

Resilient Community and Economic Development through Collaborative Innovation Networks

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Abstract A single organization or individual is almost always unable to provide completely satisfactory solutions to a community problem. Collaborative Innovation Networks (COINs) provide a method in which entities capitalize on existing human capital to spur cooperative innovation in community and economic development. This report details the successful experience of the U.S. EDA University Center for Regional Economic Innovation (REI) at Michigan State University in utilizing a COIN to become a resilient economic and community development organization. This method is successful as it allows for the resilience and adaptability of decentralized networks while retaining access to a large resource base.

1 Introduction

Following Michigan's recovery from the 2008 recession, the U.S. Economic Development Administration funded a University Center for Regional Economic Innovation (REI) at Michigan State University for a five-year period from 2011 to 2016. REI's mission was to build a new economic development ecosystem in Michigan by leveraging higher education assets to support the creation and application of innovative economic development strategies to yield high-growth entrepreneurship and job creation throughout the state.

These goals were accomplished through the creation of a Collaborative Innovation Network (COIN). Named the REI Network, this model was successful in overcoming the usual obstacles to economic and community development by creating a resilient self-organizing system that can operate in any environment. COINs allow for growth to transcend organizational boundaries, encourage inclusive social innovations, and build on local knowledge to create efficient solutions. This report details how COINs can operate successfully in the community and economic development industry by crowdsourcing innovation while retaining access to a resource base to facilitate action. As the REI Network is unique and the

first-of-its-kind, this report also describes the structure of the REI Network to relate how this facilitation process works, as well as shares the results of operation. Within the burgeoning field of research on social innovation, this analysis seeks to remedy the lack of literature applying social innovation to the ecosystem of economic development and individual empowerment, and to encourage future studies on the topic. This report is also meant to provide further quantitative evidence on the topic of how a mission of social innovation is applicable and successful in economic development, and that collaborative innovation networks are an excellent method to achieve that goal.

Furthermore, this report advances a framework to analyze the success of COINs in the context of community and economic development. It measures two primary dimensions of the REI Network: reach and results. Reach is the number of members at any given time. Reach is measured empirically from internal e-mail server list, social media followers, and project authors and advisors. Results are measured by the creation and dissemination of projects by the REI Network and by their impact on Michigan. In addition to this, an assessment of the level of involvement by each member, as well as the level of collaboration between members, is interwoven in these two aspects. Intensity is qualitatively measured along multiple aspects: participation through collaboration on ongoing projects or the dissemination of online, open source projects through video, print, website, webinar, and other avenues.

2 Background

REI operates within a broad context of community and economic development on local, regional, and state levels. It is necessary to understand the various objectives and obstacles to fully appreciate how COINs offer a resilient solution to typical barriers faced by community and economic development organizations.

2.1 Community and Economic Development in Michigan

Michigan's economy was severely damaged by the 2008 recession, and it still has not fully recovered due to the loss of jobs, lack of qualified candidates, not enough incentives for companies to operate in Michigan, and several other supplementary factors. While the overriding objective for the state's development industry is to spur Michigan's recovery, multiple methods exist to accomplish each organization's primary aim.

Community development and economic development are overlapping categories; the former utilizing an empowerment, resident-centric approach whereas the latter generally attracts businesses and increases the tax base. Each of these approaches has strengths and weaknesses. Community development

emphasizes internal growth, capitalizing on existing resources and strengthening human capital. Economic development approaches usually create an enticing environment for incoming and new businesses. Due to the complexity of these approaches, development organizations historically chose to focus on one or the other. This allowed for complementary organizations to emerge, encouraging specialization in the industry at the expense of a comprehensive growth.

Michigan is a fairly diverse state in terms of community and economic development needs. With a population of nearly 10 million people, the state has a high rate of income inequality, large rural areas, and many economically distressed urban areas.

This has resulted in a massive number of development organizations which specialize in certain aspects of development with varying scopes. Public agencies affiliated with cities, municipalities, townships, regions, and the state are frequently working toward parallel objectives as third-party non-profit organizations. Smaller scopes are seemingly more manageable, especially with limited funds and actors, whereas large scopes improve coordination across geographical areas or resources, among other aspects. Larger cities, such as Detroit, Grand Rapids, or Lansing, typically have a higher concentration of development organizations, while rural areas receive less attention. As an example of differing aims, some organizations focus exclusively on singular skill-based development, and others more generally on improving workforce competitiveness in a specific city.

2.2 Common Obstacles to Development

What is important to understand is the current patchwork of community and economic development organizations and public agencies in Michigan often target different communities, geographical areas, and aspects of economic development, simply because of limited resources. Limited funds force organizations to operate with few full-time staff members, instead relying on volunteers. Grant funding is incredibly competitive, and private donations are an inconsistent source of funding. This prevents many non-government funded organizations from achieving concrete goals. While objectives of these organizations and communities frequently overlap, communication is often lacking, resulting in a knowledge, access, and sustainability gap. The infrastructure for communication between the large number of development organizations is lacking, creating high costs in finding community leaders, activists, and knowledgeable experts. It is quite possible that two organizations could be working on the same issue in different areas without knowing, and the chances that solutions and strategies are shared among community members is low.

