



## Knowledge Synthesis

### Community Economic Development (CED) – A Model for Effective Community Planning Part II: Community Innovation Planning

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#### INTRODUCTION

*This knowledge synthesis is part of The Monieson Centre's Knowledge Impact in Society (KIS) Project, a three-year endeavour to connect academic knowledge with economic development needs in Eastern Ontario. The synthesis is an accessible presentation of the latest research on issues affecting rural Eastern Ontario. The knowledge synthesis topics were determined through information gathered at 15 community workshops run in partnership with the Eastern Ontario Community Futures Development Corporation network. The KIS Project is funded by the Social Sciences and Humanities Research Council of Canada. For more information, visit [www.easternontarioknowledge.ca](http://www.easternontarioknowledge.ca).*

Over two reports, this Knowledge Synthesis series highlights the general principles of Community Economic Development (CED). This structured approach to planning has gained prominence over the past fifteen years and provides new potential for the development of rural communities. The following paper series was developed to highlight the importance of CED for local stakeholders and to provide them with basic concepts and principles they can use to guide the effective planning of their communities. Part I, available at [www.easternontarioknowledge.ca](http://www.easternontarioknowledge.ca), describes the foundations and basic principles of CED. Part II recognizes the importance of innovation in today's dynamic and global economy, and therefore focuses on innovation as a major component of CED.

The importance of innovation planning stems from a relatively recent shift in the forces driving the economy. In contrast to product and production efficiency that were the primary drivers of the industrial economy, today's economy relies on information and how it is used in the production of new ideas. Although this shift is quite apparent, it has proven difficult to adapt to for many smaller peripheral rural regions. Their strategies and planning tend to reflect the antiquated practices developed to improve functioning in the industrial economy. However, increasing pressures from globalization and technological advancements are bringing to the forefront the realization that communities must be able to change along with the economic milieu. Such change necessitates an understanding of the underlying dynamics of today's innovation economy, and related functional practices that ensure survival and competitiveness.

What follows is a brief synthesis of the current knowledge associated with the innovation economy and how communities can best function in this environment. The first section will discuss the innovation economy, what it is, what it consists of and how it functions. The second section develops the notion

that networks and clusters are key to innovation planning. The third and final section develops the idea that a key role for community development practitioners is to function as innovation brokers.

## THE INNOVATION ECONOMY

The notion that innovation is the key driver of the economy stretches back to the pioneering work of Marx and Schumpeter who suggested that innovation was the main source of competitive advantage in capitalist economies.<sup>1</sup> Innovation is defined as “the process of bringing any new problem-solving idea into use...it is the generation, acceptance, and implementation of new ideas, processes, products, or services.”<sup>2</sup> This definition can be broken down into two main parts:

1. The development of a creative idea, that is, an idea that is new and useful
2. The implementation of the idea in some meaningful way.

Obviously the second depends on the first, and therefore as a first step, one must understand how creative ideas are born. What researchers have discovered is that the development of creative ideas operates according to Darwinian evolutionary principles. Put another way, creativity is somewhat dictated by chance and serendipity; there is no guarantee that efforts will translate into a new and useful idea. It is only when the right information and ideas are combined in the right way that creativity comes to fruition. However, creative pursuits are by definition ambiguous because one does not know exactly what information is required, nor does one ever have unlimited access to unlimited information. That being said, humans have an extraordinary ability to be creative, and the odds of success are improved when one has access to large quantities of disparate or seemingly unrelated bits of information that can be processed and combined in novel ways. So the question then becomes, what are the conditions under which information flows and processing are optimal?

## THE IMPACT OF SOCIAL INSTITUTIONS AND NETWORKS ON INNOVATION

To answer this question, researchers have explored two key structural aspects of the environment that impact innovation:

- 1) The institutional environment
- 2) Networks

### *The Institutional Environment*

Morgan suggests that institutions can play a key role in stifling innovation. In his words, “capitalism is an evolutionary process driven by technical and organizational innovation... a process in which social institutions other than the market play a major role.”<sup>3</sup> In other words, as recent research has shown,

<sup>1</sup> K. Morgan, “The Learning Region: Institutions, Innovation, and Regional Renewal,” *Regional Studies* 41 no.1 (2007): S147-S159.

<sup>2</sup> A.H. Van de Ven & H.L. Angle, “An Introduction to the Minnesota Innovation Research Program,” in *Research on the Management of Innovation*, ed. A. H. Van de Ven, H. L. Angle, & M. S. Poole (New York: Harper & Row, 1989), p. 20.

