, leverage information, access markets, and accelerate innovation. Global connections: encourage the mobility of people in and out of businesses and regions; promote the transfer of high technology know-how; encourage the development of born-global firms; increase the participation of specialized support groups to cross-pollinate activities and resources; stimulate the movement of people between industry and academia; and foster deep expertise for specific support mechanisms by learning from one another and drawing on experience.

If the most successful ecosystems and clusters of innovation are distinctive in that their geographic reach is global, and we know about them, do they know about us? Atlantic Canada has much to promote: an active and motivated ecosystem; smart talented entrepreneurs and founders; a host of universities, science and business-based knowledge, and an abundance of entrepreneurs who have had successful exits. The world is beating a path to our door to purchase Atlantic Canadian equity. An incomplete list of the firms which have purchased Atlantic Canadian founders and investors include: Lynda.com (Compiler), Salesforce.com (Radian 6 and Go Instant), IBM (Q1 Labs), Verisk Analytics (Analyze Re), Samsung (New Pace Technologies), Venor (Equals6), AOL (Info Interactive), Patron Technology (Marcato Digital Solutions), American Forest Foundation (Woodscamp), Croda International, UK (Nautilus Biosciences Canada),

Towers Watson (Brovada), AOL (InfoInteractive), Foto Search (CanStockPhoto), Royal DSM (Ocean Nutrition), Legado Capital (Kivuto), Allied Universal (Source Security and Investigations), Vinci Energies of France (ADM Systems Engineering), and Quintiles IMS (STI Technologies) just to name a few. The ecosystem is cultivating great entrepreneurs. Ecosystem actors can expand extra-local ecosystem connection and promotion:

- Develop new international linkages with other ecosystems,
- Create regular coordination of information sharing with other ecosystems to forge new regional links;
- Design and coordinate “campaigns” to create an awareness of the Atlantic ecosystem and its growing list of successful founders and investors;
- Sustain the activity to encourage an increased and growing awareness of Atlantic Canada,
- Combine resources to attend trade missions and trade shows with specific mandates to cultivate promotion of the Atlantic Entrepreneurial Ecosystem;
- Find professional “equivalents” in other jurisdictions to reach out to, and stay in touch;
- Recruit and disseminate information to a specific ecosystem such as North Carolina/Boston/London/Chicago/Israel/Belgium.

6. ADOPT A KNOWLEDGE-SEEKING ATTITUDE THAT EXTENDS TO WEAK TIES

Relying on local knowledge and close friends is known as strong ties. Weak ties are sources derived from individuals who are casual acquaintances, or who are not known to the actor well, or at all. Maybe they met at a conference, or are an unknown expert to whom we reach out. Reaching out for information from persons who are weak ties (not close colleagues, friends and family) produces better fodder for innovation. Individuals who reach out beyond their own personal sphere of influence are spanning boundaries and are bringing diverse domains together with an improved likelihood of reaping disproportionate returns via innovative thinking. Weak ties allow individuals to parse information from diverse subjects and bring significant dissenting and discriminating insights to their innovation or ventures. By not following the leads and dictates of his strong ties, Gregg Curwin at TruLeaf brought vertical farming here from Japan. While it took a number of years for Gregg to convince his strong ties, those outside his normal sphere of influence (weak ties) bought into the system (literally and figuratively) to create a truly innovative Canadian company that is currently highly valued and is growing rapidly.

7. PARTICIPATION OF MATURE FIRMS IN THE ECOSYSTEM

An examination of a sub-set of entrepreneurial firms showed that there is very little interaction with mature firms in the ecosystem. Called mature firms, these could be smallish, but stable, long-term constituents of the business community. Alternatively, mature firms are also large publicly-traded corporations as well. Large or mature firms have played a significant role in Israel, Silicon Valley, and Sophia Antipolis.

The mixing and recycling of talent amongst mature firms and venture firms produces knowledge spinoffs that benefit both parties. Established, mature businesses can mentor aspiring technology oriented entrepreneurs, help adapt business models, test technology, and improve and develop management practices. Innovating, fast-growing ventures can likewise improve the culture of mature businesses and provide innovations to their systems, processes and products.

Mature firms are described as established, secure, but not necessarily large, companies engaged in trade in the ecosystem’s geographic proximity. Knowingly, or unknowingly, mature firms contribute to network ties by catalyzing the mobility of resources and hastening testing and commercializing processes.

They promote the dissemination of start-up know-how and business practices by what they offer by way of capital, how they support the innovation processes, their ranks that promote the frequent flow of people around and throughout the ecosystem, and enriching collaboration. Modest encouragement by mature companies can provide exceptional opportunities for developing founders, and very early-stage ventures benefit from close proximity to, and mentorship by, successful high growth firms.

Other supports that mature firms can offer formed part of the research are shown in the table.