A major issue in community and economic development is empowering the locals by providing resources necessary to achieve certain goals, and coordinating these goals to encourage inclusive growth. While locals better understand what is

lacking in their communities, it is often necessary to provide them with monetary funds, methods to fix the problem, and connections with experts.

2.3 Understanding Innovation in Collaborative Networks

Collaborative networks have been applied in many settings to great success. It has been demonstrated that innovation is spurred and facilitated through interorganizational cooperation, especially in research and development activities (Enkel et al. 2009; Faems et al. 2005). Research networks that link diverse actors together have been shown to create innovation clusters (Liyanage 1995). Yet successful innovation depends on the nature of the actors involved (Barzi et al. 2015; Marinucci 2012). By connecting actors with varied skill sets and sufficient motivation, a COIN creates a space for collaborating, creating, and sharing.

These models can be applied to community, and even global, problems (Sawheny 2003). Social innovation can be broadly defined as interdisciplinary innovations with broad impact which contribute to the diffusion of knowledge (Mulgan et al. 2007; Westley et al. 2010). Despite some doubt of whether social innovation is a useful term for analysis or not, the term has proved sustainable, and does seem to play a valuable role in determining how to facilitate such innovation (Pol et al 2009).

More recently, Birkner et al. 2017 concluded that universities have a “prominent role in the creation of new innovation ecosystems, particularly in a well-defined geographical area.” Universities are vital to knowledge transfer, economic growth, and research support, even as barriers exist to connecting these resources with industries (Bramwell et al. 2012). With the funding of REI by the U.S. E.D.A. and Michigan State University, the REI Network is one of the first attempts to use a COIN to promote regional economic innovation, decrease barriers to knowledge transfer, and create sustainable and resilient partnerships.

3 The REI Network

Utilizing a COIN is an attempt to capitalize on the best attributes of development organizations while empowering individuals to create growth for their own communities, which means lower costs of communication, quicker problem identification, and increased collaboration.

REI's Network is uniquely resilient to changing social and political circumstances by crowdfunding ideas drawn from the network itself. Not only does this allow for the economic and community development strategies to adjust to new ideas, but for the *framework* of discussion to change. Topics of research are directly

relatable to what is happening at the time, and are free to adjust according to demand. This signaling approach is a massive improvement in researching and solving the challenges in terms of efficiency because it allows for direct communication and collaboration among residents and experts without organizational or geographical concerns. The REI Network facilitates quicker identification of problems through the wide variety of participants at the local level. After identification, the collaborative nature of the REI network often allows for access to a person with knowledge of how to solve these problems. In other words, a uniform approach through a COIN engenders diverse solutions which best fit the environment. It is a dynamic approach that is constantly identifying emerging problems, which allows it to remain resilient in response to changing economic conditions.

Whereas regional hubs of economic development provide a more centralized, goal-alignment service, REI is oriented toward individual and local-specific efforts. The Michigan Economic Development Corporation, for example, brings together public agencies, non-profit organizations, and private entities to streamline and coordinate ongoing economic development efforts. REI, however, focuses on solving the communication and funding gap for individual research projects by providing access to networks on par with larger regional organizations. This adaptable approach encourages active investment on a local level while producing findings that are accessible and applicable to a variety of situations.

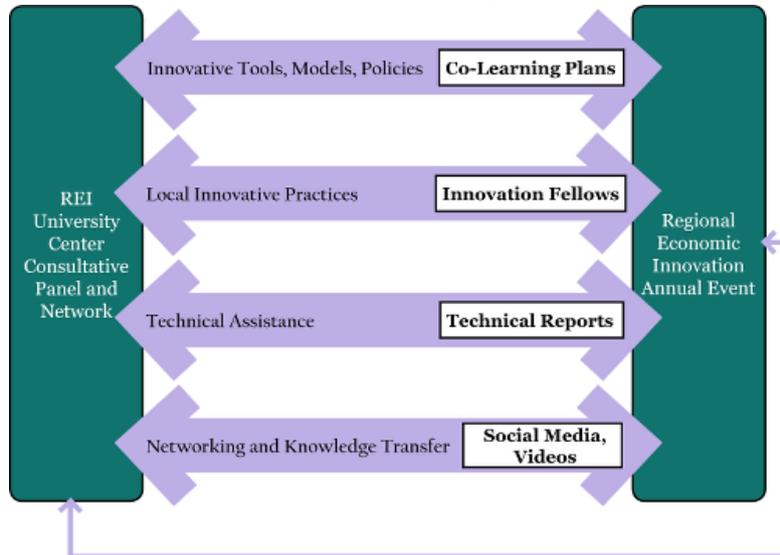
3.1 Scope of the REI Network

As identified by Gloor (2006), integral characteristics of COINs are innovation, collaboration, and communication. The REI Network both facilitates and builds on these aspects by retaining access to a large resource base despite its decentralized network.