<sup>3</sup> K. Morgan, “The Learning Region: Institutions, Innovation, and Regional Renewal,” *Regional Studies* 41 no.1 (2007): S148

the innovation process is socially embedded and socio-cultural influences are just as important as economic considerations in determining the diffusion of ideas.<sup>4</sup>

Accordingly, social institutions play a pivotal role because they influence information exchange and processing through determining social patterns. Jepperson characterizes these social patterns as socially constructed regulatory controls (i.e., rewards and sanctions) that ensure the continuation of the organizations.<sup>5</sup> These social patterns include conventions, rules, norms and routines that have at their core a shared acceptance and understanding. Institutions serve the purpose of making the collective social environment predictable for its actors; as Field puts it, institutions create “reciprocal expectations of predictability.”<sup>6</sup> Thus, institutions create shared ground rules for social interactions.

While these ground rules create a safety net, they also engender patterned thinking which can stifle innovation. This patterned thinking is a subconscious lens through which individuals in the institution view the world, and accordingly shapes how information is processed. Creativity and innovation, in contrast, require a departure from conventional, established patterns of thinking. Institutions, therefore often serve to suppress innovation. Creative and innovative communities must thus support a culture and social fabric that encourages the questioning of current thinking and ways of doing things. This means not just allowing the questioning of convention, but in fact rewarding it – a difficult practice within established social institutions.

As stated previously, in order for a novel idea to become an innovation it must be implemented in some way and then passed on to and accepted by others. Unfortunately, most truly novel ideas are often initially rejected by others because they run counter to established conventions. Essentially, conventions and established institutional ways of thinking blind individuals to the utility of novel ideas. Hargadon and Douglas acknowledge the paradoxical nature of this situation, “Without invoking existing understandings, innovations may never be understood and adopted in the first place. Yet by hewing closely to existing institutions, innovators risk losing the valued details, representing the innovation’s true novelty.”<sup>7</sup>

The role of innovators and their support structures (e.g. economic development practitioners), then, is not simply to create new ideas. They must also invest in gaining widespread acceptance of their idea by marketing it in a way that can fit within the mindsets of potential adopters, while still demonstrating creative feasibility. The social nature of the innovation process has caused many superior ideas to be defeated by lesser ones; for instance VHS over Beta or compact discs over mini discs. The point being that it is not just the objective value or utility of a creative idea that determines whether it becomes an innovation, but also the actions and strategies used to diffuse it.

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<sup>4</sup> M. Granovetter, “Economic Action and Social Structure: The Problem of Embeddedness,” *American Journal of Sociology* 91 (1985): 481–510.

<sup>5</sup> R.L. Jepperson, “Institutions, Institutional Effects, and Institutionalism,” in *The New Institutionalism in Organizational Analysis*, ed. W. W. Powell & P. J. DiMaggio (Chicago: University of Chicago Press. 1991).

<sup>6</sup> A.J. Field, “On the Explanation of Rules using Rational Choice Models,” *Journal of Economic Issues* 13 no. 1 (1979), p. 59.

<sup>7</sup> A. Hargadon, & Y. Douglas, “When Innovations Meet Institutions: Edison and the Design of the Electric Light,” *Administrative Science Quarterly* 46 (2001): 478.

### Social Networks

Findings from the innovation literature suggest that clusters and networks of relationships are another key to the information flows needed in the production and implementation of creative ideas. Indeed, depending on the structure of social systems, the diffusion of innovations can either be enhanced or obstructed. Social networks are a series of influence relationships that can help develop innovations through information exchange. The interactions within a social network allow innovations to spread and, as they do so, individuals can form their own opinions about these new developments.<sup>8</sup>

Related to institutional structures, social networks are the institutional foundations of preference formation and decision-making.<sup>9</sup> This is significant for innovation development and diffusion because innovations, by nature, disrupt social norms (i.e., institutional structures). When individuals in a social network are developing and adopting new norms, other individuals in the network are more willing to do the same.<sup>10</sup> Thus, social networks can be used to foster innovation. A related concept is social density which refers to the number of individuals in a particular network. As density increases, so does the diversity of information being exchanged, which can be used to encourage further innovation. As well, beyond the structural features of the network, trust is a key variable necessary for social networks to function effectively; trust is “the lubricant that makes the running of any group or organization more efficient.”<sup>11</sup>

The next section uses the information presented above about the mechanics and dynamics of innovation and applies it to community development, with an emphasis on the role of practitioners.