Interventions for Mature Firms to Support Start-ups and Founders

1. Conduct R&D by posing problems for solution by Entrepreneurial Firms by hosting open innovation invitations, competitions, or hackathons
2. Test prototypes developed by Entrepreneurial Firms
3. Lend engineering talent or other operational and process capabilities
4. Donate administrative or logistic support such as boardrooms, offices, equipment, photocopiers, distribution capabilities
5. Government policies that support in-kind contributions by Mature Firms
6. Lend equipment, kit or resources that are difficult or expensive to acquire or purchase
7. Donate office materials, furniture, or old equipment to accelerators, incubators or Start-ups
8. As sources of high paid employment and stability, Mature Firms can release employees that are potential new innovators and entrepreneurs without encumbrances (Samsung, McCains, Emera, Louisburg Seafood)
9. Accelerate Startup's commercialization by buying from or selling to Start-ups
10. Introduce Start-ups to Mature Firm network -- suppliers, customers
11. Provide introductions to network of industry associates
12. Government spending/support into privately held firms contains a proviso to find ways to support the venture and entrepreneurial community
13. Assist in rapid testing to accelerate validation
14. Engage in customer trials
15. Provide circumstances or logistics to assist Startups with field trials
16. Help Start-ups identify key qualities needed for mission critical situations (i.e, document control procedures, advance assurance visits, quality consultations)
17. Invite a Start-up to attend an industry conference with a Mature Firm employees
18. Provide feedback for product market fit
19. Test prototypes
20. Emulate a customer; act like a customer so a Start-up can get the gist of the language, needs and conversation with a larger company
21. Put an entrepreneur on the plane with your sales group, or your technical group. Let them test the market with your team or listen how to field customer concerns
22. Make a meeting with a Mature Firm of your acquaintance and a Start-up you think could benefit

8. SEEK VENTURE CAPITAL OUTSIDE OF ATLANTIC REGION

Most of the knowledge-search activity with venture capitalists who reside outside of Atlantic Canada was undertaken by VCs in the region, not entrepreneurs. The little independent private venture capital in Atlantic Canada is buttressed by the significant outreach of the VCs who bring additional capital with syndication. Many of the local funds (not all) are government-sponsored venture capital attempting to fill financing gaps and fulfill government, or quasi-government, mandates. The mandate for some venture capital funds also includes supportive and mentoring capacity in the ecosystem, and to provide incubating opportunities. These related activities forestall specialization which in very small markets is unviable.

The nature of our marketplace puts the onus on entrepreneurs to spend more time where their markets are, with their customers, within sight of their competitors, and searching

for future financing opportunities. It demonstrates a unique resourcefulness when founders reach out to venture capitalists outside of the region, perhaps to VCs specializing in their technology area. At the same time, founders who expose themselves to a broader financial audience further reveal their value propositions to their competition helping to validate their business models and to hone their competitive edge. As the quintessential hurdle to surmount, founders who spend time cultivating their capabilities and their technology outside the region will experience the advanced sophistication of validating value propositions and business models in the face of distant competitors. Co-founders making overtures to investors outside of the region will benefit from: a) an increased breadth of their specific knowledge of financing specialties (agtech, clean tech, pet tech, ICT specialist financiers, etc.), b) exposure to their competition, and c) helping to situate the region on the global entrepreneurial and innovation map.

9. IMPROVE ENGAGEMENT BETWEEN PEER-TO-PEER RELATIONSHIPS

Analysis of a sub-section of the data revealed that there was less peer-to-peer (founder-to-founder) outreach in the data. The major prevalence of outreach was, rather, for intelligence from supportive organizations, governments, financings, etc. This observation could be misinterpreted as mentoring. However, peer-to-peer relationships and peer-to-mentor relationships differ principally by the age and expertise of the mentor. Peer-to-peer relationships are more similar in age (generally younger in age and stage of development) and have fewer stage-of-development discrepancies between the pair. Successful founders support learning amongst themselves by taking a greater role in communicating, interacting, and supporting other founders. This is the collision that takes place in incubators and accelerators.

Mentors are usually older and further along in their careers than their pairing. Successful entrepreneurial mentors are potential tutors for entrepreneurs if they possess unique credibility and social influence as they are particularly high-status entrepreneurs. Their ability to introduce their mentee to financiers, senior resource holders, potential employees, and/or co-founders enhances the mentees social prestige by association. A previously successful entrepreneurial mentor will have more weight in recommending their mentees to intermediaries (such as venture capitalists) since a recommendation coming from a high-performing entrepreneur will carry more weight (with an investor) than the recommendation coming from someone else. Successful mentors often pre-screen potential mentees to ensure they are working with premium talent worthy of investing their own time.

10. BEST PRACTICES TO ADOPT SIMILAR RESEARCH

As different iterations of the survey dissemination occurred over time, the authors recognized that the use of the entrepreneurship and/or business development centres was a more direct and responsive vehicle to develop survey respondents. The entrepreneurship centres and business development centres have very close working relationships with their clients; in some cases that has resulted in databases of thousands of entrepreneurial

clients they have worked with over the years and with whom they still maintain relationships. These relationships were more productive for the local survey administrator. Future replications of this work should cultivate research relationships with the region's universities' entrepreneurship centres (i.e. McCain Institute, SMU Entrepreneurship Centre, Genesis, etc.) in order to distribute surveys.