The REI Network is a community of over 1,000 individuals from the public and private sectors who participate in a facilitation and solicitation process to identify, create, and promote innovations in research to catalyze growth in their regional economies. As an open innovation community, these members are motivated to participate through a variety of mechanisms, including monetary funding, cooperative partners, and increased access to resources such as project support and research. Intangible factors are also appreciated, as evidenced by internal surveys and social science research; REI's strategy is similar to successful consumer-centric models for firms (Antikainen et al. 2010).

REI also maintains a Consultative Panel, a group of experts drawn from a variety of fields to advise on and guide program objectives. The Consultative Panel acts as a supportive dialogue to the REI Network by providing an ethical framework, professional advice, and acting as a knowledge resource. These parallel networks allow for an active exchange of ideas and statewide multidisciplinary interaction, encouraging innovation and participation on a local and regional level.

Fig. 1. How the REI Network facilitates development



REI is crowdsourcing community and economic development to encourage innovation. Two primary avenues (*Co-Learning Plans* and *Student-Led, Faculty-Guided Technical Assistance*) were utilized in its 2011-2016 grant cycle, with a third (*Co-Implementation Plans*) developed for its second round of funding in 2016-2021. *Co-Learning Plans* are a collaborative effort in which practitioners, decision-makers, community leaders, entrepreneurs, scholars, or other stakeholders research innovative economic development tools, models, strategies, policies, and practices and produce recommendations for other practitioners, policy-makers, and the public. These applications are drawn from REI Network members which ensures access to expert knowledge. *Student-Led, Faculty-Guided Technical Assistance* projects are collaborative efforts between university students and Michigan communities to complete local or regional development initiatives, while being supervised by experienced faculty members. *Co-Implementation Plans* are REI's attempt to further implement the products of its network. This initiative seeks to put the tools, models, and policies identified in *Co-Learning Plans* into practice in communities around Michigan.

REI supports communication between Network members by providing easily accessible platforms, events, and information. The results of all projects are posted online at REI's website and other platforms. REI utilizes various social media networks to encourage convenient collaboration and to spur casual discussion between partners. The self-organizing nature of the REI Network allows for communication through local, regional, and state levels.

3.2 Results of the REI Network

Over 100 REI projects have generated an estimated \$8,288,000 in public investments, \$50,675,806 in private investments, and \$505,500 in other investments throughout Michigan. These projects ranged from skill-based workshops to technical assistance projects and the development of policy recommendations. In addition, REI partners believe the most important impacts of projects and events to be the opportunities to gain knowledge about issues pertinent to their work and innovations in economic development, and to network with people working towards similar goals. In some cases, Network members were also able to secure additional funding through their work with REI. One of REI's partners, the Northern Initiatives, reported that they secured over \$200,000 from various sources. In addition, 154 individuals received eight or more hours of technical assistance from REI.

Additionally, REI successfully disseminated new knowledge through the creation and sharing of 29 webinars and over 25 project videos; these informational videos on products of the REI Network have reached almost 9,000 views. Presenting information this way, in multimedia and storytelling format, is accessible to a more diverse audience and increases engagement (Brown 2010). REI has hosted more than 65 in-person presentations at five Innovate Michigan! Summits, held yearly. REI regularly engages with its community over social media; its Twitter page has more than 1,600 followers; Facebook, about 700 likes; and hosts a LinkedIn group of nearly 500 members. In the fall of 2015, REI was recognized as a finalist in the University Economic Development Association's Awards of Excellence program. An internal REI Network survey conducted in 2016-2017 demonstrated that roughly 75% of respondents found a REI-supported partner's work to be useful in their own projects. Moreover, 68% of Network members have implemented the knowledge and ideas developed by other members. It has been reported that the knowledge disseminated from REI helped its partners connect to their communities too. "We learned how to ask better questions and become partners, not an outside organization looking in," said one respondent.

4 Conclusion

Approaching community and economic development through a COIN-based framework allows for broader application to industry issues while maintaining the benefits of local knowledge. It encourages coordination through a unified approach, but recognizes and supports diverse actors.

This is a resilient approach to community and economic development, especially in regards to encouraging social innovation. The REI Network closes the gap between professional and local knowledge. Furthermore, it identifies and empowers residents while providing the necessary resources. A COIN then offers a natural

avenue to disseminate and publicize these results for other community members and development organizations to utilize in their work. REI's strategy of developing others' solutions with monetary and research support allows for a successful open innovation strategy, as it provides encouragement for active participation by qualified community members.

This model will be increasingly important in the future. Concepts such as "smart cities" will need collaborative networks, and creating strategies which facilitate individual and non-profit organization partnerships is key (Schaffers 2011). Facilitating social innovation through collaborative networks can create a larger impact on economic outcomes (Westley et al. 2010). Rather than imposing top-down solutions on increasingly globalized, diverse, and complex communities, COINs allow communities to create and adapt personalized solutions which best fit their needs.

Encouraging the growth of human capital in communities is emerging as the dominant model of economic development. REI has successfully implemented a Collaborative Innovation Network to produce resilient economic development strategies that serve local and regional needs. No longer should economic development organizations operate independent of each other, as the social innovation which occurs through collaborative networks produces excellent results.

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