## The Role of Community Development Practitioners

The above description of the drivers of innovation are based on the “assumption that innovation is an interactive and territorially-embedded process, stimulated and influenced by many actors and information sources located both in and outside of firms.”<sup>12</sup> Networks and clusters are considered the means through which knowledge is synthesized and exchanged in the creation of innovation. This recognizes that it is not single firms who are innovating in isolation, but rather innovation is the product of the collective resources, knowledge, capabilities and other inputs of the members of networks and clusters.<sup>13</sup> In this context, regional actors serve to provide the normative structure that supports stable interactions and communication amongst actors in the network.<sup>14</sup> Within this framework, the role of community development practitioners should focus on the need for clustered and networked industries, information flows, and connectedness. Although there seems to be a common belief that peripheral regions do not have the means to be innovative, recent research by Doloreux suggests that SMEs in

<sup>8</sup> F. Deroian, “Formation of Social Networks and Diffusion of Innovations,” *Research Policy* 31 (2002): 835-846.

<sup>9</sup> Granovetter.

<sup>10</sup> Deroian.

<sup>11</sup> F. Fukuyama, *The End of History and the Last Man* (New York: Avon, 1992), p. 16.

<sup>12</sup> D. Doloreux, “Regional Innovation Systems in Canada: A Comparative Study,” *Regional Studies*, 38 no.5 (2004): 479-492.

<sup>13</sup> P. Maskell & A. Malemberg, “Localized Learning and Industrial Competitiveness,” *Cambridge Journal of Economics* 23 (1999): 167-85.

<sup>14</sup> B. Ashei & P. Cooke, “Local Learning and Interactive Innovation Networks in a Global Economy,” In *Making Connections: Technological Learning and Regional Economic Change*, ed. E.J. Malecki and P. Oinas (Ashgate: Aldershot, 1999).

peripheral regions of Canada are engaged in innovative activities at a similar level as their metropolitan counterparts.<sup>15</sup> Indeed, peripheral regions have the potential and capacity to significantly contribute to and become competitive in the innovation economy. This belief is echoed in a recent report commissioned by Premier McGuinty entitled “Ontario in the Creative Age.”<sup>16</sup> In this report the Martin Prosperity Institute recommends that the peripheral regions must be connected to the larger city centres if Ontario hopes to be competitive within the newly transformed economy.

As such, community development practitioners must take on the role of innovation brokers who facilitate cross-network connections. This can be understood in the following way:

“Under the global innovation networks model, inventors serve as the intellectual powerhouses that conduct basic science research and/or design products and services that results in patentable inventions. Transformers provide multifunctional production and marketing services that convert inputs from inventors or other transformers into valuable business innovations for either internal or external customers. Financiers provide funding for both inventors and transformers, usually in return for intellectual property rights. Brokers serve as the matchmakers or facilitators in this system who find and connect the other three network entities . . . The global innovation networks model is a collaborative ecosystem that allows businesses to innovate faster and grow more quickly.”<sup>17</sup>

A recent report by Collaborative Economics presents a model of innovation brokering that includes a series of six steps (each are summarized in the sections below):<sup>18</sup>

1. Raise the Stakes: Introduce Innovation as the Imperative
2. Reassess the Region: Identify Current and Potential Sources of Innovation
3. Connect the Innovators: Conduct a Disciplined, Collaborative Process
4. Broker Breakthroughs: Help Innovators Take Collaborative Action
5. Network the Brokers: Accelerate and Expand Innovative Collaborations
6. Redefine Success: Change the Metrics in Economic Development

### 1) *Raising the Stakes*

This means reorienting perspectives on development so that innovation becomes the imperative. Many Canadian communities continue to hold tight to the tried and trusted strategy of focusing on disconnected growth initiatives, often referred to as “smokestack chasing”. Such a strategy is based on the belief that attracting investment with the end goal of increasing the size of the local economy is the most effective way to promote development. These antiquated beliefs must be challenged, disrupted and essentially replaced with an understanding that innovation is what is currently driving the economy and hence development. To accomplish this, brokers need to personally share the latest thinking on innovation with as many different types of actors in as many different types of networks as possible (i.e.,

<sup>15</sup> Doloreux.

<sup>16</sup> Martin Prosperity Institute, *Ontario in the Creative Age*, Toronto: Martin Prosperity Institute, 2009, <http://martinprosperity.org/media/pdfs/MPI%20Ontario%20Report%202009%202nd%20Ed.pdf> (Accessed May 20, 2009).

<sup>17</sup> Bay Area Economic Forum, *Bay Area Innovation Network Roundtable: Identifying Emerging Patterns of the Next Wave of Innovation*, April 5, 2007, pp. 6-7.

<sup>18</sup> Collaborative Economics, *The Innovation Driven Economic Development Model: A Practical Guide for the Regional Innovation Broker* (San Francisco: The Bay Area Economic Institute, 2008).

business, government, and community). This can be done by getting innovation and innovation-related topics on the agenda of meetings of business, government and community organizations and forums. As well, a database of innovator contacts should be developed and maintained to facilitate the collection and distribution of innovation information, opportunities and materials.

## 2) *Reassessing the Region*

A reassessment involves the identification of innovation strengths and weaknesses, including potential sources of innovation. Reassessment should focus on the main cornerstones of innovation: assets, networks, culture and community. Assets include R&D and technology from universities and research institutes, talented people, financial capital, industry clusters, major institutions and physical infrastructure. Networks are the complex web of relationships between people and organizations that transfer information and knowledge and transform it into new products, services, policies or initiatives. DiMaggio describes culture as functioning through the “interaction of shared cognitive structures and supra-individual cultural phenomena (material culture, media messages, or conversation, for example) that activate those structures to varying degrees.<sup>19</sup> Culture influences cognitive structures that are used to interpret the information we receive from our environments and therefore affects how we view and behave in the world. Innovation cultures support the development of creativity and risk taking, are accepting of new ideas and unconventional thinking, and are not failure adverse. The Collaborative Economics report lists a number of key questions that can guide reassessment:

- What are our driving clusters and how innovative are they?
- How is innovation and entrepreneurship contributing to regional vitality and quality of life?
- What are the strengths and weaknesses of assets for regional innovation? What is missing?
- How does the regional mindset or culture support or inhibit innovation and entrepreneurship?
- What networks connect assets that support regional innovation? How strong are they? What connections are missing?
- How does the region’s quality of life contribute or hinder regional innovation? Is innovative and entrepreneurial talent attracted and retained?
- How does the region compare to benchmark regions with regard to the cornerstones of innovation?

## 3) *Connecting the Innovators*

The contacts and networks identified in the previous steps should be used to engage the drivers of innovation. This means systematically designing a process to convene innovators, such as a cluster of opportunity mobilization process. A detailed user guide of such a process can be found at [www.labor.ca.gov/panel](http://www.labor.ca.gov/panel). Briefly, this process is a method to engage different actors as partners in the development of a regional innovation strategy.

## 4) *Brokering Breakthroughs*

In this step innovators are helped to implement their ideas into collaborative action. This involves the development of an action plan that explicates goals, outcomes, strategies and implementation requirements. In developing an action plan, *Collaborative Economics* recommends the consideration of the following elements.<sup>20</sup>

<sup>19</sup> P.J. DiMaggio, “Interest and Agency in Institutional Theory,” in *Institutional Patterns and Organizations: Culture and Environment*, ed. L. Zucker (Cambridge: Ballinger, 1988), p. 264.

<sup>20</sup> Collaborative Economics, p. 42.

- a. **Results**—the specific, measurable “breakthrough” outcomes expected. What constitutes a breakthrough will depend on the scope, setting, and stage of regional problem-solving.
- b. **Roles**—the specific roles implementation partners will play, depending on their unique set of capabilities to achieve the desired breakthrough results.
- c. **Relationships**—the specific connections among partners, depending on the level of interdependence required to achieve the desired breakthrough results.
- d. **Agreements**—specific actions that can be taken, often focused projects or initiatives, or mobilizations such as campaigns, and specific multi-party arrangements that establish specific commitments or guidelines for policy and action by partners, such as compacts.
- e. **Accountability**—specific and ongoing commitments to hold partners (and the entire coalition) accountable for results, both follow-through on agreements and overall impact on regional competitiveness.
- f. **Architecture**—an organizational “platform” or “web” that provides the capacity to support, expand, and renew fledgling efforts, such as multi-party forums or networks.

### 5) *Networking the Brokers*

Innovation is a continuous process of invention. Therefore the process of collaboration must also be continuous and not just a onetime event. To support the continuation of interactions between innovators, connections need to be formed between brokers. Not only will this help sustain collaboration, but it will also multiply the productivity of networking by continually stimulating new connections and opportunities for innovation. Therefore some sort of mechanism, such as a forum, needs to be put in place.

### 6) *Redefining Success*

In order to sustain the innovation process, development practitioners must redefine the incentives and metrics of success. The traditional metrics of quantity of jobs and number of firms attracted/retained that measure success in industrial and post-industrial economies must be replaced by those that accurately measure success in an innovation economy including quality of jobs, wage and income growth, and innovation (e.g., patents, commercialization, start-ups, etc.).

## SUMMARY

The current economy is markedly different from the industrial economy of days gone by. This shift towards an imperative of innovation requires a reorientation of both perspective and action. Thinking needs to be changed to reflect the now different dynamics driving economic forces and planned action to harness these forces must be changed so that they are aligned. The overall message can be summed up accordingly: “What is effective are “people and place” policies. What does not diffuse away quickly are infrastructure and workforce. Although a few key people may be mobile, large numbers of the workforce are not mobile. Policies that support the education and training of the workforce, that support research combined with education, that support a modern infrastructure, and support the development of institutions that facilitate collaboration between business, government, and the independent sector will have lasting effects of building capacity that does not diffuse away. Develop the people and places—the habitat for living and working.”<sup>21</sup>

<sup>21</sup> William F. Miller, Henry S. Rowen, Marguerite Gong Hancock, Chong-Moon Lee, *Silicon Valley Edge: A Habitat for Innovation and Entrepreneurship* (Palo Alto: Stanford University Press: 2000), p. 15.

## REFERENCES

- Asheim, B. and P. Cooke. "Local Learning and Interactive Innovation Networks in a Global Economy." In *Making Connections: Technological Learning and Regional Economic Change*, ed. E.J. Malecki and P. Oinas. Ashgate: Aldershot, 1999.
- Bay Area Economic Forum. *Bay Area Innovation Network Roundtable: Identifying Emerging Patterns of the Next Wave of Innovation*. April 5, 2007.
- Berger & Luckmann. *Social Construction of Reality: A Treatise on the Sociology of Knowledge*. New York: Anchor Books, 1967.
- Collaborative Economics. *The Innovation Driven Economic Development Model: A Practical Guide for the Regional Innovation Broker*. San Francisco: The Bay Area Economic Institute, 2008.
- Deroian, F. "Formation of Social Networks and Diffusion of Innovations." *Research Policy* 31 (2002): 835-846.
- DiMaggio, P. J. "Interest and Agency in Institutional Theory." In *Institutional Patterns and Organizations: Culture and Environment*, ed. L. Zucker. Cambridge: Ballinger, 1988. pp. 3-21.
- DiMaggio, P. "Culture and Cognition." *Annual Review of Sociology* 23 (1997): 263-287.
- Doloreux, D. "Regional Innovation Systems in Canada: A Comparative Study." *Regional Studies*, 38 no.5 (2004): 479-492.
- Field, A.J. "On the Explanation of Rules using Rational Choice Models." *Journal of Economic Issues*, 13 no. 1 (1979): 49-72.
- Fukuyama, F. *The End of History and the Last Man*. New York: Avon, 1992.
- Granovetter, M. "Economic Action and Social Structure: The Problem of Embeddedness." *American Journal of Sociology* 91 (1985): 481-510.
- Hargadon, A., & Y. Douglas. "When Innovations Meet Institutions: Edison and the Design of the Electric Light." *Administrative Science Quarterly* 46 (2001): 476-501.
- Jepperson, R.L. "Institutions, Institutional Effects, and Institutionalism." In *The New Institutionalism in Organizational Analysis*, ed. W. W. Powell & P. J. DiMaggio. Chicago: University of Chicago Press, 1991. pp. 143-163.
- Maskell, P. and A. Malemberg. "Localized Learning and Industrial Competitiveness." *Cambridge Journal of Economics* 23 (1999): 167-85.
- Martin Prosperity Institute. *Ontario in the Creative Age*. Toronto: Martin Prosperity Institute, 2009. <http://martinprosperity.org/media/pdfs/MPI%20Ontario%20Report%202009%202nd%20Ed.pdf>. Accessed May 20, 2009.
- McKinley, W., M.A. Mone, & G. Moon. "Determinants and Development of Schools Organization Theory." *Academy of Management Review* 24 (1999): 634-648.
- Miller, William F., Henry S. Rowen, Marguerite Gong Hancock, Chong-Moon Lee. *Silicon Valley Edge: A Habitat for Innovation and Entrepreneurship*. Palo Alto: Stanford University Press, 2000.
- Morgan, K. "The Learning Region: Institutions, Innovation, and Regional Renewal." *Regional Studies* 41 no.1 (2007): S147-S159.
- Scott, W. R. "Reflections on a Half-century of Organizational Sociology." *Annual Review of Sociology* 30 (2004): 1-21.
- Van de Ven, A. H., & H.L. Angle. "An Introduction to the Minnesota Innovation Research Program." In *Research on the Management of Innovation*, ed. A. H. Van de Ven, H. L. Angle, & M. S. Poole. New York: Harper & Row, 1989. pp. 3-30.